Quality of information on emergency contraception on the Internet.


Latthe M, Latthe PM, Charlton R

OBJECTIVE: To evaluate the quality of patient information about emergency contraception on the Internet. DESIGN: We performed an on-line search of the Internet and found relevant World Wide Web sites by combining the key phrases 'emergency contraception' and 'patient information' in two Web subject guides and two search engines. We defined quality as the extent to which the characteristics of a Web site satisfied its stated and implied objectives. Our assessment focused on credibility and content of each Web site. Credibility was assessed by source, currency and editorial review process and content of Web site was assessed by hierarchy and accuracy of evidence. RESULTS: Our search revealed 32 relevant Web sites, none of which complied with all of the criteria for quality of credibility and content. Twenty-eight Web sites displayed the source clearly, 17 Web sites showed currency, and none of the Web sites had an editorial review process. Only six of the 32 sites mentioned hierarchy of evidence. None of the Web sites depicted all the criteria for accuracy of contents. CONCLUSION: None of the Web sites provided complete information to patients about emergency contraception according to the quality criteria used in this study. As previous studies have shown, people need to be wary about the quality of information on the Internet.
Provider knowledge about emergency contraception in Ghana.


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In 1996, the Ministry of Health in Ghana included emergency contraception (EC) in its newly issued National Reproductive Health Service Policy and Standards. A short survey was conducted in the summer of 1997 to evaluate health providers' knowledge of EC. Of the 325 providers interviewed, about one-third (34%) had heard of EC. No provider had sufficient knowledge to prescribe EC correctly. A well-coordinated training programme for providers will have to precede successful introduction of EC in Ghana. Moreover, a dedicated product may be critical for the successful introduction of EC in a country like Ghana, where provider knowledge is low.
Interventions for emergency contraception.


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OBJECTIVES: To determine which emergency contraceptive method following unprotected intercourse is the most effective, safe and convenient for use in preventing pregnancy.

SEARCH STRATEGY: The search strategy included electronic searches of the Cochrane Controlled Trials Register, Popline, Chinese biomedical databases and HRP emergency contraception database. In addition, references of retrieved papers were searched and researchers in the field and two pharmaceutical companies were contacted.

SELECTION CRITERIA: Randomized or quasi-randomized studies including women attending services for emergency contraception following a single act of unprotected intercourse were eligible.

DATA COLLECTION AND ANALYSIS: Data on outcomes and trial characteristics were extracted in duplicate by two reviewers. Results were expressed as relative risk using a fixed-effects model with 95 % confidence interval.

MAIN RESULTS: Fifteen trials were included in the review. The majority (8/15) of the trials were conducted in China. Most comparisons between different interventions included one or two trials although some trials were appropriately sized with power calculations. Levonorgestrel appears to be more effective than Yuzpe regimen (2 trials, RR: 0.51, 95 % CI: 0.31-0.84) and causes less side-effects (RR: 0.80, 95 % CI: 0.76 to 0.84). Levonorgestrel was less effective than locally manufactured mifepristone in a single, large Chinese study (RR: 2.17, 95 % CI: 1.00 to 4.77). Effectiveness of different doses of mifepristone seem to be similar but the frequency of delay in onset of the subsequent menstrual period increases with increased dose.

REVIEWER'S CONCLUSIONS: Levonorgestrel and mifepristone seem to offer the highest efficacy with an acceptable side-effect profile. One disadvantage of mifepristone is that it causes delays in onset of subsequent menses which may induce anxiety. However, this seems to be dose-related and low doses of mifepristone minimise this side-effect without compromising effectiveness. Future studies should compare the effectiveness of mifepristone with levonorgestrel.

REVIEW
Emergency contraception.

Adv Pediatr 2000;47:309-34

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High rates of adolescent pregnancy remain a challenge for health care providers. For most sexually active adolescents, pregnancy is unintended. Emergency contraception, also called the "morning-after-pill" or postcoital contraception, is a way to prevent pregnancy after unprotected intercourse. In the United States, three forms of emergency contraception currently are available: high-dose combination estrogen and progestin pills, high-dose progestin-only pills, and postcoital insertion of a copper intrauterine device. The postcoital intrauterine device is used infrequently. When emergency contraceptive pills (ECPs) are taken within 72 hours of unprotected intercourse, they reduce the risk of pregnancy by at least 75%. However, they are most effective if taken within 24 hours of coitus. Eleven brands of pills currently are marketed in the United States that conform to the regimens approved by the Food and Drug Administration (FDA) for this indication. Recently, two prepackaged ECPs were approved by the FDA. The only medical contraindication to prescribing ECPs is pregnancy. The most common side effects are nausea and vomiting, followed by menstrual disturbances, breast tenderness, abdominal cramping, dizziness, headache, and mood changes. Because vomiting can compromise the efficacy of ECPs, routine pretreatment with an antiemetic is recommended. Primary care providers can reduce unintended adolescent pregnancy by routinely counseling adolescents at all office visits about the existence of emergency contraception and by prescribing it in advance and over the telephone.
Knowledge and use of emergency postcoital contraception by female students at a high school in Nova Scotia.

*Can J Public Health 2000 Jan-Feb;91(1):29-32*

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PURPOSE: This study was performed in the context of a sexual health promotion project in a Nova Scotia community. Community members wanted information about adolescent females' knowledge and use of emergency contraception (EC). The study was done to meet this need.

METHODS: Female high school students aged 14 to 19 were administered a self-completion survey asking about their knowledge of EC, the time frame for its use, its effectiveness, their personal use of EC, unsuccessful attempts to obtain EC, and sources of knowledge of EC.

RESULTS: Eighty-five percent of 411 female students participated. Eighty percent knew about EC, though few (8%) knew the time frame for EC use. Most (42%) heard of EC at school. Eighteen percent used no contraception at last intercourse. Only 2% ever had used EC.

CONCLUSIONS: Adolescent women know about EC but use it infrequently, even though they frequently lack contraception. These findings raise questions about alternative methods for providing EC to young women.
Access to emergency contraception.

Obstet Gynecol 2000 Feb;95(2):267-70

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OBJECTIVE: To evaluate access to emergency contraception among women seeking help from clinicians who registered to be listed on the Emergency Contraception Hotline (1-888-NOT-2-LATE, ie, 1-888-668-2528) and the Emergency Contraception Website (not-2-late.com). METHODS: Two college-educated investigators posing as women who had a condom break the previous night called 200 providers to seek help. RESULTS: Only 76% of attempts resulted in an appointment or telephone prescription from a hotline provider within 72 hours, 14% were failures, and 11% resulted in referrals to other providers not listed on the hotline or website. CONCLUSION: Even under ideal conditions, access to emergency contraception is currently constrained. Although emergency contraception could reduce significantly the incidence of unintended pregnancy and the consequent need for abortion, its potential will not be realized unless women have better access to clinicians who can prescribe emergency contraceptive pills.
Meclizine for prevention of nausea associated with use of emergency contraceptive pills: a randomized trial.

Obstet Gynecol 2000 Feb;95(2):271-7

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OBJECTIVE: We conducted a randomized trial to determine whether pretreatment with meclizine reduces the incidence of nausea and vomiting associated with the Yuzpe regimen of emergency contraception. METHODS: We randomly assigned 343 women aged 18-45 years who were not at risk for pregnancy to pretreatment with 50 mg of meclizine, placebo, or no drug 1 hour before the first of two doses of emergency contraceptive pills. We asked participants to complete three questionnaires over the following 48 hours. RESULTS: The incidence of nausea was 47% in the group pretreated with meclizine and 64% in the other two groups (relative risk adjusted for center 0.7, 95% confidence intervals 0.6, 0.9 for comparisons of meclizine with both placebo and no drug). The severity of nausea and the incidence of vomiting were also significantly lower in the meclizine pretreatment group than in the other two groups. Drowsiness was reported by about twice as many women in the meclizine pretreatment group (31%) than in the other two groups (13% in the placebo group, 16% in the no-pretreatment group; P < .01 for both comparisons). CONCLUSION: Meclizine is effective for preventing nausea and vomiting associated with the Yuzpe regimen of emergency contraceptive pills. Women using this drug should be cautioned to anticipate drowsiness.

CLINICAL TRIAL
Emergency contraception: a review of the programmatic and social science literature.

Contraception 2000 Mar;61(3):145-86

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Many biomedical aspects of emergency contraception have been investigated and documented for >30 years now. A large number of social science questions, however, remain to be answered. In this article, we review the rapidly growing but geographically lopsided literature on this topic. Using computer database searches supplemented by reference reviews and professional correspondence with those active in the field, we gathered literature on the social science and service delivery aspects of emergency contraception published in English up through December 1998, as well as a few unpublished papers from the same time and slightly later, representing regions where published material is practically nonexistent. Methodologically acceptable papers are summarized in our tables and text, and form the basis for suggested improvements in existing emergency contraceptive services. The review also offers ideas for designing new emergency contraception services where they do not yet exist. We conclude by proposing an agenda for further social science research in this area.

REVIEW
Emergency contraception: a simple, safe, effective and economical method for preventing undesired pregnancy. [Article in Spanish]


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In the following article, the most recent knowledge on emergency contraception (EC) is reviewed. EC is defined as those contraceptive methods that may be used to prevent an unwanted pregnancy up to 3 days after unprotected intercourse, contraceptive failure or rape. In case of non-hormonal methods (IUD), the time window for pregnancy prevention goes up to 5 days after intercourse. The different regimens now available, hormonal and non-hormonal methods, indications, contraceptive effectiveness, side effects and safety profile, possible mechanisms of action and counseling strategies will be reviewed. The potential benefits on reproductive health of wide-spread knowledge and easy, non-restrictive access to this methodology are emphasized. An extensive list of recent references is enclosed.

REVIEW
The associations among pediatricians' knowledge, attitudes, and practices regarding emergency contraception.

Pediatrics 2000 Apr;105(4 Pt 2):954-6

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OBJECTIVES: To quantify practitioner administration of the emergency contraceptive pill (ECP) among adolescent patients, and to determine if such administration is associated with physician knowledge and attitudes regarding efficacy, side effects, and appropriate use. DESIGN: Survey of pediatricians. SETTING: The survey address list was generated from a database of active Fellows of the American Academy of Pediatrics in the District of Columbia metropolitan area. MAIN OUTCOMES MEASURES: Prescription of the ECP in the previous 12 months, or counseling of an adolescent patient about the ECP. RESULTS: Of the 236 questionnaires distributed, 143 (61%) were returned and 121 (51%) were usable. Twenty-four pediatricians (20%) reported prescribing the ECP, and 29 (24%) had counseled adolescent patients about the ECP. Of the practice-related variables surveyed, both the number of adolescents seen per week and the practice setting were significantly associated with these outcomes. Of the knowledge-related variables surveyed, knowledge of the timing and the Food and Drug Administration-labeled status of the ECP were significantly associated with outcomes. None of the attitude-related variables surveyed were associated with outcomes. CONCLUSIONS: This study demonstrates that knowledge deficits, not attitude-related variables, are significantly associated with the low level of ECP administration and counseling among District of Columbia pediatricians. Because knowledge deficits are amenable to educational interventions, our data suggest that informing pediatricians about the ECP may increase its administration among their adolescent patients. emergency contraceptive pill, pediatricians, adolescents.
Emergency contraception with levonorgestrel: one hormone better than two.


O'Brien PA

EDITORIAL
Provision of emergency contraceptive pills to spermicide users in Ghana.

Contraception 2000 Apr;61(4):287-93

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This study evaluated the effect of two approaches to provision of emergency contraceptive pills (ECPs) on ECP use and unprotected intercourse among women relying on spermicides for contraception. The study enrolled 211 women at 4 family planning clinics in Ghana. At two clinics, participants were advised to return to the clinic within 3 days after unprotected intercourse to obtain ECPs. At the other two clinics, participants were given ECPs to take home for use if unprotected intercourse occurred. All participants were asked to maintain daily diaries for 8 weeks to record information on sexual activity, spermicide use, and ECP use. Women at all clinics used ECPs after at least 78% of unprotected coital acts. ECPs were used more promptly by women who had the pills at home. At three of the clinics, at most 1.3% of the coital acts were unprotected; at the fourth, 6.7% were unprotected. Our data did not suggest that the availability of ECPs increased the frequency of unprotected intercourse.
What do family planning clients and university students in Nairobi, Kenya, know and think about emergency contraception?

Afr J Reprod Health 2000 Apr;4(1):77-87

Population Council, Nairobi.

Currently, emergency contraception is seldom used in Kenya. As part of a larger study designed to provide insight into the possible roles for the method in Kenya, we assessed the knowledge of and attitudes towards emergency contraception in two groups of potential users, and we focus on these data specifically in this paper. We interviewed clustered samples of clients at ten family planning clinics in Nairobi (n = 282) and conducted four focus group discussions with students at two universities in Kenya (n = 42). Results show that despite relatively low levels of awareness and widespread misinformation, when the method was explained, both clients and students expressed considerable interest, but also expressed some health and other concerns.
Perception and practice of emergency contraception by post-secondary school students in southwest Nigeria.


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A survey of 1500 students in post-secondary institutions in southwest Nigeria showed that the concept of emergency contraception (EC) was well known. Respectively, 32.4%, 20.4% and 19.8% knew that combined pills, progesterone only pills and intrauterine contraceptive device (IUCD) were usable for EC, while 56.7% mentioned the use of traditional methods. Only 11.8% had ever used either pills or IUCD and 10.7% had used a traditional method. Few students (11.5% and 2.3% respectively) knew the correct timing of EC pills and IUCD. The respondents reported varying circumstances under which EC was indicated but the majority cited condom breakage and sexual assault. The popular media represent the commonest source of information while hospitals/clinics were the commonest sources of procurement. About 37% of the respondents planned to use EC in future while 58% would not and 4.7% were uncertain. Reasons for these responses were explored.
Efficacy and side effects of immediate postcoital levonorgestrel used repeatedly for contraception.


We evaluated the efficacy and side effects of immediate postcoital administration of levonorgestrel 0.75 mg used repeatedly for contraception. A total of 295 healthy women with infrequent coitus were enrolled at 6 study sites. Each woman took levonorgestrel 0.75 mg by mouth immediately after intercourse during 6 months as her only method of contraception. We collected data on side effects and acceptability and calculated the Pearl index failure rates over 133 woman-years of use by standard methods. The Pearl index failure rate was 6.8 (95% CI 3.1-12.9) pregnancies per 100 woman-years of use. The overall probability of pregnancy per treated coital act was 1.4 per 1000. Approximately one-third of participants discontinued the study within 6 months (mainly for bleeding problems). Menstrual complaints were reported by 70% of women. Other complaints included (in decreasing order) nausea, breast tenderness, weakness, dizziness, headache, abdominal bloating, loss of libido, depression, and vomiting. High-dose levonorgestrel pills are unsuitable for regular postcoital contraception.
Emergency contraception. [Article in French]

Ann Endocrinol (Paris) 2000 May;61(2):143-4

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OTC access to emergency contraception-"the French model"-what's your vote?


Sanfilippo JS

EDITORIAL
Use of 0.75 mg Levonorgestrel for postcoital contraception in Thailand.


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OBJECTIVE: This study identified the pattern of Levonorgestrel (LNG) use and self-reported side-effects among Thai women in Songkla. METHOD: The eligible subjects were 100 Thai women who had used 0.75 mg LNG at least once in the past 12 months. The participants completed a questionnaire at the survey sites, which were seven pharmacies and five shopping malls. RESULTS: Eight percent of LNG users had never used any contraceptive methods other than day count and withdrawal. Thirty-nine percent took more than four tablets of LNG per month, which was the limit instructed in the label. Only 3% used LNG for emergency situations such as having unprotected intercourse or burst condom. At least 22% of subjects took LNG according to instructions which were last revised 2 years earlier. The study also revealed poor knowledge among the users on side-effects and limit of drug use. Compared to the previous studies, this study found a higher incidence of side-effects. Forty-four percent of subjects experienced cycle disturbances and 32% nausea, respectively. CONCLUSION: The Thai FDA should seriously consider requiring manufacturers to revise labels of LNG to be consistent with those recommended by WHO.
Emergency contraception: methods and efficacy.


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A number of effective and safe methods for emergency contraception are now available. High doses of oestrogens, although effective, are seldom used nowadays because of the high incidence of nausea and vomiting, and the need for administration for 5 days. The Yuzpe regimen, consisting of administration of two doses of combined oral contraceptive pills with a 12-h interval, can prevent more than 74% of expected pregnancies, but the incidence of side effects, mainly gastrointestinal side effects, is high. Levonorgestrel and mifepristone are more effective than the Yuzpe regimen and have a lower incidence of side effects. They can prevent about 85% of pregnancies. The efficacy of both the Yuzpe regimen and levonorgestrel decreased with increase in the intercourse-treatment interval. The dose of mifepristone can be reduced to 10 mg without loss of efficacy. Both levonorgestrel or mifepristone are not yet widely available, and the Yuzpe regimen remains the only hormonal method in many countries. The postcoital insertion of an intrauterine contraceptive device is also a highly effective method, which can prevent over 90% of pregnancies.

Review, tutorial
Knowledge and willingness to use emergency contraception among low-income post-partum women.

Contraception 2000 Jun;61(6):351-7

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We performed a multivariate analysis to determine factors associated with knowledge and willingness to use emergency contraception in a consecutive sample of 371 post-partum women from an inner-city public hospital. Women were queried about previous contraceptive use, pregnancy history including abortions and unplanned pregnancies, and demographic characteristics. Outcomes included knowledge of emergency contraception and willingness to use it. Questionnaires were conducted in person, in English or Spanish. Of 371 women, 3% had used emergency contraception, 36% had heard of it, and 7% knew the correct timing for use. Two-thirds of the population indicated a willingness to use emergency contraception in the future. Factors positively associated with knowledge included being a teenager or more than 30 years old, prior use of condoms, and history of an elective abortion. Being multiparous, monolingual Spanish-speaking, or Asian were negatively associated with knowledge. Willingness to use emergency contraception was positively associated with being multiparous and negatively associated with a higher income, moral or religious objections to the use of emergency contraception, a belief that it is unsafe or a perception that it is an abortifacient. Knowledge about emergency contraception, especially correct timing, remains low. Multiparous women should receive increased education given their lack of knowledge but willingness to use emergency contraception. In order to increase the acceptability of emergency contraception, educational efforts must include accurate information about its mechanism of use and safety.
Emergency contraception.

Arch Fam Med 2000 Jul;9(7):642-6

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Emergency contraception is used after unprotected intercourse or a contraceptive accident to prevent unwanted pregnancy. It is thought to work by stopping or delaying ovulation or preventing implantation if fertilization has already taken place. Hormonal methods, mifepristone, and intrauterine device insertion are among the methods used worldwide. Combination estrogen-progestin birth control pills are the most commonly used form of emergency contraception in the United States. According to the Yuzpe method, combination pills are taken within 72 hours after intercourse, followed by a second identical dose 12 hours later. With this method, the number of unintended pregnancies is reduced by about 75%. Nausea and vomiting are the most troublesome adverse effects, but these can be controlled with antiemetic medication taken prior to the first dose. The Food and Drug Administration, Washington, DC, has approved an emergency contraception kit consisting of 4 combination pills, a urine pregnancy test, and a patient information book. Most recently, the Food and Drug Administration has approved a progestin-only formulation, which has fewer adverse effects and equal or improved efficacy compared with the combination formula. An intrauterine device can be inserted up to 5 days after unprotected intercourse and is a cost-effective option if it is used as ongoing contraceptive protection. The most readily available form of emergency contraception consists of 2 doses of estrogen-progestin combination birth control pills or 2 levonorgestrel pills taken 12 hours apart. Emergency contraception should not be considered as an alternative to ongoing contraceptive methods, but can prevent unwanted pregnancy.

Review, tutorial
Emergency contraception: advance provision in a young, high-risk clinic population.


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OBJECTIVE: To assess whether advance provision of emergency contraception increases its use and whether it has secondary effects on regular contraceptive use. METHODS: We conducted a controlled trial of female clients, aged 16-24 years, who attended a publicly funded family planning clinic. Women were systematically assigned to receive an advance provision of emergency contraception and education (treatment) or education only (control). Among 263 participants enrolled (133 treatment, 130 control), follow-up was completed in 213 (111 treatment, 102 control). The main outcome measures were emergency contraception knowledge and use, frequency of unprotected sex, and pattern of contraceptive use in the past 4 months. RESULTS: Participants were aware of emergency contraception at follow-up, but the treatment group was three times as likely to use it (P = .006). Although the treatment group did not report higher frequencies of unprotected sex than the control group, women in the treatment group (28%) were more likely than those in the control group (17%) to report using less effective contraception at follow-up compared with enrollment (P = .05). The proportion of women in both groups who reported consistent pill use increased from enrollment to follow-up (34% versus 45%); however, the control group (58%) was more likely than the treatment group (32%) to report consistent pill use at follow-up (P = .03). CONCLUSION: Use of emergency contraception was increased by providing it in advance, but not by education alone. Changes to less effective contraceptive methods and patterns of pill use were potentially negative effects that need to be explored in relation to observed benefits.
Differences between users and non-users of emergency contraception after a recognized unprotected intercourse.


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Knowledge of emergency contraception is crucial but might not transform into use. Factors influencing decision-making related to use of emergency contraception after an unprotected intercourse and the characteristics of users of emergency contraception (EC) were assessed. In an abortion clinic setting, 217 women referred for termination of pregnancy were asked to fill in a questionnaire. Of the 217 women, 139 (64%) were aware of pregnancy risk but only 9 (4%) had used EC after the unprotected intercourse. 42% were estimated to have sufficient knowledge to use hormonal emergency contraception. In a larger background population, a calculated 29% used EC after a recognized unprotected intercourse. EC users were older, better educated, more often in stable relationships, had experienced more abortions, and gestation age was less. However, younger women were in general better informed of EC. Knowledge of EC does not necessarily transform into action. Neglect of risk after an unprotected intercourse is frequent in younger well-informed women and information has to be better targeted.
Repeated use of hormonal emergency contraception by younger women in the UK.


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A cohort of women aged 14-29 in 1993 was identified from the General Practice Research Database and followed up for a period of 4 years. Patient files were searched for evidence of use of emergency contraception and regular contraception. Of the 95 007 women, 15 105 (16%) had received emergency contraception during the study period (an average of 5% per annum). There was a small year on year increase in uptake of emergency contraception between 1994 and 1997. Only 4% of emergency contraception users received emergency contraception more than twice in any year. More than 70% of those who had no previous record of use of regular contraception had used regular contraception within 1 year of using emergency contraception. Teenagers were more likely than other age groups to use emergency contraception, to be repeat users of emergency contraception and to fail to start regular contraception after first use of emergency contraception until later in the study period. These results disprove the notion of widespread repeated use of emergency contraception. They show that provision of an emergency contraception service does not result in failure to initiate regular contraception or abandonment of regular contraception; rather they show many women using regular contraception for the first time after use of emergency contraception.


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Access to reliable contraception is often unavailable. Unsafe abortion yearly causes death for thousands and disabling illness for millions worldwide. Insufficient information, negligence, inappropriate contraception, poverty and poor education contribute to these serious sequelae of unintended pregnancy. Identification of those at risk, the provision of appropriate information and access to emergency contraception (EC), and male involvement are emphasized. Improved knowledge, better attitudes, enhanced practice of EC, and determined providers might meet the requirements of the next century.
**Alleged sexual assault. The role of the emergency department gynecologist**

**Minerva Ginecol 2000 Jul-Aug;52(7-8):313-20**

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The objective of this paper is to better understand the role of the Emergency department gynecologist in cases of alleged sexual assault. The gynecologist should know that he is a justice collaborator and, as public officer, he has to report to authorities every indictable offense. He should also know that patient's informed consent is required during each step of medical investigation. The doctor should indeed know when, how and where to find and collect evidence of crime and perform, in conformity with the victim's statement, specimens of biologic samples, a pregnancy test and a prophylaxis of sexually transmitted diseases. The gynecologist should evaluate psychological and general state of the patient, take the tailored medical history including the modalities of violent act, perform a physical examination, a genital and rectal examination with accurate description of the lesions and collect evidence of rape. The role of the gynecologist is to document all injuries in order to afterwards establish the conformity with patient's history. He should treat acute physical injuries, offer the counseling for the prevention of sexually transmitted diseases, for the pregnancy prophylaxis and emergency contraception and for psychosocial consequences, report to authorities as required by law and, at last, arrange for follow-up medical care and counseling. Personal experience highlights the necessity of a standard protocol to be used in all Emergency departments. This would allow and facilitate an uniform medical approach to the sexual assault victim as well as an accurate and correct collection of data for legal requirements.
Emergency contraception knowledge and prescribing practices: a comparison of primary care residents at a teaching hospital.


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STUDY OBJECTIVE: To determine knowledge, opinion, and experience concerning emergency postcoital contraception in primary care physicians who are in training. DESIGN: Cross-sectional survey using a questionnaire survey distributed to primary care specialty housestaff. SETTING: Questionnaire surveys were distributed to all active primary care housestaff in training and Obstetrics and Gynecology attendings at the University of Kentucky. PARTICIPANTS: The study surveyed all primary care specialty housestaff. Specialties included family practice (FP), internal medicine (IM), pediatrics (PD), and obstetrics and gynecology (OG). The attending faculty in Obstetrics and Gynecology (OGA) were also surveyed as a comparison group. MAIN OUTCOME MEASURES: Study variables were compared between specialty of training, year of training, and abortion opinion. ANOVA or Student's t tests were used, with statistical significance defined as P <.05. Each questionnaire was scored 0 to 9 based on knowledge and utilization questions. Overall response rate was 48%, 90 out of 189 surveyed. Response rates per specialty are as follows: FP = 51%, IM = 37%, PD = 48%, OG = 65%, and OGA = 69%. RESULTS: The average score on the survey was significantly different based on specialty of training (P value <.0001). Scores were not significantly different based on year of training. However, the average attending OG's score was significantly higher than for all the housestaff (P value <.0001). CONCLUSION: Knowledge and utilization of postcoital contraception is dependent on specialty. Unfortunately, this knowledge does not appear to increase with year of training, suggesting that there is a lack of education during the years of training.
Emergency contraception.

CMAJ 2000 Aug 8;163(3):261

Cole M.

Comment on:
CMAJ. 2000 May 30;162(11):1554
Consultation patterns and provision of contraception in general practice before teenage pregnancy: case-control study.


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OBJECTIVES: To determine patterns of consultation in general practice and provision of contraception before teenage pregnancy. DESIGN: Case-control study, with retrospective analysis of case notes. Setting: 14 general practices in Trent region. SUBJECTS: 240 registered patients (cases) with a recorded conception before the age of 20. Three controls per case were matched by age and practice. MAIN OUTCOME MEASURES: Consultations in general practice and provision of contraception in the 12 months before conception and recorded provision of contraception at any time before conception. RESULTS: Overall, 223 cases (93%) had consulted a health professional at least once in the year before conception, 171 (71%) had discussed contraception in this time, and 121 (50%) had been prescribed oral contraception. Cases were more likely to have consulted in the year before conception than controls (odds ratio 2.70, 95% confidence interval 1.56 to 4.66). Most of the difference was owing to consultation for contraception. Overall, 53 cases (22%) resulted in a termination of pregnancy. Cases whose pregnancy ended in a termination were more likely to have received emergency contraception than either their controls (3.21, 1.32 to 7.79) or cases resulting in other outcomes (3.01, 1.06 to 8.51). CONCLUSIONS: Most teenagers who became pregnant attended general practice in the year before pregnancy, and many had sought contraceptive advice. The reluctance of teenagers to attend general practice for contraception may be less than previously supposed. The association between provision of emergency contraception and pregnancy ending in termination emphasises the need for continuing follow up of teenagers consulting for this form of contraception.
Contraception prior to counselling for termination of pregnancy.

Eur J Contracept Reprod Health Care 2000 Sep;5(3):192-7

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OBJECTIVE: This study investigates the methods of contraception used by women attending for pregnancy counselling at the time of an unintended pregnancy. METHOD: Women attending three pregnancy counselling clinics in Birmingham were asked to fill in a questionnaire which was designed to obtain demographic data and history of women's methods of contraception, prior to attending for termination of pregnancy. RESULTS: The contraceptive methods used most widely by women presenting for termination of pregnancy were the condom (n = 188; 43%) and the oral contraceptive pill (n = 96; 22%). A proportion of women did not use any contraception (n = 117; 27%). Women who had undergone a previous termination of pregnancy (32%) had similar contraceptive patterns to those with no history of termination of pregnancy. Women aged 19 and under were less likely to be using contraception (non-users 30/90; 33%) compared with women aged 20 and over (non-users 82/324; 25%), but this difference was not statistically significant. Forty per cent (n = 31) of Afro-Caribbeans did not use any contraception; this was statistically significant when compared with the percentage of Caucasians not using contraception. Only 30% of those eligible had actually presented for post-coital emergency contraception. However, the uptake of emergency contraception was similar in the different age groups. CONCLUSION: Effective contraception is important in the prevention of unwanted pregnancies and, although it will not prevent all conceptions, it will contribute significantly to a reduction in unintended pregnancies. This study indicates that there is a need to consider and be sensitive to the different cultural needs of ethnic groups in the development and presentation of future contraceptives.
Emergency contraception.

Am J Nurs 2000 Sep;100(9):46-8

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HISTORICAL ARTICLE
Informed consent for emergency contraception: variability in hospital care of rape victims.

Am J Public Health 2000 Sep;90(9):1372-6

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There is growing concern that rape victims are not provided with emergency contraceptives in many hospital emergency rooms, particularly in Catholic hospitals. In a small pilot study, we examined policies and practices relating to providing information, prescriptions, and pregnancy prophylaxis in emergency rooms. We held structured telephone interviews with emergency department personnel in 58 large urban hospitals, including 28 Catholic hospitals, from across the United States. Our results showed that some Catholic hospitals have policies that prohibit the discussion of emergency contraceptives with rape victims, and in some of these hospitals, a victim would learn about the treatment only by asking. Such policies and practices are contrary to Catholic teaching. More seriously, they undermine a victim's right to information about her treatment options and jeopardize physicians' fiduciary responsibility to act in their patients' best interests. We suggest that institutions must reevaluate their restrictive policies. If they fail to do so, we believe that state legislation requiring hospitals to meet the standard of care for treatment of rape victims is appropriate.
Emergency contraception.


Draca P.

INTRODUCTION: The aim of this study was to point to the significance of emergency contraception following unsafe sexual intercourse. This method of contraception has been in use since the middle sixties, although in our country it is not applied very often. Indications for emergency contraception comprise every woman who experiences contraceptive failure or those not using any common contraception for any reason. MATERIAL AND METHODS: Emergency contraceptive devices are most often applied either in combination with estrogen and progesterone or only progesterone in high dosage (0.25 mg levonorgestrel and 50 mg ethinyl-estradiol) during 72 hours after the intercourse and a repeated dose 12 hours later. CONCLUSION: Emergency contraception is recommended as a single procedure. If used several times during a year, the risk of unwanted pregnancy increases. The mechanism of effect of emergency contraception depends on the timing during menstrual cycle; it can prevent ovulation, fertilization or implantation. Emergency contraception does not cause abortion and it is not effective if the process of implantation has started. Unwanted side-effects are not known.
Emergency hormonal contraception in France in 2000.

Gynecol Obstet Fertil 2000 Oct;28(10):709-10

Aubeny E.

Editorial
Levonelle-2 for emergency contraception.

Drug Ther Bull 2000 Oct;38(10):75-7

About 190,000 therapeutic terminations of pregnancy occur in the UK each year. Many of these could be prevented by the use of emergency contraception. We have previously discussed the use of combined hormonal emergency contraception. Now, a progestogen-only emergency contraceptive, levonorgestrel in the form of Levonelle-2 (Schering Health), has been licensed in the UK. The manufacturer claims that the treatment offers "unsurpassed efficacy in oral emergency contraception" with "significantly less nausea and vomiting than combined oral emergency contraception". We investigate these claims and discuss whether Levonelle-2 is an advance in emergency contraception.
Experience with self-administered emergency contraception in a low-income, inner-city family planning program.


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OBJECTIVE: To evaluate women's use, knowledge of and attitudes toward self-administered emergency contraceptive pills (ECP) at the University of Pennsylvania family planning clinic (FPC). STUDY DESIGN: The University of Pennsylvania FPC is a Title X, publicly funded clinic serving urban, low-income women. All women attending the clinic were offered ECP packets. Exclusion criteria for ECP were current pregnancy or newly diagnosed hypertension. Women signed consent forms and were given specific instructions on using ECP with the standard Yuzpe method. Women were contacted for a phone interview after they had the ECP packets at home for six to eight months. RESULTS: One hundred ninety-two women received the ECP packets. Forty-eight were contacted and completed the survey. One hundred forty-four women had moved, no longer had phone service or were unreachable after three or more attempts. Eleven of the 48 women (22.9%) used the ECP, but only 2 of 11 (18.2%) took the pills correctly. One of these two women became pregnant. Of the women who had not used the ECP packets, only 25 of 37 (67.6%) could locate them, and only 9 of 37 (24%) could recall how to use them correctly. Four of 37 (10.8%) experienced an unplanned pregnancy. CONCLUSION: Emergency contraception utilization was far lower than anticipated, suggesting that ready access is not the only issue. Many of the women did not administer ECP correctly or could not state how they would use it in the future despite extensive instruction. Patients will require new and creative approaches to encourage their appropriate use of emergency contraception.
The use of progesterone antagonists and progesterone receptor modulators in contraception.


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Progesterone antagonists (PAs) and progesterone receptor modulators (PRMs) have contraceptive potential by suppressing follicular development, delaying the surge of luteinizing hormone (LH), retarding endometrial maturation, and promoting endometrial bleeding. Mifepristone, in daily doses of 2-10 mg, blocks the LH surge and ovulation. Many of the studies were conducted in women not at risk of pregnancy, and thus the contraceptive efficacy is not yet known. Nevertheless, there is evidence that daily doses of 2 or 5 mg of mifepristone have contraceptive potential. Because of anovulation, there may be an unopposed estrogen effect on the endometrium, although this risk may be mitigated by the noncompetitive anti-estrogenic activity exhibited by both PAs and PRMs. Low doses of PAs and PRMs, which do not affect ovulation, retard endometrial maturation, indicating that the endometrium is exquisitely sensitive to these compounds. This raises the prospect of endometrial contraception, i.e. prevention of endometrial maturation without disturbing ovulation or producing alterations in bleeding patterns. This approach works well in monkeys but was not found to be very promising when given to women not using contraception. On the other hand, 200 mg mifepristone administered 48 h after the LH surge, which has minimal or no effect on ovulation and bleeding patterns, is an effective contraceptive; yet, it is not a practical approach to contraception. Late luteal phase administration of mifepristone produces menstrual bleeding. However, when mifepristone was administered every month at the end of the cycle either alone or together with prostaglandins, it was not very effective in preventing pregnancy. In contrast, a mifepristone-prostaglandin combination has been shown to be a very effective treatment for occasional menstrual regulation, with vaginal bleeding induced in 98% of pregnant women, with menses delay of 11 days or less. Mifepristone is an excellent agent for emergency contraception when used within 120 h of unprotected intercourse. It is also possible that PAs and PRMs may be used to reduce the occurrence of bleeding irregularities induced by progestin-only contraceptive methods. Both classes of progesterone receptor ligands may also have contraceptive efficacy by having a pharmacological effect on the embryo or altering tubal transport or other aspects of tubal physiology.
Effect of the Yuzpe regimen of emergency contraception on markers of endometrial receptivity.


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This exploratory study was designed to determine whether treatment with the Yuzpe regimen of emergency contraception altered endometrial integrin expression or other markers of uterine receptivity. Nineteen parous women were followed for two menstrual cycles. In the second cycle, each participant took 100 mg ethinyl oestradiol and 1 mg norgestrel on the day of the urinary luteinizing hormone (LH) surge and repeated the dose 12 h later. In both cycles, endometrial biopsy, phlebotomy and vaginal sonogram were performed 8-10 days after the urinary LH surge. No significant difference was found between untreated and treated cycles in most measures of endometrial histology or in endometrial expression of beta3 integrin subunit, leukaemia inhibitory factor, glycodeolin, or progesterone receptors assessed by immunohistochemical techniques. Five statistically significant changes were noted in treated cycles: a reduction in endometrial MUC-1 expression, an increase in endometrial oestrogen receptor, lower luteal phase serum oestrogen concentration, reduced endometrial thickness, and greater proportion of glandular supranuclear vacuoles. The relationship of these findings to the contraceptive action of the Yuzpe regimen is unclear.
Emergency postcoital contraception.


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Emergency postcoital contraception, a method used to prevent pregnancy after unprotected sexual intercourse, is a highly effective but underutilized birth control option. Two hormone regimens, ethinyl estradiol (100 microg) with levonorgestrel (0.5 mg) or high-dose levonorgestrel (0.75 mg), given within 72 hours of intercourse and repeated 12 hours later, are available for this purpose. These regimens are packaged as Food and Drug Administration labeled, dedicated products or can be adapted for use from standard oral contraceptive pills. Emergency postcoital contraception should be considered as a primary prevention health service to women of childbearing age.
Emergency contraception: still not too late.

Am Fam Physician 2000 Nov 15;62(10):2222, 2225-6

Wellbery C

EDITORIAL
Informed consent and emergency contraception.


McGaughran AL

EDITORIAL
Ectopic gestation following emergency contraceptive pill administration.

Contraception 2000 Nov;62(5):275-6

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Emergency contraceptive pill prescription following rape is common. We report a case of ectopic gestation after emergency contraceptive pill failure and review the literature on this rare complication. A 26-year-old woman with a normal menstrual period 2 weeks before was administered an emergency contraceptive pill 8 hours after a single sexual assault. The assault was her only sexual activity before and after the emergency contraceptive pill use. Forty-six days following the assault, the patient presented with a right ampullary tubal pregnancy of 59 days gestation and underwent emergent surgery for ectopic gestation. To prevent a delay in the diagnosis of ectopic pregnancy, we recommend that providers and the package insert advise women, that ectopic gestation can occur with emergency contraceptive pill failure.
Emergency contraception and the ethics of discussing it prior to the emergency.

Womens Health Issues 2000 Nov-Dec;10(6):312-6

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Illustrative cases are considered to show that, on ethical grounds, emergency contraception should be routinely included in discussions with patients about alternative methods of contraception.
Apparent interaction between warfarin and levonorgestrel used for emergency contraception.

BMJ 2000 Dec 2;321(7273):1382

Ellison J, Thomson AJ, Greer IA, Walker ID
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Emergency contraception.


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The time has come for emergency contraception. It is highly underused worldwide, and especially in the United States, where patient and physician awareness remain low. There are several highly effective, well-tolerated methods that can be used to prevent undesired pregnancy after unprotected intercourse. This article discusses these methods, their method of action, effectiveness, safety, and tolerability.
Knowledge and attitudes about emergency contraception in a military population.


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Objective: To assess knowledge and attitudes about reproductive issues and emergency contraception among active duty military members. Methods: A survey was distributed to 302 active duty members of the United States Air Force. Descriptive and Pearson chi(2) statistical analyses were used to evaluate findings. Results: There was a general lack of knowledge about reproductive issues and the Yuzpe emergency contraception method. Eighty-five percent of respondents were sexually active, but only 62% used birth control. Only 40% knew when pregnancy was most likely to occur. Sixty-four percent had heard of emergency contraception, but only 15% were aware of the correct time to take it. Fifty-five percent said they would use emergency contraception if needed, with younger or unmarried individuals most willing. Conclusion: Knowledge deficits must be addressed to keep women deployable. Educational materials and emergency contraception kits should be standard issue items. That might prevent unwanted pregnancies and produce significant savings in reproductive health and emotional costs.
Patterns of prescription of PC4 by general practitioners in England and Wales.

*Eur J Contracept Reprod Health Care 2000 Dec;5(4):241-7*

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**OBJECTIVE:** To study the pattern of general practitioner prescribing of PC4, the most commonly used method of hormonal emergency contraception, in England and Wales.

**METHOD:** The UK General Practice Research Database was used to identify, from a total population of 4.2 million people on the lists of contributing practices, all women aged 10-44 years who were prescribed PC4. Rates of prescribing were calculated to produce rates over time by age group, by day of week and month of year, and by region.

**RESULTS:** The rate for PC4 prescribing rose from about 1.5 per 1,000 women per month in 1992 to about 3.0 in 1995, then remained relatively constant until 1998. Rates were highest among 15-19-year-old women and next highest among those aged 20-24 years. Rates were higher in Wales than in each of the English regions. Excesses of prescribing took place in the summer months and between Saturdays and Mondays.

**CONCLUSION:** Reasons for the increase in PC4 prescribing rates in the early years of the study are unclear, although increasing knowledge of the technique among the population may have contributed. There was no evidence of an increase in prescribing following the pill scare of October 1995, although there was an increase some months earlier. The concentration of requests at weekends suggests the need for weekend access to emergency contraception. The summer peak may also indicate a heightened need in holiday areas at that time.
Teenage pregnancy: whose problem is it?

Fam Pract 2000 Dec;17(6):522-8

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BACKGROUND: The UK has the highest rates of teenage conception in Europe. Teenage conception has been identified in medical literature as a problem for society and teenagers. However, little attempt has been made to see it from the perspective of the teenagers themselves. OBJECTIVE: To explore teenage women's attitudes to sexual health, contraception and pregnancy. METHODS: Ethnographic qualitative study based on in-depth interviews and participant observation. The study took place in young mothers' groups, young persons' clinics and general practices in Bristol. Subjects were 34 young women between the ages of 16 and 20, sampled purposefully in two groups to include young mothers and never-pregnant young women from advantaged and disadvantaged socioeconomic backgrounds. RESULTS: The two groups did not differ in their use of contraception at first intercourse. Young women from more socioeconomically advantaged backgrounds felt that motherhood would not be acceptable to them, but were more tolerant to others who became young mothers. The pregnant/young mothers revealed more difficulties getting access to reliable contraceptive services, and dissatisfaction with sex education in schools. The pregnant/young mothers found abortion to be less acceptable than the more socially advantaged group. Both groups reported sexual behaviour that involved risks of becoming pregnant, but the more socially advantaged group were more likely to use emergency contraception. CONCLUSIONS: The study demonstrates the importance of taking the views of young people into account when planning both sex education and the provision of contraceptive services.
Improving access to emergency contraception.

BMJ 2001 Jan 27;322(7280):186-7

Harrison-Woolrych M, Howe J, Smith C.

EDITORIAL
Mifepristone as a late post-coital contraceptive.

Human Reprod 2001 Jan; 16(1): 72-75

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This study was undertaken to assess the efficacy of mifepristone as a post-coital contraceptive beyond 72 h and up to 5 days in women who found the intrauterine contraceptive device (IUCD) unacceptable. During a 2 year period 219 consecutive women fulfilling the inclusion criteria and presenting late for emergency contraception were approached and offered a choice of methods. Fifteen (6.8%) women wished to have the IUCD fitted, but 204 (93.2%) who found this unacceptable were offered and accepted mifepristone 200 mg. In one woman there was a technical problem fitting the IUCD and mifepristone was administered. Women who had mifepristone were younger (mean age 21.4 versus 26.9 years, P = 0.004) and more likely to be nulliparous (81 versus 25 %, P < 0.001) than the IUCD group. A total of 155 (75.6%) women who had mifepristone and all 14 who had the coil fitted were followed up. There were no true failures in either group. There was one user failure in the mifepristone group, where pregnancy occurred from an act of intercourse subsequent to treatment, giving a crude pregnancy rate of 0.65%. Mifepristone prevented 85% of expected pregnancies. Most women find the IUCD an unacceptable method of post-coital contraception. Mifepristone is an effective late post-coital contraceptive, which can be offered to women who decline the IUCD.
Should school nurses be dispensing emergency contraception?

_Nurs Times 2001 Jan 18-24;97(3):16_

Reid P, Jackson P.

NEWS
Emergency contraception. Perils of popping into boots for a Levonelle.

Nurs Times 2001 Jan 18-24;97(3):12

Evans S.

NEWS
Use of hormonal emergency contraception at a university health centre over a 6 year period.

*J Fam Plann Reprod Health Care 2001 Jan;27(1):47-8*

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This was a retrospective review of the use of emergency hormonal contraception at a university-based health centre over a 6 year period. Usage was greater than noted in previous studies. Condom problems, or not using any form of contraception, were the main reasons for requests. Users were significantly more likely to be smokers than the base population.
Repeat use of contraceptive crisis services among adolescent women.

J Fam Plann Reprod Health Care 2001 Jan;27(1):33-6

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"They don't get pregnant twice unless they are hopeless." This was one Doctor's reported assessment of women who had more than one abortion. There is some evidence that the repeated use of pregnancy testing 'scare', emergency contraception and abortion is increasing across all women. However, there may also be an interaction between this general trend and the difficulties faced by particularly vulnerable groups of teenagers who also have higher rates of teenage parenthood. This paper aims to provide an overview of the research and international statistics in this sparsely researched area. It will draw on the author's own qualitative work with 'high risking' teenage girls, and that of other researchers, in order to attempt to reach an understanding of the mechanisms behind this increasingly common phenomenon. The indications from this work refutes the notion that these women form a special or 'hopeless' group, but point towards general problems with contraception and services common to all women that may become compounded through structural vulnerability such as deprivation.
The emergency contraception collaborative prescribing experience in Washington State.

J. Am Pharm Assoc (Wash) 2001 Jan-Feb;41(1):60-6


OBJECTIVE: To describe how prescribers and pharmacists view the Emergency Contraceptive Pills (ECP) program, and to evaluate pharmacists' performance through the use of a consumer survey. DESIGN: Self-administered provider satisfaction surveys were mailed 6 months after the program's inception. Consumer satisfaction surveys were distributed at the point of ECP service for return by mail. SETTING: The program encouraged pharmacists and prescribers in western Washington to enter into collaborative prescribing agreements, increasing consumers' access to ECP. PATIENTS OR OTHER PARTICIPANTS: Pharmacists who had attended ECP training sessions, prescribers who had authorized pharmacists to prescribe ECP, and women who had been prescribed ECP by pharmacists. MAIN OUTCOME MEASURES: Providers' reasons for participating, attitudes toward the ECP program, and experiences with ECP as a result of the program; feedback from women receiving ECP from pharmacists. RESULTS: 309 pharmacist surveys and 55 prescriber surveys were sent, of which 159 (51%) and 27 (49%), respectively, were returned. Meeting patient needs and having a professional responsibility to participate were commonly reported reasons for ECP program involvement. Both pharmacists and prescribers (92%) reported being "satisfied" or "very satisfied" with their prescribing agreements. On the 470 consumer surveys returned out of 7,000 distributed (6.5%), pharmacists were rated highly satisfactory for their interactions with patients and the quality of information about ECP use given, but less satisfactory for information about adverse effects, recognition and follow-up of ECP failure, and regular contraceptive methods. CONCLUSION: All participants expressed satisfaction with the ECP program. This example should support the initiation of similar programs in other states.
Emergency contraception: pediatricians' knowledge, attitudes, and opinions.


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Emergency contraception (EC) is the use of a method of contraception after unprotected intercourse to prevent unintended pregnancy. Although first described over 20 years ago, physician awareness of EC has been limited and many feel uncomfortable prescribing it. OBJECTIVE: To assess the knowledge, attitudes, and opinions of practicing pediatricians regarding the use of EC in adolescents. METHODS: An anonymous questionnaire was mailed to all 954 active members of New York Chapter 2, District II of the American Academy of Pediatrics. The questionnaire assessed basic knowledge, attitudes, and opinions regarding EC in adolescents. Data were analyzed by physician age, gender, year completed residency, and practice type. RESULTS: Two hundred thirty-three practicing pediatricians (24.4%) completed the survey. Of the respondents, 23.7% had been asked to prescribe EC to an adolescent and 49% of these cases involved a rape victim. Only 16.7% of pediatricians routinely counsel adolescent patients about the availability of EC, with female pediatricians more likely to do so. Most respondents (72.9%) were unable to identify any of the Food and Drug Administration-approved methods of EC. Only 27.9% correctly identified the timing for its initiation and only 31.6% of respondents felt comfortable prescribing EC. Inexperience with use was cited as the primary reason for not prescribing EC by 70% of respondents. Twelve percent cited moral or religious reasons and 17% were concerned about teratogenic effects. There were no differences in comfort level based on age, gender, or practice type. Twenty-two percent of respondents believed that providing EC encourages adolescent risk-taking behavior and 52.4% would restrict the number of times they would dispense EC to an individual patient. A minority of respondents (17%) believed that adolescents should have EC available at home to use if necessary and only 19.6% believed that EC should be available without a prescription. The vast majority (87.5%) were interested in learning more about EC. CONCLUSIONS: Despite the safety and efficacy of EC, the low rate of use is of concern. Pediatricians are being confronted with the decision to prescribe EC but do not feel comfortable prescribing it because of inadequate training in its use. Practicing pediatricians are aware of their lack of experience and are interested in improving their knowledge base.
Evaluation of a media campaign to increase knowledge about emergency contraception.

Contraception 2001 Feb;63(2):81-7

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Our objective was to evaluate a media campaign designed to increase knowledge about emergency contraception. Random telephone surveys were conducted before and after the campaign to measure changes in knowledge about emergency contraception. Change in the volume of calls to the Emergency Contraception Hotline (1-888-NOT-2-LATE) was a secondary measure of impact. Significant increases occurred in the proportions of women who knew that something could be done after intercourse to prevent pregnancy, who knew the term emergency contraception, who knew of the 72-h time limit, and who had heard of the Hotline. In addition, the number of calls to the Hotline increased substantially. A public education media campaign resulted in significant increases in knowledge about emergency contraception. The first contraception advertisement ever shown on television did not provoke controversy.
Deliverance of emergency contraception, in 1988, in family planning and education clinics (FPEC) of Val de Marne.

Gynecol Obstet Fertil 2001 Feb;29(2):129-36


OBJECTIVES: To facilitate access to emergency contraception (EC). To allow the nurses in the family planning clinics to deliver it during the doctor's absence. METHODS: For one year, 1998, 1102 women requested EC in the 38 family planning clinics participating in the study. This study evaluated the utilisers and the circumstances under which dispensation occurred. RESULTS: The users of EC were young, 45% under 18 years and 90% under 25 years. There was a marked difference between the contraception the women declared they used and that which they actually did during their last episode of sexual intercourse. Women requested EC in case of condom breakage or slipping (49%), forgotten pill (8%), or after unprotected intercourse (43%). Nurses personally received 809 requests for EC, and 293 women were received by the family planning doctor. In 77% of the cases, EC was given by the nurses, and for the others after medical opinion. But only 7% had a medical "problem" (contraindications to estrogen-progestin, or cycle disorder). Among the 823 women for whom information was obtained, 22 unwanted pregnancies were observed, 18 of these patients decided to have an abortion. 97.3% efficacy. CONCLUSION: Making EC more easily available in family planning clinics with dispensation by nurses does no harm and may reduce the rate of unwanted pregnancy.
Emergency contraception and teenage sexuality.

Nurs Times 2001 Feb 1-7; 97(5):40

Kilcoin A, Clark C, Payne K. Family Planning Services, South Essex Mental Health and Community Care NHS Trust.
Emergency contraception in Chile.

*Lancet* 2001 Mar 10;357(9258):809

Meirik O.

LETTER
Routine provision of emergency contraception to teens and subsequent condom use: a preliminary study.


Roye CF.
The effects of peri-ovulatory administration of levonorgestrel on the menstrual cycle.

Contraception 2001 Mar;63(3):123-9

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Levonorgestrel (LNG) 0.75 mg administered 12 h apart within 72 h of unprotected coitus, is an established method of emergency contraception (EC). The mechanism of action of LNG used in this manner is unknown. We administered LNG 0.75 mg twice immediately before ovulation, to test the hypothesis that LNG acts as an emergency contraceptive by abolishing the pre-ovulatory lutenizing hormone (LH) surge and thereby delaying ovulation. Twelve women took LNG on or before the day of the first significant rise in urinary LH in 12 cycles. In four women, the LH peak and the onset of next menses were significantly delayed (delay of 16.8 days (SD +/− 8.7) from the day of mean LH peak in placebo cycles). One woman did not ovulate at all, despite a normal LH peak and cycle length. In the remaining eight women, LNG did not affect ovulation or the cycle length, but the length of the luteal phase and the total luteal phase LH concentrations were significantly reduced. We suggest that LNG acts as an emergency contraceptive by other mechanisms as well as delaying the LH surge and interfering with ovulation.
Mechanism of action of hormonal preparations used for emergency contraception: a review of the literature.

Contraception 2001 Mar;63(3):111-21

Croxatto HB, Devoto L, Durand M, Ezcurra E, Larrea F, Nagle C, Ortiz ME, Vantman D, Vega M, von Hertzen H. Instituto Chileno de Medicina Reproductiva, Santiago, Chile
Emergency contraception to prevent pregnancy after episodes of unprotected sexual intercourse has existed since ancient times. Modern medicine began to use hormonal methods in the 1960s, and today emergency contraception is used regularly in many countries. In the United States, providers do not routinely prescribe it, nor do they adequately inform their patients that it is available. This occurs even though sufficient information exists on the safety and efficacy of this method. Because the effectiveness of emergency contraceptive pills relies heavily on prompt administration, better access for patients is essential. Recently, proponents of emergency contraception have attempted to better inform the public of this resource. In addition, two oral contraceptive products are now available and marketed specifically for emergency contraception. The purpose of this article is to discuss the safety and efficacy of emergency contraceptive pills and the potential for them to become available without a prescription.
Knowledge of emergency contraception among pharmacists and doctors in Durban, South Africa.


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OBJECTIVE: To determine the level of knowledge of emergency contraception among private-sector pharmacists and doctors. METHOD: This hand-delivered, confidential questionnaire survey was undertaken in North and South Central Durban, Kwazulu-Natal, South Africa. The main outcome measures were frequency of demand for emergency contraception and knowledge of its dosing schedule, side-effects and contraindications. RESULTS: Ninety-six per cent of pharmacists and 93% of doctors had received requests for emergency contraceptive pills within the past year. Thirty-two per cent of pharmacists and 28% of doctors prescribed the Yuzpe regimen correctly. Only 23 (27%) doctors and 25 (22%) pharmacists were able to identify three common side-effects associated with emergency contraceptive pills. Forty-six per cent of pharmacists and 49% of doctors correctly indicated that there are no absolute contraindications to emergency contraceptive pills other than a contraindication to contraceptive pills. Fifty-four per cent of pharmacists and 35% of doctors agreed that the multiple use of emergency contraceptive pills is risky. CONCLUSION: There is an urgent need to improve the knowledge of health-care workers regarding emergency contraception, which forms an important back-up method when existing contraception fails or is not used.
Bringing emergency contraception to American women: the history and remaining challenges.

Womens Health Issues 2001 Mar-Apr;11(2):80-6

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Emergency contraception has been called "America's best-kept secret." This article chronicles what it took to move it from secret to the pharmacy shelf. The fact that an emergency contraception product is available today in many pharmacies is indeed a major accomplishment. However, the job is not yet done. The shelf it needs to be found on is not just the pharmacists' shelf, behind the counter—but the shelf in the medicine cabinet in millions of homes everywhere, like burn medicine, "just in case."
Swedish teenagers' attitudes toward the emergency contraceptive pill.

J Adolesc Health 2001 Apr;28(4):313-8

Haggstrom-Nordin E, Tyden T. Department of Women's and Children's Health, Uppsala University and Center of Clinical Research, Central Hospital, Vasteras, Sweden.

PURPOSE: To explore knowledge, attitudes toward, and experience with, the emergency contraceptive pill (ECP) among teenagers in Sweden. METHODS: A questionnaire with 23 questions concerning the students' demographics, knowledge of, attitudes toward, and experience of the ECP was delivered to a random sample of 20 classes in senior high school in two medium-sized cities in Sweden. The participation rate was 100% (n = 408). Differences in responses between teenagers in the two cities, boys and girls, theoretical and practical classes, or native Swedish and immigrant teenagers were calculated with the Chi-square test. RESULTS: The mean age was 16.5 years. Almost half (45.4%) of the teenagers had had sexual intercourse and of those, 28.3% stated that they themselves or their partner had used ECP. Four of five teenagers knew about ECP and where to obtain it if necessary. Many teenagers (67.3%) also knew that ECP prevented implantation. The main sources of information about ECP were youth clinics (n = 179) and friends (n = 159). The attitude toward using ECP in an emergency situation was positive, but the teenagers, especially girls, were restrictive as to whether ECP should be available without a prescription. The girls believed ECP could be used much more, and two-thirds of both sexes thought it could lead to negligence with ongoing contraception. Seventy-seven percent of teenagers preferred turning to a youth clinic when in need of ECP. One in four believed that concerns for side effects could deter them from using ECP. CONCLUSIONS: Based on the results in the present study, the importance of counseling in this situation is confirmed. The awareness about ECP was good, but teenagers also expressed concerns about side effects. The girls were more hesitant than the boys about having ECP available over the counter.
Adverse reactions and emergency contraception.

Lancet 2001 Apr 14;357(9263):1203

Grant EC.

LETTER
Postcoital interception

[Article in Spanish]


Gallego Carnicer J, Sanchez Collado MP. Hospital Severo Ochoa de Leganes.

It constitutes a descriptive, retrospective study whose aim is to come to know the number and traits of the patients demanding post-coital interception at the Severo Ochoa Hospital in Leganes. We consider the patient's age and place of origin as well as the precise day of the week in which the consultation takes place. Likewise, we take account of the number of women that reiterated their demands during this period. We compare the resultant information with the voluntary interruptions of pregnancy carried out at this hospital in order to approach an assessment of the method's effectiveness. We pose the question of whether the post-coital interception is really a gynaecological emergency or, rather, it could be administered as part of the Primary Health Care services and, even, as other studies suggest, without medical prescription.
OTC emergency contraception?

RN 2001 May;64(5):suppl 3-5

Weiss B.
Cost savings from emergency contraceptive pills in Canada.

Obstet Gynecol 2001 May;97(5 Pt 1):789-93

Trussell J, Wiebe E, Shochet T, Guilbert E. Office of Population Research, Princeton University, Princeton, New Jersey 08544, USA. trussell@princeton.edu

OBJECTIVE: To estimate cost savings from emergency contraceptive pills in Canada. METHODS: We modeled cost savings when a single emergency contraceptive treatment was provided after unprotected intercourse and when women were provided emergency contraceptive pills in advance. RESULTS: Each dollar spent on a single treatment saved $1.19--$2.35 (in Canadian currency), depending on the regimen and on assumptions about savings from costs avoided by preventing mistimed births. The dedicated products Preven (Shire Canada, Inc., Oakville, Ontario) and Plan B (Paladin Labs, Inc., Montreal) were cost-saving even under the least favorable assumption that mistimed births prevented today occur 2 years later. Each dollar spent on advance provision of Preven saved $1.24--$12.23, depending on the regular contraception method, on how consistently emergency contraception was used when needed, and on whether mistimed births were averted forever or simply delayed. Plan B was almost always cost-saving, although less so. CONCLUSION: Emergency contraception was cost-saving whether provided when the emergency occurred or in advance to be used as needed. More extensive use of emergency contraception could save considerable medical costs by reducing unintended pregnancies.
Emergency contraception from pharmacists misses opportunity.

BMJ 2001 May 19;322(7296):1245

Stammers T.

LETTER
Curse or cure? Pharmacological emergency contraception.

Pract Midwife 2001 May; 4(5):18-20

O'Driscoll M.
Emergency contraception. Attitudes and practices of primary care doctors in North Carolina.


Lindsey JN. University of North Carolina School of Medicine, Chapel Hill, USA. jnielsen@med.unc.edu
Quick Uptakes: Promoting Emergency Contraception.

JAMA 2001 Jun 27;285(24):3080

Mitka M.
Emergency contraception still an unknown quantity.

*Aust Nurs J* 2001 Jun;8(11):32

Gent C.

Can Fam Physician 2001 Jun;47:1261-3, 1267-9

Dunn S, Davis V. Bay Centre for Birth Control, Sunnybrook and Women's College Health Sciences Centre, Toronto, Ont.
Emergency contraception and family physicians. An ounce of prevention when it really counts.

Can Fam Physician 2001 Jun;47:1159-60, 1166-8

Dunn S.

EDITORIAL
Pilot program tests distributing emergency contraception without a prescription.

West J Med 2001 Jun;174(6):381

NEWS
OBJECTIVE: To assess changes in the prescribing practices, knowledge, attitudes, and perceptions of health care providers after an educational program about emergency contraception. METHODS: Health care providers completed self-administered questionnaires before and 1 year after full implementation of the project. The 102 providers who completed both questionnaires were physicians (64%) and mid-level professionals from 13 San Diego County Kaiser Permanente medical offices working in departments such as obstetrics and gynecology, primary care, and emergency medicine. RESULTS: The frequency of prescription for emergency contraceptive pills increased significantly from baseline to follow-up. There was an increase of almost 20% in the percentage who prescribed emergency contraception at least once a year. Knowledge also improved significantly, and perceptions of barriers to prescribing emergency contraceptive pills within the health maintenance organization decreased significantly. In contrast, attitudes about emergency contraception showed little change. CONCLUSION: This study suggests that providers who participate in in-service training and other aspects of a demonstration project show changes in perceptions, knowledge, and behavior. However, findings also suggest that significant gaps remain in knowledge about medications, side effects, and mode of action. It is likely that many providers in other health care settings also need additional information and training concerning protocols of emergency contraception provision and its modes of action and effects.
Attitudes and practices of pharmacists towards emergency contraception in Durban, South Africa.


Hariparsad N.  School of Pharmacy and Pharmacology, University of Durban-Westville, Durban, South Africa.

Emergency contraception, which is used to prevent pregnancy following unprotected intercourse, could prove invaluable to a country like South Africa which has high fertility and pregnancy rates. However, the success of emergency contraception is dependent on the awareness, knowledge, attitudes and practices amongst health-care providers and the public towards it. The aim of this study was to assess the attitudes and practices of community pharmacists towards emergency contraception. The study was conducted in North and South Central Durban, South Africa. This questionnaire-based study sought from pharmacists the frequency of demand and supply of emergency contraception, as well as their attitudes and practices towards it. The sample included all 182 pharmacies located in the study area. A total of 96% of pharmacists had received requests for emergency contraception within the last year. On average, each pharmacist received 177 requests for emergency contraception. Sixty-nine per cent of pharmacists were in favor of making emergency contraceptive pills available without a prescription, 62% were already supplying emergency contraceptive pills without a prescription and 67% felt that it was important to increase public awareness regarding emergency contraception. Ninety-one per cent of pharmacists did not have any literature regarding emergency contraception to hand to clients, 68% had a private area in their pharmacy to counsel patients and 86% of pharmacists indicated that they discussed long-term contraception with clients. This study is the first in South Africa aimed at determining the utilization of emergency contraception. However, further studies are required in order to ascertain information that will assist in changing current health policies to improve those in reproductive health care.
The need for more active promotion of emergency contraception.

Eur J Contracept Reprod Health Care 2001 Jun; 6(2):65-70

Lech MM, Bonati G.

EDITORIAL
Emergency contraception

[Article in Spanish]

Aten Primaria 2001 Jun 15;28(1):59-68


REVIEW, TUTORIAL
Evaluation of postabortion IUD insertion in Egyptian women.

Contraception 2001 Jun;63(6):315-7

Moussa A. Department of Obstetrics and Gynecology, Alazhar School of Medicine, Cairo, Egypt. amoussa77@hotmail.com

This study was carried out at Alhussein University Hospital and Elmonera General Hospital to assess the safety and efficacy of intrauterine device (IUD) insertion immediately after spontaneous abortion compared with insertion 2 weeks after abortion. One hundred women between ages 18 and 40 years were recruited from those admitted via the emergency room with first trimester spontaneous abortion. All women were counseled about a method of contraception, particularly copper T-380, and divided into two groups: Group I, which included 69 women who preferred immediate IUD insertion, and Group II, which included 31 women who asked for late IUD insertion 2 weeks after an abortion. All women were followed at 2, 6, and 10 weeks after insertion of IUDs. Bleeding patterns were comparable in both groups. Mild bleeding occurred in 9.2% and 16% in Groups I and II, respectively; moderate bleeding occurred in 80% and 64%, respectively, and severe bleeding was observed in 10.8% and 20%, respectively. This was not significant. Expulsion rate was 4.5% and 3.4% in Groups I and II, respectively, which was also not significant. There were no cases of perforation or pelvic infections. This study showed that insertion of an IUD immediately after a spontaneous abortion is safe and could be offered to those who have had an abortion and who ask for a method of contraception.
Emergency contraception over-the-counter: the medical and legal imperatives.


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Requiring a physician's prescription for hormonal emergency contraceptive pills makes no sense. Unintended pregnancies remain endemic in the United States, and wider use of emergency contraceptive pills could substantially help. However, the prescription requirement poses an unnecessary barrier to prompt, effective use of this preventive therapy. According to the Durham-Humphrey Amendment of 1951, the default option for all new drugs is, in principle, over-the-counter, unless a drug is addictive or dangerous when self-administered. Clearly, hormonal emergency contraception is neither of these. Emergency contraceptive pills meet all the customary criteria for over-the-counter use: low toxicity, no potential for overdose or addiction, no teratogenicity, no need for medical screening, self-identification of the need, uniform dosage, and no important drug interactions. The Food and Drug Administration is authorized, and, by its own regulations, should be required to switch hormonal emergency contraception to over-the-counter status without delay. The current prescription requirement is not only gratuitous but also harmful to women's health because it impedes access to this important therapy.
Levonorgestrel-only emergency contraception: real-world tolerance and efficacy.

Contraception 2001 Jul;64(1):17-21

Gainer E, Mery C, Ulmann A. Laboratoire HRA Pharma, Paris, France. gainer@hra-pharma.com

Levonorgestrel-only emergency contraception was introduced onto the market in France in May 1999 on the heels of a large-scale clinical trial demonstrating its enhanced efficacy and tolerance over the combined estrogen-progestin reference method. To evaluate the product's real-world tolerance and efficacy in the more than 20 months that it has been on the market, a retrospective study was performed among large-scale prescribers in France. One hundred physicians were asked to complete a written questionnaire outlining their practices with regards to their prescription of the product as well as their knowledge and evaluation of the product's tolerance and efficacy. Results from 82 respondents representing over 2,000 administrations demonstrate that physicians judge levonorgestrel-only emergency contraception to be very well tolerated and without unexpected side effects. Further, respondents report a pregnancy rate similar to that chronicled in the large-scale clinical trial (less than 3%), thus substantiating conclusions regarding the product's considerable efficacy and its potential for reducing the rate of unintended pregnancies.
Young women requesting emergency contraception are, despite contraceptive counseling, a high risk group for new unintended pregnancies.

Contraception 2001 Jul;64(1):23-7

Falk G, Falk L, Hanson U, Milsom I. Department of Obstetrics and Gynecology, Orebro Medical Centre Hospital, Orebro, Sweden. gabriella.falk@orebroll.se

Since its introduction in Sweden in 1994, emergency contraception has become a welcome addition to the campaign against unwanted pregnancy. In addition to an unplanned pregnancy, unprotected sexual intercourse may also involve the risk of contracting sexually transmitted diseases (STD). The aim of this study was to assess the short- and long-term risk of unintended pregnancy and to determine the frequency of chlamydia infections in women receiving emergency contraception. Between September 1998 and February 1999 young women aged 15-25 years had the opportunity to obtain emergency contraception (Yuzpe method) at a youth clinic in the city of Orebro where the opening hours were extended to include Saturdays and Sundays. A follow-up visit 3 weeks after treatment, which included contraceptive counseling, was offered to all participants. At both visits, a pregnancy test and a chlamydia test were performed, and the women completed a questionnaire. After the initial visit, the young women were monitored for new pregnancies during the following 12 months. One pregnancy occurred in the 134 young women who received emergency contraception during the study period. None of the women had a positive chlamydia test. Of those requesting emergency contraception, 54% did so because no contraception was used, 32% because of a ruptured condom, 11% because of missed oral contraceptives (OC), and 5% had mixed reasons. At long-term follow-up 1 year after the initial visit, 10 of the 134 young women had experienced an unplanned pregnancy that terminated in legal abortion in 9 women. All these women had either started and terminated OC or had never commenced the prescribed OC. Young women who request emergency contraception are, despite a planned follow-up with contraceptive counseling, a high risk group for new unintended pregnancies. In Sweden they do not seem to be a high risk group for STD.
Mechanism of action of hormonal preparations used for emergency contraception: A review of the literature.

J Fam Plann Reprod Health Care 2001 Jul;27(3):174

Murty J. SCMO.
Increasing access to emergency contraception through community pharmacies: lessons from Washington State.


Gardner JS, Hutchings J, Fuller TS, Downing D. University of Washington Department of Pharmacy, Seattle, USA.
Emergency contraception in Brazil: facilitators and barriers

[Article in Portuguese]


Hardy E, Duarte GA, Osis MJ, Arce XE, Possan M. Departamento de Tocoginecologia, Faculdade de Ciencias Medicas, Universidade Estadual de Campinas, Campinas, SP, 13081-970, Brasil. hardy@unicamp.br

A multi-centered qualitative study was conducted in Brazil, Chile, and Mexico to assess the acceptability of emergency contraception both among potential users and possible providers, authorities, and opinion-makers, and to identify (according to participants' perceptions) factors facilitating or hindering the method's use and the most appropriate strategies to disseminate information and provide the method. Data were collected through semi-structured interviews, group interviews, and discussion groups, which were tape-recorded and transcribed. A thematic analysis of this material was conducted. Acceptability of emergency contraception was high among participants, who also felt that there were no barriers towards its acceptance by the population. Participants felt that the method's acceptability would be greater if it were included in reproductive health programs, emphasizing its prescription for emergency situations. Participants highlighted that strategic components in Brazil would be training of providers and inclusion of the method in family planning services.

MULTICENTER STUDY
Increasing access to emergency contraception through community pharmacies: lessons from Washington State.


Gardner JS, Hutchings J, Fuller TS, Downing D. University of Washington Department of Pharmacy, Seattle, USA.
Unwanted pregnancy and contraceptive knowledge: identifying vulnerable groups from a randomized controlled trial of educational interventions.


Little P, Griffin S, Dickson N, Sadler C, Kelly J. Primary Medical Care Group, University of Southampton, Aldermoor Health Centre, Aldermoor Close, Southampton SO16 5ST, UK.

OBJECTIVES: The aim of this study was to identify predictors of contraceptive pill knowledge and their relationship to educational interventions. METHODS: A total of 636 women attending for a follow-up appointment for repeat prescription of the combined oral contraceptive pill with a GP or practice nurse were randomized to receive leaflets (simple summary leaflet or FPA leaflet), advice or neither. Sociodemographic details and contraceptive knowledge were determined using a validated contraceptive knowledge questionnaire sent after 3 months by post. The main outcomes were sociodemographic, contraceptive, attitudinal and educational predictors of knowledge. RESULTS: A total of 522 (82%) had complete questionnaires. After controlling for educational intervention and other confounding variables, independent predictors of knowledge were further education (adjusted odds ratio 2.98, 95% confidence interval 1.78-4.99); number of years on the pill (0-5, 6-10, >10 years) 1.0, 0.56 (0.33-0.95) and 0.34 (0.19-0.59), respectively; past emergency contraception (1.87, 1.18-2.97); and importance attached to not falling pregnant (1.83, 1.02-3.29). These predictors are less powerful than the impact of most educational interventions (range of odds ratios for interventions: 1.85-6.81), and there was no evidence of a separate effect of educational intervention in any subgroup, except that leaflets have a larger effect in women who have needed emergency contraception in the past (no past use or simple summary and FPA leaflets, 1.74 and 0.90, respectively; with past use, 3.47 and 3.83; interaction term chi-square 6.92, P = 0.03). CONCLUSION: Educational interventions are as important as sociodemographic features in determining knowledge. With limited time for full educational interventions in practice, priorities for intervention should be women who have used emergency contraception in the past-who will benefit most-and those on the pill for >5 years or with no further education who are at highest risk due to poor knowledge.

CLINICAL TRIAL; RANDOMIZED CONTROLLED TRIAL
Emergency contraception with Multiload Cu-375 SL IUD: a multicenter clinical trial.

Contraception 2001 Aug;64(2):107-12


The objectives of the present study were to evaluate the efficacy and side effects and the benefits and limitations of inserting Multiload intrauterine device (IUD) for emergency contraception. A total of 1013 women requesting emergency contraception was recruited, among whom 843 were parous women and 170 nulliparous women. Multiload Cu-375 SL IUD was inserted within 120 h after unprotected intercourse. A urine test for pregnancy was performed before IUD insertion to rule out pregnancy. Participants were followed-up until 1 week after the expected day of the next menstruation. Pregnancy test or ultrasound scanning were performed if menstruation did not return. Efficacy of preventing unplanned pregnancy was calculated. Efficacy and side effects were compared between the parous and nulliparous groups. The results showed that there were two pregnancies, one in each group. The pregnancy rate was 0.2 per 100 women. The efficacy rate of preventing unwanted pregnancy in the parous group was 98.1% and in the nulliparous group 92.4%. The difference was not significant. Removal of IUD because of pain and bleeding was 2.5% in parous women, but was more in the nulliparous group (10.6%). After the return of menstruation, 95.7% of parous women and 80% of nulliparous women maintained the IUD for contraception. There were two complete expulsions and three partial expulsions of the IUD, but there was no significant changes in menstruation and bleeding pattern, nor was infection or trauma observed. It was concluded that IUD insertion is a safe and effective method for emergency contraception for both parous and nulliparous women. One of the advantages of using an IUD is its long-term contraceptive effect, if the women prefer to continue its use.

MULTICENTER STUDY
Over-the-counter advice for genital problems: the role of the community pharmacist.


Ralph SG, Preston A, Clarke J. Department of Genitourinary Medicine, Pinderfields and Pontefract Hospitals Trust, Clayton Hospital, Northgate, Wakefield WF1 3JS, UK. Susan.Ralph@excha.yhs-tr.northy.nhs.uk

This year, in the UK, levonorgestrel was approved for sale in pharmacies for emergency contraception. This study assessed, using a postal questionnaire, the ability of community pharmacists to provide advice relating to sexual health, their comfort and training in this area, and their knowledge of local genitourinary medicine (GUM) services. Fifty-four per cent of pharmacists responded. Most (79%) did not know where their nearest GUM department was; only 21% had ever advised a patient to attend a GUM clinic. Twenty-nine per cent said they were not able to broach the possibility of a sexually transmitted infection (STI) with a patient of both sexes. Forty-four per cent had received training related to post-coital contraception. Greater liaison between GUM departments and community pharmacists is suggested as a way of increasing the proportion of patients presenting to a pharmacist who are referred appropriately to a GUM clinic.
The use of emergency contraception in Australasian emergency departments.

Emerg Med (Fremantle) 2001 Sep;13(3):314-8

Millar JR, Leach DS, Maclean AV, Kovacs GT. Emergency Department, Box Hill Hospital, Melbourne, Victoria, Australia.

OBJECTIVE: To review the prescribing of emergency contraception by emergency departments in Australasia and compare it with other providers. METHODS: A postal questionnaire was sent to the director of each of the 79 Australasian College for Emergency Medicine accredited emergency departments in Australasia inquiring about the availability and prescribing habits for emergency contraception within each department. RESULTS: Of the 79 emergency departments, 69 (87.3%) responded to the questionnaire and were aware of the 'emergency contraception regimen'. The majority of departments prescribed appropriately (56%) and only one department did not arrange adequate follow up. Anti-emetics are always used by 45 departments (78.9%). Discussion of future contraceptive needs at the time of presentation was only undertaken by 25 departments (43.9%). Written clinical guidelines for emergency contraception were present in 28 departments (40.6%). CONCLUSIONS: Emergency departments are accessed by patients requesting contraception following unprotected intercourse or contraceptive failure. The prescribing of emergency contraception in Australasian emergency departments is comparable with other providers but substantial improvements could be made. Suggestions to assist this improvement include written clinical guidelines and patient information and purpose-made medication packs.
OBJECTIVES: This study investigated the effect on the risk and cost of unintended pregnancies of emergency contraceptive pills obtained directly from a pharmacist. METHODS: We used a decision model to compare outcomes for private and public payers following unprotected intercourse from. RESULTS: Obtaining emergency contraceptive pills from a pharmacy, compared with obtaining them from a physician or clinic, resulted in a $158 (95% confidence interval (CI) = $76, $269) reduction in costs for private payers and a $48 (95% CI = $16, $93) reduction for public payers. CONCLUSIONS: Our findings suggest that under varied assumptions, obtaining emergency contraceptive pills directly from a pharmacist reduces the number of unintended pregnancies and is cost saving.
Postcoital emergency contraception

[Article in German]

**Ther Umsch 2001 Sep;58(9):541-6**

Spycher C, Bigler G. Familienplanungs- und Beratungsstelle, Universitäts-Frauenklinik, Inselspital Bern.

The actual methods of postcoital emergency contraception are described and compared. The method of choice is the administration of a progestagen-only pill because this method is more reliable and effective than the use of a combined estrogen-progestagen pill ("Yuzpe-Method"), and because the incidence of side-effects is considerably lower. The results obtained with levonorgestrel alone are presented by the authors. The postcoital introduction of a copper intrauterine device is highly effective, but invasive. This method is indicated if it is too late to use the pill. An open and accepting setting of the consultation and a way of taking the medical history that is pointing to the auto-responsibility are essential, especially for adolescents. Low conditions for the admission to the counselling are postulated, and the obligation to possess a medical prescription to obtain the only progestagen-only pill is questioned.

REVIEW; TUTORIAL
Community pharmacy supply of emergency contraception. Impact of emergency contraception on women's and men's behaviour requires further explanation.

BMJ 2001 Sep 29;323(7315):751

Bissell P, Anderson C, Bacon L, Taylor B, O'Brien K.

LETTER
Community pharmacy supply of emergency contraception. Collaboration is vital.

BMJ 2001 Sep 29;323(7315):752

Ward G.

LETTER
Mifepristone: a potential postcoital contraceptive.

Expert Opin Pharmacother 2001 Sep;2(9):1383-8

Ho PC. Department of Obstetrics and Gynaecology, University of Hong Kong. pcho@hkusub.hku.hk

Mifepristone is an orally-active progesterone receptor antagonist. When a single dose of mifepristone is given in the mid- or late follicular phase, it may diminish or inhibit the luteinising hormone (LH) surge. In the early luteal phase, a single dose of mifepristone induces significant changes in the endometrium without affecting the hormonal levels or menstruation. When it is given in the mid-luteal phase, there will also be significant changes in the endometrium and some women may have two episodes of vaginal bleeding. A clinical trial suggests that a single dose of mifepristone in the early luteal phase may be an effective contraceptive agent but the lack of a cheap and easy method to identify the LH surge limits its clinical application. The administration of mifepristone alone or in combination with a prostaglandin does not appear to be an effective form of contraception. When used together with a prostaglandin, it may be an effective method for menstrual regulation but the cost and possible side effects of the prostaglandins limit its use. Mifepristone is a very effective method for emergency contraception. The incidence of side effects was also lower than that of the Yuzpe regimen. Lowering the dose of mifepristone from 600 to 10 mg does not decrease its efficacy but the incidence of delay in onset of the subsequent menses is reduced. Despite its efficacy, the reputation of mifepristone as an abortion pill may limit its access in many countries.
Emergency contraception. Why you should prescribe it before it's needed.

Adv Nurse Pract 2001 Sep;9(9):69-70

Graf HR. Tulle Tribes Health Clinic, Marysville, Wash., USA.

REVIEW, TUTORIAL
Emergency contraception: knowledge and attitudes of health care providers in a health maintenance organization.


Sherman CA, Harvey SM, Beckman LJ, Petitti DB. Oregon Center for Applied Science, Eugene, Oregon, USA.

One hundred sixty-four health care providers in a health maintenance organization were surveyed in 1996 regarding their knowledge of, attitudes toward, and perception of barriers regarding emergency contraceptive pills (ECPs), as well as their ECP prescribing practices. Providers reported primarily positive attitudes regarding ECPs. Only 42% reported having ever prescribed ECPs; those who had prescribed had more positive attitudes about ECPs. Knowledge of ECP provision was incomplete, with 40% believing treatment had to be initiated in 48 hours or less. Barriers identified by providers included lack of a dedicated product, lack of awareness of ECPs among providers, and liability issues.
Emergency contraception: a matter of dedication and access.

CMAJ 2001 Oct 16;165(8):1095

Weir E.

NEWS
Emergency contraception: randomized comparison of advance provision and information only.


Ellertson C, Ambardekar S, Hedley A, Coyaji K, Trussell J, Blanchard K. Population Council, Mexico City, Mexico. ellertson@popcouncil.org.mx

OBJECTIVE: To determine whether multiple courses of emergency contraceptive therapy supplied in advance of need would tempt women using barrier methods to take risks with their more effective ongoing contraceptive methods. METHODS: We randomly assigned 411 condom users attending an urban family planning clinic in Pune, India, to receive either information about emergency contraception along with three courses of therapy to keep in case of need, or to receive only information, including that about the locations where they could obtain emergency contraception if needed. For up to 1 year, women returned quarterly for follow-up, answering questions about unprotected intercourse, emergency contraceptive use, pregnancies, sexually transmitted infections, and acceptability. RESULTS: Women given advance supplies reported unprotected intercourse at rates nearly identical to those among women given only information (0.012 versus 0.016 acts per month). Among those who did have unprotected intercourse, however, supply recipients were nearly twice as likely (79% versus 44%) to have taken emergency contraception, although numbers were too small to permit statistically significant inferences. No women used emergency contraception more than once during the study, even though everyone in the advance-supplies group had extra doses available. All women found knowing about emergency contraception useful, and all those receiving only information wished they had received supplies as well. CONCLUSION: Multiple emergency contraception doses supplied in advance did not tempt condom users to risk unprotected intercourse. After unprotected intercourse, however, those with pills on hand used them more often. Women found advance provision useful.

CLINICAL TRIAL; RANDOMIZED CONTROLLED TRIAL
On the mechanisms of action of short-term levonorgestrel administration in emergency contraception.

Contraception 2001 Oct;64(4):227-34

Durand M, del Carmen Cravioto M, Raymond EG, Duran-Sanchez O, De la Luz Cruz-Hinojosa M, Castell-Rodriguez A, Schiavon R, Larrea F. Department of Reproductive Biology, Instituto Nacional de Ciencias Medicas y Nutricion Salvador Zubiran, Mexico City, Mexico

The effects of short-term administration of levonorgestrel (LNG) at different stages of the ovarian cycle on the pituitary-ovarian axis, corpus luteum function, and endometrium were investigated. Forty-five surgically sterilized women were studied during two menstrual cycles. In the second cycle, each woman received two doses of 0.75 mg LNG taken 12 h apart on day 10 of the cycle (Group A), at the time of serum luteinizing hormone (LH) surge (Group B), 48 h after positive detection of urinary LH (Group C), or late follicular phase (Group D). In both cycles, transvaginal ultrasound and serum LH were performed from the detection of urinary LH until ovulation. Serum estradiol (E(2)) and progesterone (P(4)) were measured during the complete luteal phase. In addition, an endometrial biopsy was taken at day LH + 9. Eighty percent of participants in Group A were anovulatory, the remaining (three participants) presented significant shortness of the luteal phase with notably lower luteal P(4) serum concentrations. In Groups B and C, no significant differences on either cycle length or luteal P(4) and E(2) serum concentrations were observed between the untreated and treated cycles. Participants in Group D had normal cycle length but significantly lower luteal P(4) serum concentrations. Endometrial histology was normal in all ovulatory-treated cycles. It is suggested that interference of LNG with the mechanisms initiating the LH preovulatory surge depends on the stage of follicle development. Thus, anovulation results from disrupting the normal development and/or the hormonal activity of the growing follicle only when LNG is given preovulatory. In addition, peri- and post-ovulatory administration of LNG did not impair corpus luteum function or endometrial morphology.
The difference a day makes.


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A patient attended a clinic requesting Depo Provera after emergency contraception. She gave a history of normal menstruation, but a pregnancy test proved positive. Subsequently an ectopic pregnancy was diagnosed.
New options in contraception for adolescents.


Sucato G, Gold MA. Children's Hospital of Pittsburgh, Department of Pediatrics, University of Pittsburgh School of Medicine, G437, 3705 Fifth Avenue, Pittsburgh, PA 15213-2583, USA. sucatog@chplink.chp.edu

There have been several recent advances in the contraceptive methods available to adolescents in the United States. A new monthly injectable method combines efficacy and ease of compliance with excellent menstrual cycle control. Very low-dose oral contraceptive pills containing gonane progestins decrease the incidence of estrogen-related side effects, and are associated with low rates of breakthrough bleeding. Oral contraceptive pills prescribed in continuous cycles can provide relief from menstrual-related symptoms, and may improve contraceptive effectiveness. Noncontraceptive benefits of oral contraceptive pills, such as improvement in dysmenorrhea and acne, may motivate more consistent pill-taking, and should be identified as additional reasons for pill continuation. Maximizing the prescribing time limit of emergency contraception to 120 hours after unprotected intercourse may improve access. Emergency contraception is more effective the sooner it is used, and should be provided in advance to adolescents for immediate use in the event a postcoital method becomes necessary.

REVIEW, TUTORIAL
Emergency hormonal contraception: The community pharmacy perspective.


Seston EM, Holden K, Cantrill J. Drug Usage and Pharmacy Practice Group, School of Pharmacy and Pharmaceutical Sciences, University of Manchester, Oxford Road, Manchester, M13 9PL, UK.

OBJECTIVE: To explore the views of community pharmacists in the North West of England towards the deregulation of emergency hormonal contraception (EHC) and to examine their support and training needs. DESIGN: Two focus group discussions. SUBJECTS: Fourteen community pharmacists, of whom eight were currently participating in a scheme to supply EHC free of charge through a patient group direction (PGD). RESULTS: A number of themes emerged from the discussions, which appeared to influence participants' views towards the use of EHC and towards deregulation. A number of participants appeared to lack detailed knowledge about the mode of action of EHC and misunderstandings about this, coupled with erroneously held beliefs about the adverse effects of the drug, appeared to influence their attitudes to deregulation. Participants identified risks associated with pharmacy supply of EHC, both to women and to themselves, in the form of litigation. EHC was accorded a special status which seemed to go beyond its pharmacological properties and risk-benefit profile. A key and recurring theme was abuse, an ill-defined concept which appeared to refer to multiple or repeated use. It is interesting to note that none of those participants supplying EHC under a PGD could provide any examples of such abuse from their own experience. CONCLUSIONS: This small-scale study provides useful insights into the attitudes of these pharmacists towards EHC, the impact of increased availability of the drug, and the type of women who they believed would use EHC.
Repeat use of emergency contraception: How frequent is it?


Roizen J, Garside R, Barnett L. School of Postgraduate Medicine and Health Sciences, University of Exeter, Barrack Road, Exeter, EX2 5AX, UK.

OBJECTIVE: To measure the level of repeat use of emergency contraception (EC) in family planning clinics (FPCs) in North and East Devon. DESIGN: An audit of repeat use of EC was carried out in seven FPCs, in parallel with a client survey. All women seeking EC in the study period were included (n = 572). RESULTS: Nearly 70% of women had 'ever' used EC prior to the study visit; over half had previously used EC in the year of the study; a quarter had previously used EC three or more times in the same period. Teenagers were more likely to have previously used EC in the study year, but half of all repeat users were aged 20 and older. Asked why EC was needed today, most women reported current use of regular contraception, but almost a quarter had had unprotected sex, and half reported a condom mishap. CONCLUSIONS: These results show frequent repeat use of EC and do not support recent research based on general practice records, which suggests that repeat use is rare. If EC users use multiple sources of EC, or prefer alternative sources, repeat use of EC will be underestimated if calculated using general practitioner (GP) records alone.
Provision of emergency contraception in general practice and confidentiality for the under 16’s: Results of a postal survey by general practitioners in Avon.


Graham A, Moore L, Sharp D. Clinical Research Fellow, Division of Primary Health Care, University of Bristol, Bristol, UK.

OBJECTIVE: To describe the provision of emergency contraception and confidentiality for the under 16’s by general practitioners (GPs) in Avon, in order to inform the development of a health promotion intervention in schools in Avon. DESIGN: Confidential postal questionnaire survey. SETTING: All principals in general practice in Avon Health Authority, South West England. SUBJECTS: Five hundred and eighty general practice principals were sent the questionnaire. RESULTS: Four hundred and eighty-six (84%) principals in general practice responded to the questionnaire. Only three (0.6%) GPs did not provide hormonal emergency contraception. Nearly half (232, 47.7%) would fit the intrauterine device (IUD) as emergency contraception. Fitting an IUD was associated with female gender of the GP (OR = 2.34, 95% CI 1.53-3.71), and whether the GP had a family planning qualification (OR = 4.55, 95% CI 2.41-8.60). Three hundred and fifty-two (72%) respondents would provide emergency contraception on a Sunday if requested to do so by a 14-year-old who reported having had unprotected sex the night before. Practice nurses in 26 (5%) of the respondent’s practices were available to provide advice and tablets for patients requesting hormonal emergency contraception. However, 74 (21%) respondents employed a family planning trained practice nurse who was not involved in any way in the provision of emergency contraception. Practice nurses remain an under used resource in this area. CONCLUSION: Our findings suggest that most GPs provide hormonal emergency contraception. Only eight (1.6%) of respondents would need to ask for parental consent prior to providing hormonal emergency contraception to a 14-year old-girl. Young people need to be informed of GPs widespread adherence to current confidentiality guidelines.
A qualitative study of the views of women aged 18-29 on over-the-counter availability of hormonal emergency contraception.


Folkes L, Graham A, Weiss M. Research Associate, Department of Sociology, University of Bristol, Bristol, UK.

OBJECTIVE: To explore women's views on the deregulation of hormonal emergency contraception (EC) prior to it becoming deregulated on 1 January 2001. DESIGN: Qualitative study using face to face, semi-structured interviews. SETTING: A NHS family planning clinic, a voluntary sector family planning clinic and a general practice in the South West region. SUBJECTS: Twenty-seven women aged 18-29 years. RESULTS: Most women were in favour of deregulation with over-the-counter provision perceived as quick, convenient and anonymous. Reservations regarding overuse and over-reliance upon EC mirror those of health professionals, although it was not felt that the increased accessibility of EC would lead to changes in sexual activity. Concerns that deregulation would promote an irresponsible attitude towards contraception were largely focused on younger women. Cost was generally regarded as a positive barrier to overuse. However, it was felt that the price should not be prohibitively high. A figure corresponding to the current prescription charge was most often cited. The pharmacy was the preferred choice of provider for most women. CONCLUSION: Although most women in this study would prefer to obtain EC over-the-counter, the current charge of pound 20 is likely to prove a barrier.
Emergency contraception: Mostly successes, but still some threats.


Webb AM. Abacus Centres for Contraception and Reproductive Health, North Mersey Community NHS Trust, Central Abacus, 40-46 Dale Street, Liverpool L2 5SF.
Emergency contraception: Who are the users?

Shawe J, Ineichen B, Lawrenson R. Postgraduate Medical School, Stirling House, Surrey Research Park, Guildford GU2 7DJ, UK.

Context: Data collected from two community family planning services are used to discuss the characteristics of users of emergency contraception (EC). OBJECTIVE: To investigate the characteristics of women attending for emergency contraception. DESIGN: A descriptive survey design was used to collect data. Questionnaires were completed over a 4-week period. Data were analysed using SPSS. SETTING: Community family planning services in South West Surrey and Newham, East London. PARTICIPANTS: Consenting women aged 14-44 years attending for emergency contraception (n = 171). MAIN OUTCOME MEASURES: Description of the users, the current episode and contact with contraceptive services were analysed by age. RESULTS: The age range was 14-37 years (mean 20.2 years). A majority were smokers. Of the women, 97.7% attended the clinic within the 72-hour time frame for issuing oral EC, however only 4% came within 12 hours of intercourse; 55% said that they had used contraception. Condom breakage was the commonest reason for failure. Reasons for not using contraception included getting 'carried away' (35%), not having condoms available (22%) and having drunk alcohol (13%). Of the sample 55.6% were previous users of EC. DISCUSSION: The study demonstrates a high incidence of sexual risk taking and need for EC, especially amongst smokers and drinkers. The message that soonest is best still requires promotion. Providers of EC must co-ordinate their services to ensure access within the 12-hour time frame in a local area. CONCLUSION: Health professionals need to ensure that clients have appropriate information about EC and regular contraceptive methods and that user friendly provision is widely available.
Contraception and men attending a genitourinary medicine clinic.


Wallace SV, Carlin EM. Department of Genitourinary Medicine, Nottingham City Hospital NHS Trust, Hucknall Road, Nottingham NG5 1PB, UK.

AIMS: To identify men's knowledge and attitude to contraception and to determine whether there are differences in those men who have previous experience of termination of pregnancy (TOP) compared to those without experience. METHOD: Cross-sectional survey by written questionnaire of male attenders at a genitourinary medicine (GUM) clinic. RESULTS: In total 999 men, aged 15 to 70 years, completed questionnaires, 97.2% of those eligible. Over 96% of men wishing to avoid pregnancy with regular sexual partners were using contraception. However, with casual sexual partners 36% of men would not ensure that they were covered for contraception. The majority, 68.8%, of men did not have enough knowledge to access appropriate emergency contraception. Experience of a TOP was reported by 16.5% of men. Compared to men who did not have termination experience there were no differences in contraceptive use or their knowledge of emergency contraception. CONCLUSION: Use of contraception with regular sexual partners was good, but this was not the case with casual sexual partners or with respect to knowledge of emergency contraception. No significant differences were found in contraceptive use or attitudes between men with or without experience of TOP, but this may be influenced by several factors including the cross-sectional nature of the study. Improved targeting of men at the time of their partner's termination and the development of a National Sexual Health Strategy which takes into account men's needs may address this.
The legal status of emergency contraception.

**Int J Gynaecol Obstet** 2001 Nov;75(2):185-91

Cook RJ, Dickens BM, Ngwena C, Plata MI. Faculty of Law, Faculty of Medicine and Joint Centre for Bioethics, University of Toronto, 84 Queen's Park, M5S 2C5, Toronto, Canada.

Emergency contraception (EC), an intervention within 72 h of unprotected intercourse, dates back approximately 30 years, to the Yuzpe method. Recent development of a second generation of 'morning after,' better called 'emergency' contraceptives, has raised claims that they are abortifacient. These claims are largely rejected in medical, legal and much religious reasoning. Pregnancy is usually ascribed to the postimplantation period; means to prevent completion of implantation do not terminate pregnancy. An alternative attack on EC has arisen under South American laws that protect human life 'from conception.' The chance of conception from a single act of unprotected intercourse is very low, in view of limited times of fertility during menstrual cycles. The protection of a woman's life is not suspended during pregnancy. Risks to women's interests are more credible than the chance of conception having occurred. The claim to prohibit EC to protect embryonic life from conception is therefore problematic.
Adolescents’ use of emergency contraception provided by Washington State pharmacists.


Sucato GS, Gardner JS, Koepsell TD. Departments of Pediatrics, University of Washington, Seattle, WA, USA

Study Objective: To increase knowledge about adolescents who obtained emergency contraceptive pills (ECP) directly from a pharmacist without first contacting a physician. Design: Cross-sectional self-administered survey. Setting: Fifteen randomly selected pharmacies providing ECP in western Washington State. Participants: Adolescents 15-21 years old (n = 126) who obtained ECP directly from a pharmacist. Outcome Measures: Responses to a 20-item questionnaire examining adolescents’ reasons for seeking care from a pharmacist, need for additional medical evaluation, risk for not receiving additional medical care, and satisfaction with care provided by the pharmacist. Results: The most common reasons for using the pharmacy were convenience (44%), lack of knowledge about alternatives (38%), and privacy (31%). If the pharmacy service were not available, 58% said they would see a doctor, 22% said they would wait to see if they got pregnant, and 20% did not know. Based on self-report, 81% of adolescents needed a new method of ongoing contraception, an evaluation for sexually transmitted disease, or both. Among these adolescents, 36% had risk factors for not receiving this care. Adolescents were satisfied with the pharmacy service; 94% said they would recommend the service to a friend. Conclusions: ECP provision by pharmacists is a useful way to increase access to emergency contraception. However, many adolescents using ECP need additional medical care. Programs designed to increase ECP access should use these opportunities to link adolescents with more comprehensive reproductive health care services.
Considerations on emergency contraception

[Article in Spanish]

Aten Primaria 2001 Nov 15; 28(8):568-9

Zufia Garcia FJ, Garcia Puente B, Nieto Sales MC.

LETTER
Should emergency contraception pills be available "over the counter"?


Devine KS, Barron ML. Women's Health Nurse Practitioner, Fertility & Endocrine Associates, Louisville, KY, USA.
The pharmacokinetics of 750 microg levonorgestrel following administration of one single dose or two doses at 12- or 24-h interval.

Contraception 2001 Dec; 64(6):327-31

Tremblay D, Gainer E, Ulmann A. Laboratoire HRA Pharma, 19, rue Frederick Lemaitre, 75020 Paris, France.

The administration of two tablets of 750 microg levonorgestrel at a 12- to 24-h interval has been shown to be a safe and effective means of emergency contraception, and Norlevo/Vikela (N/V) is a dedicated product for this indication. The aim of this study was to characterize the plasma pharmacokinetics of levonorgestrel following a single N/V tablet administration and following a second administration, 12 or 24 h after the first one in young, healthy, female volunteers under the same conditions as during clinical use. This was an open, observer-blind, randomized study with three parallel groups and three treatments performed in 24 white female volunteers randomized into three groups of eight participants, each receiving one of the following treatments: Group A, one tablet of 750 microg levonorgestrel at time -12 h and one tablet at time 0; Group B, one tablet of 750 microg levonorgestrel at time 0; Group C, one tablet of 750 microg levonorgestrel at time -24 h and one tablet at time 0. All treatments started between Day 2 and Day 6 of the menstrual cycle. Plasma levonorgestrel levels were measured at regular intervals from time 0 up to 36 h with a validated radioimmunoassay. The results of this study show that after either one single or two administrations of a tablet containing 750 microg levonorgestrel, levonorgestrel is rapidly absorbed. The absorption, distribution, and elimination profiles of levonorgestrel following the three different treatments were similar. It also indicates that 12 or 24 h after administration there remains a significant level of plasma levonorgestrel. In conclusion, this study reinforces clinical guidelines recommending that N/V tablets for emergency contraception be administered 12 to 24 h apart because levonorgestrel is present in plasma between the two administrations.

CLINICAL TRIAL; RANDOMIZED CONTROLLED TRIAL
Release of progestin-only emergency contraception.


Schwartz JL. Department of Obstetrics/Gynecology, Magee-Women's Hospital, 300 Halket Street, Pittsburgh, PA 15213, USA. jillwashDC@aol.com

Progestin-only emergency contraception has been available in a prepackaged product since 1999. In a multicenter randomized trial, the levonorgestrel-only regimen was better tolerated and significantly more effective than the previous standard of care, the Yuzpe regimen. The levonorgestrel-only regimen prevented 85% of unintended pregnancies compared with 57% in the Yuzpe regimen. Emergency contraception is more effective the earlier the treatment begins. With the emergence of specifically prepackaged kits, emergency contraception appears to be more accessible and convenient to providers and to women. However, substantial barriers still exist to women who wish to obtain emergency contraceptive within the recommended initiation of 72 hours after unprotected intercourse. More recent information that emergency contraception is more effective the sooner it is initiated underscores the need for effective educational and distribution strategies.
Emergency contraception in South Africa: knowledge, attitudes, and use among public sector primary healthcare clients.

Contraception 2001 Dec; 64(6):333-7

Smit J, McFadyen L, Beksinska M, de Pinho H, Morroni C, Mqhayi M, Parekh A, Zuma K. Africa Centre for Population Studies and Reproductive Health, Hlabisa, South Africa. jenni@rhru.co.za

To determine knowledge of, attitudes toward, and use of emergency contraception (EC), interviews were held with 1068 clients of 89 public sector primary healthcare facilities in two urban and two rural areas of South Africa. Only 22.8% of the clients had heard of EC. Awareness was significantly lower in the most rural area and among older, less educated women. Knowledge of EC was superficial, with 47.1% unsure of the appropriate interval between unprotected intercourse and starting EC and 56.6% not knowing whether it was available at the clinic. Few (9.1%) of those who knew of EC had used it. After explaining EC, attitudes toward its use were found to be positive, with 90.3% indicating that they would use it if needed. Awareness was lower than in developed countries, but higher than in other developing countries. Findings indicate that if women know of EC, where to get it, and how soon to take it, they would use it if needed.

MULTICENTER STUDY
Emergency contraception.


Emergency contraceptives are methods that prevent pregnancy when used shortly after unprotected sex. Three different emergency contraceptive methods are safe, simple, and widely available in the United States. These are: (1) ordinary combined oral contraceptives containing ethinyl estradiol and levonorgestrel taken in a higher dose for a short period of time and started within a few days after unprotected intercourse; (2) levonorgestrel-only tablets used similarly; and (3) copper-bearing intrauterine devices inserted within approximately 1 week after unprotected intercourse. Emergency contraceptive use is best known for women who have been raped, but the methods are also appropriate for women who have experienced condom breaks, women who did not use any method because they were not planning on having sex, or women who had unprotected intercourse for any other reason. Unfortunately, few women know about emergency contraceptives, and few clinicians think to inform their patients routinely about the option. A nationwide toll-free hotline (1-888-NOT-2-LATE) and a website (http://not-2-late.com) can help women learn about these options. Sharing "family planning's best-kept secret" widely with women could prevent as many as a million unwanted pregnancies annually in the United States.
Family planning needs: new opportunities, emergency contraception and other new technologies.

Reprod Biomed Online  2001;3(1):34-41

D'Arcangues C.  Department of Reproductive Health and Research, World Health Organization, 20 Avenue Appia, CH 1211 Geneva 27, Switzerland.

Modern contraception is considered to be one the major advances of the 20th century. Yet, as the next century begins, it is estimated that there is still a largely unmet need for contraception, with millions of couples worldwide who express a wish to limit the number of their children but do not use or are not satisfied with their contraceptive method. While the reasons are numerous, it is clear that there is a need for improved and new methods which are easier to use, under the user's control, with fewer side-effects and responding to the needs of different groups of users, including men. To respond to this need, current contraceptive research and development efforts focus on five main areas: emergency post-coital methods, user-controlled long-acting methods, dual protection methods against both pregnancy and sexually transmitted infections, methods for men, and methods with fewer side-effects including some that are more targeted to specific reproductive biological events. A number of leads are presented which are at various stages of development. Concluding remarks stress the numerous challenges of contraceptive development, not the least of which is the vision required of what the needs of future generations will be, since it takes 10-15 years to bring a new contraceptive to the market. More fundamentally, overall progress towards reducing the unmet need for contraception will depend on the status of women, specifically their decision-making power, and access to education and income.
Emergency contraception provision: a survey of emergency department practitioners.

Acad Emerg Med 2002 Jan;9(1):69-74

Keshavarz R, Merchant RC, McGreal J. Department of Emergency Medicine, the Mount Sinai School of Medicine (RK, RCM, JM), New York, NY. Dr. Merchant is currently in the Section of Emergency Medicine, Brown University School of Medicine, Providence, RI.

OBJECTIVES: To determine emergency department (ED) practitioner willingness to offer emergency contraception (EC) following sexual assault and consensual sex, and to compare responses of practitioners from states whose laws permit the refusal, discussion, counseling, and referral of patients for abortions (often called "opt-out" or "abortion-related conscience clauses") with those of practitioners from states without these laws. METHODS: Using a structured questionnaire, a convenience sample of ED practitioners attending a national emergency medicine meeting was surveyed. RESULTS: The 600 respondents were: 71% male, 29% female; 34% academic, 26% community, and 33% resident physicians; and 7% nurse practitioners and physician assistants. Many respondents (88%) were inclined to offer EC to those sexually assaulted by unknown assailants. More practitioners said they were willing to offer EC if the assailant was known to be HIV-infected rather than if the assailant had low HIV risk factors (90% vs. 79%, p < 0.01). More respondents would prescribe EC after sexual assault than consensual sex (88% vs. 73%, p < 0.01). The rates of willingness to offer EC were the same for practitioners in states with "abortion-related conscience clauses" and those from other states. CONCLUSIONS: Most ED practitioners said they were willing to offer EC. Although the risk of pregnancy exists after consensual sex, practitioners were less willing to prescribe EC after those exposures than for sexual assault. "Abortion-related conscience clauses" did not seem to influence willingness to offer EC.
Timing of emergency contraception.


Raymond E, Taylor D.

LETTER
**Hormonal emergency contraception.**

**Pharmacotherapy 2002 Jan;22(1):43-53**

Wanner MS, Couchenour RL. Department of Pharmacy Practice, School of Pharmacy, Temple University, Philadelphia, Pennsylvania, USA. Melissa.L.Wanner@GSK.com

In the 1960s, high-dose estrogen was identified as a highly effective emergency contraceptive but was associated with a high frequency of nausea and vomiting. The combination of low-dose estrogen and a progestin (the Yuzpe regimen) is highly effective and much better tolerated. Recently, a progestin-only regimen containing levonorgestrel was found to be more effective than the Yuzpe regimen and caused significantly less nausea and vomiting. Danazol, an antigonadotropin, is well tolerated but has questionable efficacy Mifepristone has several pharmacologic actions that make it highly effective with an adverse-effect profile similar to that of the Yuzpe regimen. Progress has been made in the last 3 years toward increasing the number of emergency contraceptives that are accessible to women in the United States, and several highly effective options are available. The most effective and well-tolerated regimen available is levonorgestrel. However, the barriers to access and low patient and provider awareness limit the impact of emergency contraception on the rate of unintended pregnancies.

REVIEW, TUTORIAL
Emergency contraception provision: a survey of emergency department practitioners.

Acad Emerg Med 2002 Jan;9(1):69-74

Keshavarz R, Merchant RC, McGreal J. Department of Emergency Medicine, the Mount Sinai School of Medicine, New York, NY 10029, USA. reza.keshavarz@mssm.edu

OBJECTIVES: To determine emergency department (ED) practitioner willingness to offer emergency contraception (EC) following sexual assault and consensual sex, and to compare responses of practitioners from states whose laws permit the refusal, discussion, counseling, and referral of patients for abortions (often called "opt-out" or "abortion-related conscience clauses") with those of practitioners from states without these laws. METHODS: Using a structured questionnaire, a convenience sample of ED practitioners attending a national emergency medicine meeting was surveyed. RESULTS: The 600 respondents were: 71% male, 29% female; 34% academic, 26% community, and 33% resident physicians; and 7% nurse practitioners and physician assistants. Many respondents (88%) were inclined to offer EC to those sexually assaulted by unknown assailants. More practitioners said they were willing to offer EC if the assailant was known to be HIV-infected rather than if the assailant had low HIV risk factors (90% vs. 79%, p < 0.01). More respondents would prescribe EC after sexual assault than consensual sex (88% vs. 73%, p < 0.01). The rates of willingness to offer EC were the same for practitioners in states with "abortion-related conscience clauses" and those from other states. CONCLUSIONS: Most ED practitioners said they were willing to offer EC. Although the risk of pregnancy exists after consensual sex, practitioners were less willing to prescribe EC after those exposures than for sexual assault. "Abortion-related conscience clauses" did not seem to influence willingness to offer EC.
Adolescents and emergency contraception.

**J Pediatr Health Care 2002 Jan-Feb;16(1):3-9**

Roye CF, Johnsen JR. Hunter College Schools of the Health Professions, New York, NY 10010, USA.

The United States has a high rate of teen pregnancies. The Food and Drug Administration recently approved hormonal emergency contraception (EC), which can be used after unprotected intercourse to reduce the likelihood that a pregnancy will occur. Several pill regimens that are now available by prescription only are safe and effective if used within 72 hours of unprotected intercourse. However, teens generally have a low level of awareness of EC, and because the pills are available only by prescription, teens must request a prescription from their pediatric nurse practitioner quickly. Therefore, it may be prudent to provide EC to sexually active teens before the need for it arises.

REVIEW, TUTORIAL
Emergency contraception. Information for patients

[Article in Spanish]

Aten Primaria 2002 Feb 15;29(2):124-5

Almodovar CG, Fernandez Pacheco L.

LETTER
Contraception endangered by legal challenge to emergency pill.

BMJ 2002 Feb 16;324(7334):381

Dyer C.

NEWS
Knowledge, use and attitudes towards emergency contraceptive pills among Swedish women presenting for induced abortion.

BJOG 2002 Feb;109(2):155-60


OBJECTIVE: To investigate the knowledge, experiences and attitudes towards emergency contraceptive pills (ECP) among women presenting for induced abortion. DESIGN: Survey by self-administered waiting room questionnaires. SETTING: Three large hospitals in the cities of Uppsala, Vasteras and Orebro in Sweden. POPULATION: 591 Swedish-speaking women consecutively attending the clinics for an induced abortion during a four-month period in 2000. RESULTS: The response rate was 88% (n = 518). As many as 43% had a history of one or more previous abortions and 43% were daily smokers. Four out of five women, 83%, were aware of ECP, but only 15 women used it to prevent this pregnancy. Fewer, 38%, knew the recommended timeframes for use and 54% had knowledge of the mode of action. The two most common sources of information about ECP were media and friends. One out of five, 22%, had previously used the method, and at the time of conception, 55% would have taken ECP if it had been available at home, and 52% were positive to having ECP available over the counter. CONCLUSIONS: Emergency contraception is well known but is still underused. Lack of awareness of pregnancy risk may be one limiting factor for its use. Making ECP available over the counter may be an important measure towards better availability. Information strategies to the public are needed before ECP will be a widely used back-up method.

MULTICENTER STUDY
Emergency contraception (EC) has great potential to decrease the incidence and resulting consequences of unwanted pregnancy, including unsafe abortion. We conducted this study to understand EC practices in Latin America and the Caribbean (LAC). We contacted 43 International Planned Parenthood Federation affiliates in LAC to interview them about EC availability. We collected family planning norms and researched registered EC products in LAC. We searched English- and Spanish-language sources to compile EC literature reviews. Thirty-seven affiliates (86%) responded to the survey, and 62% offer EC. Central and South American affiliates are more likely to offer EC than are Caribbean affiliates. Of those offering EC, 96% offer cut-up packets of oral contraceptives, whereas six affiliates offer dedicated products. Of those not offering EC, 79% believe it constitutes abortion. EC availability and support for the method appear to be increasing in LAC, and clearer distinctions between EC and abortion in medical and policy guidelines should increase acceptance further.
Postfertilization effect of hormonal emergency contraception.

Ann Pharmacother 2002 Mar;36(3):465-70

Kahlenborn C, Stanford JB, Larimore WL. Department of Internal Medicine, Altoona Hospital, PA, USA. kahlen@alt3.com

OBJECTIVE: To assess the possibility of a postfertilization effect in regard to the most common types of hormonal emergency contraception (EC) used in the US and to explore the ethical impact of this possibility. DATA SOURCES AND STUDY SELECTION: A MEDLINE search (1966-November 2001) was done to identify all pertinent English-language journal articles. A review of reference sections of the major review articles was performed to identify additional articles. Search terms included emergency contraception, postcoital contraception, postfertilization effect, Yuzpe regimen, levonorgestrel, mechanism of action, Plan B. DATA SYNTHESIS: The 2 most common types of hormonal EC used in the US are the Yuzpe regimen (high-dose ethinyl estradiol with high-dose levonorgestrel) and Plan B (high-dose levonorgestrel alone). Although both methods sometimes stop ovulation, they may also act by reducing the probability of implantation, due to their adverse effect on the endometrium (a postfertilization effect). The available evidence for a postfertilization effect is moderately strong, whether hormonal EC is used in the preovulatory, ovulatory, or postovulatory phase of the menstrual cycle. CONCLUSIONS: Based on the present theoretical and empirical evidence, both the Yuzpe regimen and Plan B likely act at times by causing a postfertilization effect, regardless of when in the menstrual cycle they are used. These findings have potential implications in such areas as informed consent, emergency department protocols, and conscience clauses.
Adolescent emergency contraception: attitudes and practices of certified nurse-midwives.


Kettyle EP, Klima C. Yale University's Nurse-Midwifery program and School of Public Health, USA.

Teenage pregnancy has reached epidemic proportions in the United States with 1 million pregnancies and more than 500,000 live births occurring each year among women under the age of 20. The safety and efficacy of postcoital administration of oral contraceptives, commonly called "emergency contraception" (EC), have been well documented. However, EC is dramatically underused in the United States. Because low use of EC may be attributable, in part, to both lack of knowledge, as well as misinformation on the part of health care providers, further research in this area is warranted. Because midwives play a significant role in the provision of reproductive health care to adolescents, their attitudes about the use of EC among teens may impact the availability of emergency contraception options to these clients. This article presents results of a survey of certified nurse-midwives with respect to their attitudes, practices, and policies related to EC and provides recommendations specific to this provider population.
Court rules that emergency contraception is lawful.

BMJ 2002 Apr 27;324(7344):995

Mayor S.

NEWS
Commentary: Judicial review of the pharmacy provision of emergency contraception in the UK.

J Fam Plann Reprod Health Care 2002 Apr;28(2):105-6

Weyman A.
Emergency contraception.


Glasier A. Lothian Primary Care NHS Trust Family Planning and Well Woman Services, University of Edinburgh Department of Obstetrics and Gynaecology, 18 Dean Terrace, Edinburgh, EH4 1NL, UK

The last decade has seen a huge interest in emergency contraception (EC) because of the potential it has to reduce abortion rates. A variety of hormonal methods is available although mifepristone-arguably the best method-is only licensed in China. The intrauterine device is highly effective but its use is limited because of the technical skill required for successful insertion. The mechanism of action of both the Yuzpe regimen of EC and of levonorgestrel is poorly understood and for all methods there are serious methodological difficulties involved with calculating efficacy. Nevertheless the risks and side-effects of EC are negligible and the practicalities of prescribing it are extremely simple. Research and programmatic efforts should concentrate on improving availability if EC is to fulfil its promise as a public health intervention to reduce unwanted pregnancy. Copyright 2002 Elsevier Science Ltd.
How to improve use of emergency contraception by adolescents?

[Article in French]

J Gynecol Obstet Biol Reprod (Paris) 2002 Apr;31(2 Pt 1):144-51

Ottesen S, Narring F, Renteria SC, Michaud PA. Institut Universitaire de Medecine Sociale et Preventive, Groupe de recherche sur la sante des adolescents, 17, rue du Bugnon, 1005 Lausanne, Suisse.

OBJECTIVES: To give an overview of knowledge on emergency contraception (EC) and its utilization in the adolescent population, and to present the practical guidelines useful for EC prescription. METHODS: Review of the literature on EC and results of a survey on sexual behavior of 16-20-year-olds in Switzerland are used. RESULTS: Both estrogen-progestin and estrogen are used for EC. Condom breakage, lack of compliance in oral contraception and failure in contraceptive use are the main reasons for using EC. Sexually active adolescents are aware of CPC and 20% of girls have used it in Switzerland. However, insufficient information and low quality of services in emergency situation could be important barriers to the use of EC. DISCUSSION: and conclusion. Practical knowledge and information on EC must be disseminated among adolescents and both professional training and development of the quality of services have to provide better access to EC.

REVIEW, TUTORIAL
Emergency contraception in the community.

J Fam Plann Reprod Health Care 2002 Apr;28(2):94


LETTER
Alterations in gonadotropin levels following oral and vaginal administration of the Yuzpe regimen and plan B for emergency contraception.

Fertil Steril 2002 Apr;77 Suppl 3:S6-7

Mor E, Saadat P, Kives S, Zhang C, Paulson RJ, Reid R, Stanczyk FZ. Obstetrics and Gynecology, University of Southern California Keck School of Medicine, Los Angeles, CA, USA
Improving teenagers' knowledge of emergency contraception: cluster randomised controlled trial of a teacher led intervention.

BMJ 2002 May 18;324(7347):1179

Graham A, Moore L, Sharp D, Diamond I. Division of Primary Health Care, University of Bristol, Bristol BS6 6JL. a.graham@bristol.ac.uk

OBJECTIVE: To assess the effectiveness of a teacher led intervention to improve teenagers' knowledge about emergency contraception. DESIGN: Cluster randomised controlled trial. SETTING: 24 mixed sex, state secondary schools in Avon, south west England. PARTICIPANTS: 1974 boys and 1820 girls in year 10 (14-15 year olds). INTERVENTION: Teachers gave a single lesson on emergency contraception to year 10 pupils. The teachers had previously received in-service training on giving the lesson. The pupils were actively involved during the lesson. MAIN OUTCOME MEASURES: Questionnaires distributed to pupils at baseline and six months after the intervention assessed their knowledge of the correct time limits for hormonal emergency contraception and for use of the intrauterine device as emergency contraception, the proportion of pupils who were not virgins, the proportion who had used emergency contraception, and the pupils' intention to use emergency contraception in the future. RESULTS: The proportion of pupils knowing the correct time limits for both types of emergency contraception was significantly higher in the intervention group than in the control group at six months' follow up (hormonal contraception: proportion of boys 15.9% higher (95% confidence interval 6.5% to 25.3%), girls 20.4% (10.4% to 30.4%); intrauterine device used as emergency contraception: boys 4.2% (0.7% to 7.7%), girls 10.7% (0.4% to 21.0%). The number of pupils needed to be taught for one more pupil to know the correct time limits was six for boys and five for girls. The intervention and control groups did not differ in the proportion of pupils who were not virgins, in the proportion who had used emergency contraception, and in the proportion intending to use emergency contraception in the future. CONCLUSIONS: The intervention significantly improved the proportion of boys and girls knowing the correct time limits for both types of emergency contraception. The intervention did not change the pupils' sexual activity or use of emergency contraception.

CLINICAL TRIAL; RANDOMIZED CONTROLLED TRIAL
Emergency contraception: a review of current oral options.

West J Med 2002 May;176(3):188-91

Mendez MN. Department of Clinical Pharmacy, University of California, San Francisco, School of Pharmacy, 521 Parnassus Ave, Room C-152, 94143-0622, USA. mmende1@itsa.ucsf.edu

REVIEW, TUTORIAL
Emergency contraception by low-dose mifepristone: observation of 150 cases.

Di Yi Jun Yi Da Xue Xue Bao 2002 May;22(5):466-6

Li FF, Chen YX, Tang JH. Department of Obstetrics and Gynecology, Second People's Hospital of Luohe City, Luohe 462000, China.

For various reasons, each community may vary in their measures taking for emergency contraception, which has been a frequent necessity especially in the out-patient department of gynecology. In this article, the authors report the effect of single oral administration of low-dose mifepristone (25 mg) in emergency contraception, with a total effective rate of 80.89%.
Emergency contraception: a vital component of reproductive health programs.

West J Med 2002 May;176(3):152-4

Beitz J, Hutchings J. Reproductive Health, PATH, 1455 NW Leary Way, Seattle, WA 98107, USA. jbeitz@path.org
Administration of emergency contraception by school infirmaries

[Article in French]

Arch Pediatr 2002 May;9 Suppl 2:245s-247s

Benhammou MM. Infirmiere scolaire, District 9, Lycee professionnel, 94310 Orly, France.


Cain JM. Department of Obstetrics and Gynecology, Oregon Health Sciences University, Portland, OR, USA
A randomised study comparing a low dose of mifepristone and the Yuzpe regimen for emergency contraception.

BJOG 2002 May;109(5):553-60

Ashok PW, Stalder C, Wagaarachchi PT, Flett GM, Melvin L, Templeton A. Department of Obstetrics and Gynaecology, University of Aberdeen, Aberdeen Maternity Hospital, UK.

OBJECTIVE: To compare 100 mg mifepristone with the standard Yuzpe regimen for emergency contraception. DESIGN: Randomised controlled trial. SETTING: Family Planning Clinic, Aberdeen. SAMPLE: One thousand women seeking emergency contraception within 72 hours after an episode of unprotected sexual intercourse. METHODS: Women were randomised to receive either 100 mg (half tablet) of mifepristone as a single dose or the Yuzpe regimen (two tablets each with 50 microg ethinyloestradiol and 0.25 mg levonorgestrel, to be repeated 12 hours later). OUTCOME MEASURES: Crude pregnancy rates, proportion of pregnancies prevented, side effects and patient acceptability. RESULTS: The crude pregnancy rates (95% CI) for the Yuzpe regimen and mifepristone were 3.6% (2.3-5.7) and 0.6% (0.2-1.8), respectively, with a significant difference between the two groups (RR 6.04; 95% CI 1.75-20.75). Mifepristone prevented 92% of pregnancies and the Yuzpe regimen preventing 56%. An increasing coitus to treatment interval was associated with contraceptive failure in the Yuzpe group (P = 0.03) with no association seen with mifepristone. Following administration of mifepristone 24.5% and 13.1% given the Yuzpe regimen had a delayed period (RR 2.14; 95% CI 1.46-3.15). Overall, mifepristone was better tolerated than the Yuzpe regimen with significantly fewer side effects. More women were satisfied (P < 0.0001) with mifepristone as an emergency contraceptive and would recommend it to a friend (P = 0.02). CONCLUSION: Mifepristone administered in a 100 mg dose is a highly effective post-coital contraceptive with high patient acceptability and fewer side effects compared with the standard Yuzpe regimen. Delay in the onset of menstruation did not decrease patient acceptability.

CLINICAL TRIAL; RANDOMIZED CONTROLLED TRIAL
Contraceptive applications of estrogen.

J Midwifery Womens Health 2002 May-Jun;47(3):139-56

Likis FE. Frontier School of Midwifery and Family Nursing, USA.

Estrogens are a primary component of several contraceptive methods: combined oral contraceptive pills, a combined injectable contraceptive, the combined contraceptive vaginal ring, the combination transdermal contraceptive patch, and combined emergency contraceptive pills. Contraceptive formulations that contain estrogen are referred to as combined contraceptives because they also contain some form of progestin. This article reviews the contraceptive methods containing estrogen, beginning with a discussion of combined oral contraceptive pills. Formulations and clinical management, mechanisms of action, noncontraceptive benefits of use, therapeutic uses in addition to contraception, side effects, contraindications to use, and drug-drug interactions are described. Information follows about the newer combined contraceptive products including the injection, vaginal ring, and patch. Finally, combined emergency contraceptive pills are reviewed. Thorough knowledge of the contraceptive methods containing estrogen enables clinicians to provide expert care for women using these products.

REVIEW, TUTORIAL
How can pharmacies improve access to emergency contraception?


Boggess JE. Pharmacy Access Partnership, Oakland, CA, USA. jboggess@phi.org
Emergency contraception services.

Am J Health Syst Pharm 2002 Jun 15;59(12):1207

Owens K.

LETTER
Emergency contraception (post-coital Contraception).


Pham A. University of Oklahoma College of Medicine, USA.

Emergency Contraception is a post-coital contraceptive for women who have had unprotected intercourse or have reason to believe that their contraceptive method has failed. The article focuses mainly on Emergency Contraceptive Pills (ECPs) because they are the most frequently used form of post-coital contraception. In 1997 the FDA approved the "off-label" use of high dose of oral contraceptives for use as post-coital contraception. Since then, they have been approved for repackaging and marketed solely for use as post-coital emergency contraception. The first dose of ECPs must be administered within 72 hours of the act of unprotected intercourse. The second dose is taken 12 hours later. ECPs are believed to work in one of three ways depending on where the woman is in her menstrual cycle when she seeks treatment. It can delay or prevent ovulation, impair formation of the corpus luteum, or cause histological or biochemical changes within the endometrium, thus preventing implantation. Their effectiveness is approximately 75%, being most effective when administered as quickly as possible after the act of unprotected intercourse. The pills can cause nausea and vomiting, so the pre-administration of an anti-emetic may help alleviate these symptoms. A major issue concerning the ECPs is the lack of knowledge and availability. Very few health-care providers discuss ECPs with their patients. Most people cited the media as the primary source of information. The 72-hour window in which the ECPs must be administered makes it important for women to have easy access to these post-coital contraceptives. However, women who seek treatment will often find that their health-care provider will require a physical exam and/or a pregnancy test before writing a prescription. Yet, studies show that ECPs do not affect an implanted fetus, and there are no emergency contraceptive protocols that require pregnancy tests or physical exams prior to treatment. The AMA is encouraging physicians to better educate their patients about emergency contraceptives. Several health-care organizations are encouraging providers to supply women with an advance prescription for ECPs so that they will have immediate access to them, especially since most acts of unprotected intercourse occur at night or on weekends, when most clinics are closed. There is a possibility that ECPs might be available over-the-counter for women to have better access to the emergency contraceptive pills.
Pharmacokinetic study of different dosing regimens of levonorgestrel for emergency contraception in healthy women.

Hum Reprod 2002 Jun;17(6):1472-6


BACKGROUND: Levonorgestrel (LNG) is a commonly used progestin for emergency contraception; however, little is known about its pharmacokinetics and optimal dose for use. METHODS: Serum levels of LNG and sex hormone-binding globulin (SHBG) were measured in five women who received three different regimens: A: 0.75 mg LNG twice with a 12 h interval; B: 0.75 mg twice with a 24 h interval; and C: 1.50 mg in a single dose, with a washout period of 28 days between each treatment. Blood samples were taken before pill intake and at 1, 2, 4, 8 and 12 h after each dose, every 12 h up to day 4 and every 24 h until day 10. LNG and SHBG were measured in all samples. RESULTS: Maximum LNG concentrations were of approximately 27 nmol/l for treatments A and B, and close to 40 nmol/l for treatment C. The area under the curve was significantly higher for treatment C during the first 12 h, and significantly lower for treatment B during the first 24 h. After 48 h and up to 9 days from onset of treatment, serum LNG levels were similar in all three regimens. SHBG levels remained stable for 24 h, decreasing to 60% of the initial value from day 5 until day 10, with no difference between regimens. CONCLUSIONS: The similarity of LNG serum levels obtained with one single dose of 1.5 mg or two doses of 0.75 mg with a 12 h interval justify a clinical comparison of these two regimes.
Mifepristone: contraceptive and non-contraceptive uses.


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Mifepristone is an orally active progesterone antagonist. It can be used for both contraceptive and non-contraceptive clinical indications. It is a very effective drug for emergency contraception with a low incidence of side effects. There is a potential for mifepristone to be used as a once-a-month pill. There is a need, however, for a simple, inexpensive and accurate method to identify the luteinizing hormone surge before this method can be used in clinical practice. The daily administration of mifepristone offers promise as an effective method of contraception but more studies need to be done. The combination of mifepristone with a prostaglandin analogue is a well-established method for termination of pregnancy of up to 9 weeks. Recent data suggest that this combination may also be used up to 9-13 weeks of pregnancy. Although mifepristone is effective in dilating the cervix before vacuum aspiration, misoprostol is probably the drug of choice in most situations. In the second trimester, mifepristone is effective in shortening the abortion process induced by prostaglandin analogues. The combination of mifepristone and prostaglandin also offers a medical method for management of miscarriages. Mifepristone has been used for a number of other indications, but further studies are needed before such treatment can be recommended.

REVIEW, TUTORIAL
Emergency contraception with mifepristone and levonorgestrel: mechanism of action.

*Obstet Gynecol* 2002 Jul;100(1):65-71

Marions L, Hultenby K, Lindell I, Sun X, Stabi B, Gemzell Danielsson K. Department of Women and Child Health, Karolinska Hospital, Stockholm, Sweden

OBJECTIVE: To study the effect of mifepristone and levonorgestrel on ovarian function and endometrial development in doses effective as emergency contraception.

METHODS: Twelve fertile women were treated with either 10 mg of mifepristone as a single dose (n = 6) or two doses of 0.75 mg of levonorgestrel, 12 hours apart (n = 6) before and after ovulation. An endometrial biopsy performed during the implantation period was analyzed for endometrial maturation and expression of markers of endometrial receptivity. The markers tested for were integrin alpha4 and beta3, cyclooxygenase-1 and -2, progesterone receptors, Dolichos biflorus agglutinin lectin binding, and pinopodes. Urinary excretion of luteinizing hormone, estrone, and pregnanediol were also determined.

RESULTS: Treatment with mifepristone and levonorgestrel before ovulation inhibited the luteinizing hormone surge showing no significant differences between the means of luteinizing hormone measurements. When mifepristone was administered in the early luteal phase, downregulation of progesterone receptors was inhibited in five of six women. No significant alteration was found in any of the remaining markers of endometrial receptivity.

CONCLUSION: The mode of action of emergency contraception with mifepristone or levonorgestrel is primarily due to inhibition of ovulation rather than inhibition of implantation.

J Adolesc Health 2002 Jul;31(1):101-10

Ottesen S, Narring F, Renteria SC, Michaud PA. University Institute of Social and Preventive Medicine, Adolescent Health Research Unit, (S.O., F.N., P.-A.M.), Lausanne, Switzerland

PURPOSE: To describe and analyze emergency contraception (EC) awareness and use among sexually active Swiss teenagers.

METHODS: Anonymous computerized questionnaires were distributed to a national representative sample of 4283 in-school adolescents (aged 16 to 20 years) in high schools and professional centers. Young people who were sexually active (51.5% of the sample: 1058 girls and 1073 boys) responded to questions on EC awareness and use and on sexual perception, attitude, and behaviors. Univariate analyses and multiple regression analyses were used to describe EC awareness and use and their correlates.

RESULTS: Most of the sexually active girls (89.3%) and boys (75.2%) knew of the existence of EC. Of girls, 20% reported having used EC, and the majority of them used it only once (64.1%) or twice (18.5%). EC awareness was positively associated with the father's level of education (girls: odd ratio 5.18) and the scholastic curriculum of the respondent. Gender differences in the correlates of EC awareness demonstrate that girls who had a confidant or a group of friends or boys of Swiss nationality and those who have had the opportunity to discuss the issue of contraception declare greater awareness of EC. EC use was higher among girls who lived in urban areas (odds ratio 1.91) and occasionally had unprotected intercourse. We did not find any significant difference in the profile of multiple vs. one-time users.

CONCLUSION: EC awareness and use should be improved through better information and accessibility, especially among teenagers who place themselves in at-risk situations.
Switching emergency contraception to over-the-counter status. Availability of emergency contraceptive pills at university and college student health centers.


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The author used the stages of change model to determine how ready student health centers at surveyed universities and colleges were to make emergency contraceptive pills (ECPs) available to students. Of the 358 centers that responded, 52.2% offered ECPs and 47.8% did not. The benefits of offering ECPs were listed as pregnancy prevention, the opportunity to introduce students to traditional contraception methods, and students' appreciation. Barriers to offering ECPs included institutions' religious affiliations, clinic and administrative staff objections, inability to prescribe or dispense medications, fear of liability, concern that ECPs would undermine students' use of traditional contraception methods, and no expressed need. Whether ECPs were available was associated with demographic characteristics of the institutions that responded, including geographic region, type of institution, size of student population, and students' status as commuter or on-campus residents.
Emergency contraceptive pill (ECP) and sexual risk behaviour.

Int J STD AIDS 2002 Jul;13(7):482-5

Dupont S, Webber J, Dass K, Thornton S. Psychological Medicine Unit, Chelsea and Westminster Hospital, Fulham Road, London SW10 9TH, UK.

The study describes a cross-section of women using the emergency contraceptive pill (ECP), with regard to demographics, ECP use, sexual health, sexually transmitted infection (STI)/HIV risk perception and attitudes to condom use. All women attending a London hospital for the ECP over a four-month period were invited to complete a 30-item questionnaire anonymously. Of the 150 women attending, 88 (59%) took part. Over 60% needed the ECP because of unprotected sexual intercourse (UPSI). A third had had UPSI in the previous three months, 70% had used ECP previously. The vast majority (>95%) did not think they were at high risk of STIs or HIV infection, and though the most likely explanations for UPSI were that it is more enjoyable and that people get 'carried away'. There are concerns that women are using the ECP as a form of contraception and are putting themselves at risk of STIs and HIV infection. Information regarding risk behaviour needs to be routinely given with the ECP in order to avoid further large increases in infection.
Perception of university students in Ghana about emergency contraception.


Baiden F, Awini E, Clerk C.  Navrongo Health Research Center, Navrongo, UER, Ghana. ffbaiden@hotmail.com

Emergency contraception (EC) refers to methods that women can use to prevent pregnancy after unprotected sexual intercourse, method failure, or incorrect use. There is growing worldwide acceptance and promotion of EC as a measure to reduce the level of unwanted pregnancies and, hence, unsafe abortions. The potential effect of EC in this regard could be most evident in sub-Saharan Africa. In Ghana, the Ministry of Health has since 1996 included EC in its reproductive health service policy and standards. The Planned Parenthood Association of Ghana is the only agency involved in the promotion of EC in the country. Very little is known about societal perception of EC. We undertook a study to assess knowledge and attitude toward EC among a sample of students at the University of Ghana. We used a two-page, self-administered questionnaire in a cross-sectional study among students chosen by random sampling. The aspects of EC assessed included level of knowledge, extent of use, common traditional methods of emergency contraception, as well as socially and culturally acceptable ways to promote EC in Ghana. We also assessed how the availability of EC could influence the use of condoms among male respondents. Less than half (43.2%) of the 194 respondents (88 males and 106 females) had heard of modern emergency contraceptive methods. Postinor-2, a dedicated emergency contraceptive product, which was already on the Ghanaian market, was known to 1.5% of respondents. Only 11.3% of respondents indicated correctly the recommended time within which emergency contraceptive pills (ECPs) are to be taken after unprotected sex. Taking concentrated sugar solutions, having an enema, and douching were commonly used traditional methods of EC. More than half (55.0%) of the male respondents indicated that they would either "certainly" or "probably" reduce how often they used condoms once they knew that EC was available. Almost all (97.4%) the respondents wanted to learn more about EC. The indications from this study are that the promotion of EC in Ghana is desired and must be encouraged. The fact that EC does not offer protection against sexually transmitted infections should always be emphasized.
Estimating the efficacy of emergency contraception—how reliable are the data?

*Contraception* 2002 Jul;66(1):19-22

Stirling A, Glasier A. Lothian Primary Care NHS Trust Family Planning and Well Woman Services, Edinburgh, Scotland, UK.

Ninety-four women attending a family planning clinic for emergency contraception (EC) were asked how certain they were of the date of their last menstrual period (LMP), of the timing of intercourse, and how many times in the cycle they had had sex. Urinary pregnanediol concentrations were analyzed in 64 women to assess whether they had ovulated before they used EC. Forty-five women were certain of the date of the LMP, the rest were not. Only four women could not accurately recall the timing of intercourse, and 60% had had intercourse more than once in the cycle. Twenty-one women had urinary pregnanediol concentrations that were inconsistent with their cycle day. Calculations of the efficacy of EC depend on knowing the timing of intercourse in relation to the estimated day of ovulation. The results of this study suggest that these calculations are likely to be inaccurate for a significant minority of women.

VALIDATION STUDIES
Repeat emergency contraception: facing our fears.


Angie Pham offers controversial advice to practitioners regarding emergency contraception.

J Okla State Med Assoc 2002 Jul;95(7):505

Kinn MC.

LETTER
Hormonal contraception: what is new?


Hormonal contraception has become more effective and more widely used, while the world population has grown from 3000 million in 1960 to 6000 million in 2000. There is a need for improved contraception, because legal abortion is used in a high proportion of pregnancies and illegal abortion continues to be common in some countries. Hormonal contraception now includes different choices of administration and dose regimens. The best selection depends on the benefits and risks of the method and whether there is a medical disability. Medical eligibility for combined oral contraceptives has improved during the past 40 years so that, for most women, all currently available low-dose products are safe. For women with medical conditions, wider eligibility for oral contraceptive use has evolved from better knowledge of the risk factors. The long-term risks of rare cardiovascular and malignant adverse events remain controversial. There are long-term benefits, however, as oral contraceptive use appears to protect against endometrial, ovarian and colorectal cancers. Emergency contraception provides an option that reduces the number of unplanned pregnancies with little or no long-term risk. Endometrial contraception is an option that would ideally have no influence on ovarian function or the bleeding pattern, and cause no significant side-effects. Hormonal male contraception, with indirect suppression of spermatogenesis by decreasing gonadotrophin output, is a further choice. Although hormonal contraception is effective and safe, many research investigations remain to be carried out in order to improve tolerance and achieve wider utilization.
Knowledge about contraception in women undergoing repeat voluntary abortions, and means of prevention.


AIMS: Despite reliable and effective means of contraception, cases of repeat abortion are on the increase in all developed countries. The aim of this work was to determine whether women undergoing repeat abortions are exposed to risk factors which might be amenable to preventative measures, and the methods employed by carers in these cases. METHODS: We set out to evaluate practices in the Family Planning Centre of l'Hopital Jean Verdier (Bondy, France) by sending a questionnaire to 147 women who had undergone two abortions up to 1997, and by conducting interviews with the care team. Thirty patients responded to the questionnaire. RESULTS: Twenty-two women (73%) underwent one or more further abortions between 1999 and 2000. Twenty-seven out of 30 women were unaware of the existence of emergency contraception. The 'morning after' pill, indicated for cases of unprotected sex, was unknown to one woman in two (15), nine out of 30 did not know what 'back-up' measures they should take after missing a dose of the contraceptive pill. Psychological problems were found in nine cases. These were followed up with a psychological consultation in three cases. The information given to the patients by the carers was the same irrespective of the number of abortions. Poverty and psychological problems were noted by the carers. CONCLUSION: Patients who have undergone two abortions might benefit, in addition to their routine visits, from a consultation with a psychologist and a consultation providing information about contraception. Providing the contraceptive pill free of charge to low-income patients is essential.
Emergency contraception.


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Emergency contraception is used to prevent pregnancy after a coital act not adequately protected by a regular method of contraception. In contrast to early medical abortion, emergency contraception prevents a pregnancy from starting and does not disrupt an established pregnancy. The most commonly used approaches consist of two oral doses of contraceptive steroids. The levonorgestrel-only regimen (levonorgestrel, 0.75 mg, repeated in 12 hours) appears to be more effective and better tolerated than the Yuzpe regimen (ethinyl estradiol, 100 microg, and levonorgestrel, 0.5 mg, repeated in 12 hours). In the largest randomized, controlled trial to date, levonorgestrel prevented about 85% of pregnancies that would have occurred without its use. Hormonal emergency contraception has no known medical contraindications, although it is not indicated for suspected or confirmed pregnancy. However, if hormonal emergency contraception is inadvertently taken in early pregnancy, neither the woman nor the fetus will be harmed. Nausea and vomiting associated with the Yuzpe regimen can be reduced by prophylactic use of meclizine. A strong medical and legal case exists for making hormonal emergency contraception available over the counter, as has happened in countries other than the United States. Easier access to and wider use of emergency contraception could dramatically lower the high rates of unintended pregnancy and induced abortion in the United States.

REVIEW, TUTORIAL
Emergency contraception is a therapy for women who have had unprotected sexual intercourse, including sexual assault. It also has been called the "morning-after pill," interception, and postcoital contraception. Methods of emergency contraception include use of combination or progestin-only oral contraceptives, danazol, synthetic estrogens and conjugated estrogens, antiprogestins, and the insertion of an intrauterine device. One particular combination oral-contraceptive regimen is the Yuzpe method. This document addresses only combination and progestin-only oral contraceptives because they are the most frequently used methods. This document will present evidence regarding the safety, efficacy, risks, and benefits of the use of oral contraceptives for emergency contraception. For widespread use of this therapy, physician familiarity with the method, public awareness of the method's availability, prompt availability of these methods (because of their time-sensitive nature), and access to a physician who is available to prescribe the method must be increased.
Knowledge and use of emergency contraception in a tertiary referral unit in a developing country.

Eur J Contracept Reprod Health Care 2002 Sep;7(3):137-43

Siebert I, Steyn PS. Department of Obstetrics and Gynecology, Tygerberg Hospital and University of Stellenbosch, South Africa.

BACKGROUND: The promotion and availability of emergency contraception have the possibility of reducing the number of unwanted pregnancies, leading to fewer pregnancy terminations and possibly to reduced maternal morbidity and mortality. METHODS: The aims of the study were to determine the knowledge and use of emergency contraception in two groups of women: those requesting emergency contraception after sexual misadventure and another group of women requesting termination of pregnancy. A retrospective analysis was performed on all files of patients who requested emergency contraception over a 12-month period. Telephone interviews were conducted 1 year later. Structured questionnaires regarding knowledge and usage of emergency contraception were also administered to patients requesting termination of pregnancy. RESULTS: Seventy-six women requested emergency contraception over the 12-month period. Forty-one (53.9%) did not attend the follow-up visit. Only two patients used condoms. A total of 39 patients were contacted by telephone after 1 year. Of these, 18 did not use any contraception, although five were sexually active. In the group of women who requested termination of pregnancy, 44% had not previously used contraception. In all, 40% did not know about emergency contraception, 36% had not used it previously and 24% had used it previously. CONCLUSIONS: Lack of knowledge concerning emergency contraception can contribute to the number of legal abortions requested. There is an urgent need to address current education for users and providers on the use of emergency contraception.
Switching emergency contraception to over-the-counter status.


Grimes DA. Family Health International, Research Triangle Park, NC 27713, USA.
Pharmacy access to emergency contraception in Europe.

Perspect Sex Reprod Health 2002 Sep-Oct;34(5):271; discussion 271

Ullmann A, Gainer E.

COMMENT, LETTER
Emergency contraception and sexual assault. Assessing the moral approaches in Catholic teaching.

Health Prog 2002 Sep-Oct;83(5):12-9, 51; discussion 14-5, 18

Hamel RP, Panicola MR. Catholic Health Association, St. Louis, USA.
Pharmaceutical care in emergency contraception.


Downing D. University of Washington School of Pharmacy, Seattle, USA.

Widespread availability and use of EC could significantly reduce the high rate of unintended pregnancy. EC, like other contraceptive methods, prevents ovulation, fertilization, and/or implantation. EC is extremely safe and highly effective, especially when taken very soon after unprotected intercourse. Pharmacists are ideally positioned to educate patients about EC and to provide EC where collaborative drug therapy agreements allow.
Pharmacy access to emergency contraception in Europe.

Perspect Sex Reprod Health 2002 Sep-Oct;34(5):271; discussion 271

Ullmann A, Gainer E.

COMMENT, LETTER
Comment: postfertilization effect of hormonal emergency contraception.

Ann Pharmacother 2002 Oct;36(10):1649

Mikolajczyk R.

COMMENT, LETTER
INTRODUCTION: A user profile is necessary in order to direct future campaigns for emergency contraception (EC). MATERIAL AND METHODS: Over a three-month period, 423 women with prescriptions for EC were consecutively entered in the study, which was carried out in four inner-city pharmacies in Copenhagen, Denmark. RESULTS: The median age was 24 years (range 13-50 years). Most women (73%) were first-time users of EC. The reason for the current need for EC was most often condom failure (54%) or non-use of any contraceptive method (41%). Only six women (1.4%) reported non-use of contraception because of their knowledge of EC and only four women (0.9%) reported EC as the usual method of contraception. Knowledge about EC more often came from family or friends (51%) and advertising (47%), than from general practitioners (26%) or through sex education in schools (3%). Altogether 282 women (69%) received EC from a doctor in the medical emergency service or a casualty ward. DISCUSSION: Overall, EC is used as recommended. Its availability does not seem to reduce the use of safer contraceptive methods. The mandatory sex education in school should include information on EC.
Emergency over-the-counter contraception

[Article in Danish]

Ugeskr Laeger 2002 Oct 21;164(43):4999

Lidegaard O.

COMMENT, EDITORIAL


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Provision of Chlamydia trachomatis screening in family planning clinics and emergency contraception in genitourinary medicine clinics: a collaborative cross-speciality survey.


Dale AW, Wilkinson C, Forster GE, Daniels D, Brook MG. Clinical Governance Support Unit, Camden & Islington CHS NHS Trust, St Pancras Hospital, London, UK. Adam.Dale@kcl.ac.uk

Two surveys were undertaken to review (1) provision of Chlamydia trachomatis screening by family planning (FP) clinics in the London region and (2) access to emergency contraception (EC) from genitourinary (GUM) clinics within the former North Thames region. The findings from the first survey suggest that there is insufficient screening (and treatment) in vulnerable groups attending FP clinics. Results from the second survey show that hormonal EC is widely available from within GUM clinics, and those clinics also provide a range of other contraception services. However, these details may not be widely recognised either by policymakers or the general public.
Comparative evaluation of the effectiveness and safety of two regimens of levonorgestrel for emergency contraception in Nigerians.


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Emergency contraception was introduced in Nigeria over two decades ago, but few women have used this method even in emergency situations because of the side effects. To find an acceptable levonorgestrel regimen for emergency contraception in our community, the two-dose regimen 0.75-mg levonorgestrel 12 h apart (group A) and the single dose 1.5-mg levonorgestrel (group B) were studied in 1118 volunteers. Mild side effects such as nausea, vomiting, lower abdominal pains, menorrhagia, dizziness, headache, and breast tenderness were reported. Significantly more women in the high-dose group reported headache, breast tenderness, and heavy menstrual flow. Eleven pregnancies (1.0%) were reported (7 in group A and 4 in group B). The crude relative risk of pregnancies was similar in the two groups (RR = 9.71, 95% CI = 0.32-1.55; p > 0.05). On the other hand, the estimated effectiveness rate of 86.80% in group A was significantly lower than the 92.99% for group B (p < 0.05). The pregnancy rates increased with delay in starting treatment and if further acts of unprotected sexual intercourse took place after treatment. It was concluded that both regimens were effective and safe.
Emergency contraception among university students in Kingston, Jamaica: a survey of knowledge, attitudes, and practices.


Sorhaindo A, Becker D, Fletcher H, Garcia SG. Population Council, Mexico City, Mexico.

Emergency contraceptives (ECs) are an important option for young women in Jamaica, where rates of unplanned pregnancy are high. Few previous studies of EC exist in Jamaica. We surveyed a random sample of 205 students living on campus at the University of the West Indies in Kingston, Jamaica, to learn more about students' knowledge and opinions of EC pills (ECPs). General awareness of ECPs was high (84%), although many students were unaware of specific details regarding the method's appropriate use, such as the time frame. Twenty students (10%) had used ECPs themselves or had a partner who had used them. Most had used ECPs for the first time because they lacked contraception or because of contraceptive failure. Following their first use of ECPs, 55% adopted an ongoing method of contraception. Most students felt ECPs were an important option for women in Jamaica; however, some feared ECPs might be overused. Future educational campaigns should provide Jamaican university students with detailed information about this method.
Evaluation of an emergency contraception introduction project in Kenya.


The Consortium for Emergency Contraception introduced Postinor-2, a progestin-only EC product, into Kenya as part of its work to expand access to EC in developing countries. Introduction activities included registering Postinor-2, training providers, and developing provider and client materials. We surveyed family planning clients and providers to assess the impact of these activities. Knowledge of EC among clients and providers improved between the baseline and evaluation surveys. More women and providers had heard of EC and more providers were distributing it. Support for access to EC in Kenya also improved. The results indicate, though, that further information is needed. Only one-fifth of women at the evaluation had heard of EC and almost half of the women expressed concerns about EC at baseline and evaluation. More research and experience using novel ways of informing women about EC in Africa is needed, and information needs to address women's concerns.
Screening for Chlamydia trachomatis infection is indicated for women under 30 using emergency contraception.


Kettle H, Cay S, Brown A, Glasier A. Lothian Primary Care NHS Trust Family Planning and Well Woman Services, Lothian, Scotland, UK.

A total of 838 women attending a large family planning clinic in Scotland for emergency contraception were offered screening for Chlamydia trachomatis infection. 569 were screened using ligase chain reaction test in first void urine at the time of presenting for emergency contraception and were retested 1 or 2 weeks later. Women aged under 20 and over 30 years were significantly more likely to decline to be tested than women aged 20 to 30. The prevalence of chlamydia was 7.6% in woman aged 24 or less, 5.3% in women aged 25 to 29, and 1.2% in women aged 30 or more. Only two women (< 1%) who tested negative at the time of using EC were positive 1 or 2 weeks later. Women under age 30 who use EC should be offered screening for chlamydia infection and testing at the time they attend for EC is adequate to detect the great majority of infected women.
A randomized comparative study on mifepristone alone and in combination with tamoxifen for emergency contraception.

Contraception 2002 Oct;66(4):221-4


The purpose of the clinical study was to compare the efficacy and side effects of 10 mg of mifepristone alone (Group 1) and with 20 mg of tamoxifen (Group 2) for emergency contraception, especially as used within 72-120 h after coitus. Four-hundred female volunteers with one act of unprotected intercourse or contraception failure (200 cases in each group) were recruited and completed the study. There were 198 women treated < 72 h after coitus (100 in Group 1 and 98 in Group 2), whereas the remaining 202 patients were treated between 72-120 h (100 in Group 1 and 102 in Group 2). In total, four pregnancies occurred; one treated < 72 h in each group, two between 72-120 h in Group 1. Efficacy for prevention of unwanted pregnancy by Trussell method is 84% for Group 1, and 95% for Group 2, and which is not significantly different between the two groups and even subgroups. The side effects (15.5% for Group 1 and 14.5% for Group 2) and changes in menstruation were infrequent and mild in both groups. Further studies should be conducted to determine whether tamoxifen combined with mifepristone for emergency contraception is more effective as compared with mifepristone alone.
Emergency contraceptive pill. Managing risk associated with unprotected sexual intercourse.

Aust Fam Physician 2002 Oct;31(10):914-7

The Royal Australian College of General Practitioners.

This document is an independent statement about emergency contraception developed by the RACGP in collaboration with the Drug and Therapeutics Information Service (DATIS).

PRACTICE GUIDELINE
Emergency contraception.

Aust Fam Physician 2002 Oct;31(10):909-12

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BACKGROUND: Humans have long sought an effective method of contraception that could be utilised after unprotected sex. OBJECTIVE: This article aims to examine the range of available emergency contraceptive options, with particular emphasis on the advantages of progestogen only emergency contraception over the combined regimens advocated in the past. DISCUSSION: The recent release of the first commercially packaged emergency contraceptive regimen on the Australian market has refocussed attention on this important public health issue. The widespread adoption of effective emergency contraceptive regimens has the potential to reduce the rate of unplanned pregnancy and termination of pregnancy in Australia. This article aims to discuss available regimens, their mode of action and existing barriers to use, and controversies such as over-the-counter supply of emergency contraception.
Emergency contraception. Characteristics of the demand

[Article in Spanish]

Aten Primaria 2002 Oct 15;30(6):381-7


Objective. Define the profile of the women that ask for emergency contraception (EC).

Design. Transversal descriptive investigation.

Setting. Familiar Planning Center of 4th Area of Instituto Madrileno de Salud. in Madrid. Participants. All the women that went in the year 2000 requiring EC (n=404). Measurements. Was carried out a survey with sociodemographic variables, related with the EC and with the sexual life. Results. The average age was of 23.9 years (age range 14 to 49) were inquired, 9.9 were under 18. They had an average of 6.7 intercourses per month, the first intercourse when they were 18 years old on average, and 4.9 years of sexual relationships. 90.9% stated to have a couple. 75% were graduated from high school or university, and 55.7% said they had never received information about contraceptives. For 19.5% this was not the first time they asked for EC. 6.5% had interrupted on purpose pregnancy and 36% of them had used EC before. The reasons to demand EC were: condom break (69.3%), held condom (16.9%) and intercourse without any protection (12%). 7% acknowledged other risky intercourses during the same period. 33.2% had been sent by a General Practitioner, 26.1% knew the center, 19% were sent by acquaintances and 16% from Emergency Services. EC was not prescribed in 12.2% of the cases because of minimum risk to pregnancy. The evaluation was made by a nurse (52.6%), by a doctor (34.4%) and by a gynecologist (13%).

Conclusions. There is a lack of information about contraceptive methods. Most of the patients are sent from other sanitary services.
Differences between emergency contraception users in the United States and the United Kingdom.

J Am Med Womens Assoc 2002 Fall;57(4):200-3, 214


OBJECTIVES: to characterize emergency contraception (EC) users and clinical trial participants in the United States and the United Kingdom, comparing previous EC use and awareness, contraceptive history, and experience with EC. METHODS: We collected data from all EC seekers (n=5383) at 1 US and 2 UK clinics (9/97-8/98). We also collected detailed information from women (n=2157) enrolling in an EC trial at the first 3 clinics and 2 additional UK sites (9/97-2/00). RESULTS: More US (16%) than UK (4%) women reported additional acts (other than in the last 5 days) of unprotected sex during the cycle in which they sought EC. Fifty-eight percent of UK trial participants had used EC previously compared to 18% in the United States. Most participants in both groups used contraception regularly and reported needing EC because of condom breaks (67% and 56%). More UK than US participants used an ongoing method of contraception (38% v 28%). US women reported more side effects at follow-up than UK women did (76% v 59%), although similar proportions would take EC again or recommend it. CONCLUSIONS: US and UK women in our trial experienced different side effects. Researchers should use caution when presenting aggregate results from international multicenter trials. In addition, readers should be aware that such aggregate results might mask important geographical differences. More research on experience with EC and barriers to contraceptive use in the United States is needed.
A randomized controlled educational intervention on emergency contraception among drugstore personnel in southern Thailand.

J Am Med Womens Assoc 2002 Fall;57(4):196-9, 207

Ratanajamit C, Chongsuvivatwong V, Geater AF. Department of Clinical Pharmacy, Faculty of Pharmaceutical Sciences, Prince of Songkla University, Thailand.

OBJECTIVE: to document the effectiveness of an educational intervention in improving knowledge of and practice in dispensing emergency contraception (EC) among drugstore personnel in Thailand. METHODS: Sixty of 120 drugstores in Hat Yai, a city in Southern Thailand, were randomly selected, and half of them were randomly assigned to participate in an educational program. Well-trained "secret" shoppers went into each store before the intervention and at 1 and 3 months after the program to assess the knowledge of and practice in dispensing EC among the drugstore personnel. RESULTS: Dispensing practices at baseline were poor to fair and knowledge was fair in both groups. Sellers in the intervention group improved significantly in choice of drug, advice provided, and knowledge of the time limit for initiating EC, but those in the control group did not. However, proper history taking on the time of intercourse and menstrual cycle was poor in both groups at all study periods. CONCLUSION: All drugstore personnel should be educated on the importance of history taking and on the time limit for initiating EC.

CLINICAL TRIAL, RANDOMIZED CONTROLLED TRIAL
The process of preventing pregnancy: women's experiences and emergency contraception use.


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The model of "unintended" pregnancy has dominated reproductive health research and policy since the early 1970s. The concept reflects the prevailing highly rational model of behavior in public health and the assumption that the only acceptable points of preventing pregnancy are before or during intercourse. This model is simplistic, overly utilitarian, and does not reflect the experiences of the more than 1 million women who use emergency contraception (EC) and have abortions each year in the United States. Based on stories gathered through open-ended interviews of 32 women seeking EC, the authors propose a dynamic process of pregnancy prevention, spanning the act of intercourse and situated in a complex cultural context. Such a model reconceptualizes efforts to control one's fertility, normalizes the experiences of women who do not fit the existing models, and generates new ideas for supporting women and their male partners in their efforts to control their reproduction.
Improving teenagers' knowledge of emergency contraception: Cluster randomized controlled trial of a teacher-led intervention.

*J Pediatr* 2002 Nov;141(5):740

Risser WL. The University of Texas-Houston Health Science Center, 77030, USA.
Information campaign and advocacy efforts to promote access to emergency contraception in Mexico.

Contraception 2002 Nov;66(5):331-7


Emergency contraception (EC) has the potential to reduce unwanted pregnancy significantly, in Mexico as elsewhere. Recent years have seen tremendous growth in programs and research devoted to expanding access to emergency methods worldwide. In Mexico we developed a comprehensive model introduction effort that included four components: provider training, public information (through a dedicated hotline and website, free media, paid radio and TV spots, participation in talk shows, and alternative media channels), collaboration with the public sector to include EC in the official family planning norms, and assistance to partner with commercial firms to register a dedicated EC product. Ongoing efforts to combat misperceptions and overcome opposition are crucial to informing the public and ensuring greater access to the method.
Emergency contraception in Mexico City: knowledge, attitudes, and practices among providers and potential clients after a 3-year introduction effort.


Emergency contraception (EC) has the potential to reduce unwanted pregnancy significantly, in Mexico as elsewhere. Recent years have seen tremendous growth in programs and research devoted to expanding access to emergency methods worldwide. In Mexico City, we conducted a pre-intervention/post-intervention research study of one way to introduce EC. Following a baseline survey of family planning providers and clients in 1997, we organized and implemented a three-year program of training for health care providers and a multi-faceted information campaign for the general public, including a national toll-free hotline and website. In 2000, we again surveyed family planning clinic providers and clients, using instruments similar to those employed in the baseline study. EC awareness increased significantly from 13% of clients to 32%, and support jumped from 73% to 83%. Providers at study clinics improved method recognition from 88% to 100%.
No reduced number of abortions despite easily available emergency contraceptive pills. Studies of women's knowledge, attitudes and experience of the method  [Article in Swedish]


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Despite the fact that emergency contraceptive pills (ECP) have become easily available across the country during recent years, abortion numbers continue to rise in Sweden, especially in the young age groups (< 25). In a series of studies, we have investigated knowledge, attitudes and experience of ECP among young women. Our results show that, whereas most women are aware of the method, many lack knowledge about the mechanism of action and time frames for best use, which could explain why ECPs are not used by more than a fraction of women who might have had benefit from their use. Since half of the women requesting a termination of pregnancy stated that they would have used ECP if they had had them available at home at the time of the unprotected intercourse which led to an unintended pregnancy, it seems reasonable to encourage women to keep ECPs at home, in case the need should arise. It is important that ECPs are available without prescription, but beyond that, much more information about ECP is necessary in order for the method to be widely accepted and used as a back-up after failure with other contraceptives.
Emergency contraception is safe and effective for preventing an unplanned pregnancy, although it is not widely used. Widespread and appropriate use of emergency contraception should be encouraged as it is a promising means to arrest the increasing abortion rate. It is therefore important for all doctors to be able to prescribe emergency contraceptive pills and to educate women of reproductive age about emergency contraception. This article provides an update on the prescription of emergency contraceptives so that doctors may become more confident at prescribing emergency contraceptives and educating women about this back-up contraceptive. The current changes in the delivery of emergency contraceptive pills from prescription-only through self administration to over-the-counter sales will be discussed.
Emergency contraception and fire extinguishers: A prevention paradox.


Grimes DA. Family Health International.

Fires and unintended pregnancies are important causes of morbidity, mortality, and financial loss in the United States. Home fire extinguishers and emergency contraception are both effective preventive interventions. The disparity between access to fire extinguishers and emergency contraception is irrational and indirectly hurts women's health. Although fire extinguishers require the user to make a diagnosis, choose the appropriate treatment, and assume some risk of serious injury and death, these canisters of pressurized chemicals are widely available without restriction. In contrast, women face several unnecessary obstacles to overcome before using emergency contraception, which is both simpler and safer to use. Clearly, a double standard prevails in prevention strategies for women. The Food and Drug Administration should approve over-the-counter availability of emergency contraception without further study or delay.
The effects of levonorgestrel on various sperm functions.

**Contraception 2002 Dec;66(6):453-457**

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Two doses of 750-μg levonorgestrel at 12 h apart is one of the regimens for emergency contraception. The mechanism of action of this regimen is not fully known. We investigated whether levonorgestrel influences sperm functions and thereby, exerts contraceptive activity. The motility, acrosome reaction, zona binding capacity, and oocyte fusion capacity of human spermatozoa treated with 1, 10, and 100 ng/mL levonorgestrel for 3 h were evaluated. Levonorgestrel decreased the curvilinear velocity of the treated spermatozoa in a dose-dependent manner. A significant decrease in straight-line velocity, average path velocity and linearity were also found with 100 ng/mL levonorgestrel treatment. This concentration of levonorgestrel, but not others, also marginally decreased (p = 0.045) the zona binding capacity of the treated spermatozoa. The steroid had no effect on acrosome reaction but had a dose-dependent inhibition on spermatozoa-oocyte fusion. These data show that levonorgestrel affects sperm function only at high concentration and the contribution of these effects to emergency contraception is unlikely to be significant.
Scanning electron microscopic (SEM) changes of the endometrium in women taking high doses of levonorgestrel as emergency postcoital contraception.

Contraception 2002 Dec;66(6):433-7

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Endometrial surface changes by scanning electron microscope were studied in three women who intentionally took high doses of levonorgestrel as an emergency postcoital contraceptive. Based upon findings of a close link between endometrial receptivity and surface integrity, significant alterations of the uterine lining structure may represent a drug effect accomplishing endometrial contraception. High doses of levonorgestrel (4-6 times more than recommended) caused detectable changes on the surface regardless of the menstrual cycle phase when the medication was taken. Cycle classification was based on estradiol and progesterone hormone levels, which corresponded to the menstrual diary. Comparison to control specimens displayed marked restructuralization of the endometrium. As a main feature, the number of ciliated cells were reduced, and cilia disappeared in the proliferative and periovulatory phase. In the secretory phase, pinopodia disappeared and the endometrial integrity broke down. The contraceptive effect of levonorgestrel seems to be accomplished by alteration of the endometrial surface and, therefore, receptivity.
Emergency contraception: knowledge and use among Danish women requesting termination of pregnancy.

Contraception 2002 Dec;66(6):427-31

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The aim of this study was to describe knowledge about and use of emergency contraception (EC) among Danish women requesting termination of pregnancy. The study included 1514 women (response rate 83.7%) referred during the period August 2000 to May 2001. Sufficient knowledge of EC was defined as knowledge about both the correct time limit and where to acquire the EC. We found adequate knowledge in 44.7%. These women were typically younger, better educated and more often singles, nulliparae, and users of contraception. No relation was found to the type of contraception used or to previous terminations of pregnancies. EC was used in the actual pregnancy by 6.6% and 24.1% had used it previously. Actual or formers users were characterized in the same way. The general knowledge about EC has not improved significantly during the last few years and there is still need for information about the correct use of EC.
Knowledge and attitudes about the differences between emergency contraception and medical abortion among middle-class women and men of reproductive age in Mexico City.

Contraception 2002 Dec;66(6):417-26

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Two reproductive technologies-emergency contraception and medical abortion-have the potential to reduce unintended pregnancy significantly in Latin America. Lack of knowledge and negative attitudes about the methods may limit their impact, however. Results from focus group discussions with middle-class men and women of reproductive age residing in Mexico City indicate that knowledge about emergency contraception and medical abortion is low. After being informed about both methods, participants supported emergency contraception but tied their support for medical abortion to its legal status. Participants remained concerned about the methods' efficacy, mechanism of action, and potential to encourage sexual risk-taking. While almost all desired greater dissemination of information about and access to both methods in Mexico, participants cited religious and cultural concerns, as well as barriers in communication with providers and within families, as significant challenges. Participants hoped, however, that both emergency contraception and medical abortion might play important roles in preventing unwanted pregnancy and abortion-related morbidity and mortality in Mexico in the future.
Young women's accounts of factors influencing their use and non-use of emergency contraception: in-depth interview study.

BMJ 2002 Dec 14;325(7377):1393

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OBJECTIVES: To explore young women's accounts of their use and non-use of emergency contraception. DESIGN: Qualitative study using in-depth interviews. PARTICIPANTS: 30 women aged 16-25; participants from socially deprived inner city areas were specifically included. SETTING: Community, service, and educational settings in England. RESULTS: Young women's accounts of their non-use of emergency contraception principally concerned evaluations of the risk conferred by different contraceptive behaviours, their evaluations of themselves in needing emergency contraception, and personal difficulties in asking for emergency contraception. CONCLUSIONS: The attitudes and concerns of young women, especially those from disadvantaged backgrounds, may make them less able or willing than others to take advantage of recent increases in access to emergency contraception. Interventions that aim to increase the use of emergency contraception need to address the factors that influence young women's non-use of emergency contraception.
Low dose mifepristone and two regimens of levonorgestrel for emergency contraception: a WHO multicentre randomised trial.

Lancet 2002 Dec 7;360(9348):1803-10


Background A single 10 mg dose of mifepristone, and two 0.75 mg doses of levonorgestrel 12 h apart, are effective for emergency contraception. Because no studies had compared the efficacies of both compounds, or investigated a single dose of 1.5 mg levonorgestrel, we undertook this three-arm trial.Methods We did a randomised, double-blind trial in 15 family-planning clinics in 10 countries. We randomly assigned 4136 healthy women with regular menstrual cycles, who requested emergency contraception within 120 h of one unprotected coitus, to one of three regimens: 10 mg single-dose mifepristone; 1.5 mg single-dose levonorgestrel; or two doses of 0.75 mg levonorgestrel given 12 h apart. The primary outcome was unintended pregnancy; other outcomes were side-effects and timing of next menstruation. Analysis was by intention to treat, but we did exclude some patients from the final analyses.Findings Of 4071 women with known outcome, pregnancy rates were 1.5% (21/1359) in those given mifepristone, 1.5% (20/1356) in those assigned single-dose levonorgestrel, and 1.8% (24/1356) in women assigned two-dose levonorgestrel. These proportions did not differ significantly (p=0.83). The relative risk of pregnancy for single-dose levonorgestrel compared with two-dose levonorgestrel was 0.83 (95% CI 0.46-1.50), and that for levonorgestrel (the two regimens combined) compared with mifepristone, 1.05 (0.63-1.76). Side-effects were mild and did not differ greatly between groups, and most women menstruated within 2 days of the expected date. Women who took levonorgestrel had earlier menses than did those who took mifepristone.Interpretation The three regimens studied are very efficacious for emergency contraception and prevent a high proportion of pregnancies if taken within 5 days of unprotected coitus. Mifepristone and levonorgestrel do not differ in efficacy. A 1.5 mg single levonorgestrel dose can substitute two 0.75 mg doses 12 h apart.
A randomized double-blind comparison of two single doses of mifepristone for emergency contraception.

Hum Reprod 2002 Dec;17(12):3084-3089


BACKGROUND: Previous trials have shown the potential of 10 mg of mifepristone in emergency contraception. The aim of this trial was to investigate whether 10 mg of mifepristone has the same efficacy as 25 mg. METHODS: This double-blind, randomized trial was carried out in 10 family planning institutes and hospitals in China. Women who met recruitment criteria and requested emergency contraception within 120 h of a single act of unprotected coitus were randomized using a computer-generated list to either 10 or 25 mg of mifepristone within each centre. RESULTS: Among 3052 women enrolled, the outcome was known for 3030 women, 1516 in the 10 mg group and 1514 in the 25 mg group. Seventeen pregnancies occurred in each group, giving a pregnancy rate of 1.1%. The relative risk of pregnancy for women treated with 10 mg mifepristone compared with those treated with 25 mg was 1.0 (95% CI: 0.51-1.95) and equivalence was demonstrated within a two-fold margin. Both doses prevented 85-86% of pregnancies expected to have occurred if no treatment had been given. The pregnancy rate nearly doubled if women had further acts of intercourse. Efficacy decreased with treatment delay. Side-effects were uncommon and mild. CONCLUSIONS: A dose of 10 mg of mifepristone is sufficient for emergency contraception. Earlier treatment is preferable, although the method can be used effectively for up to 5 days after intercourse.
Qualitative analysis of African-American adolescent females' beliefs about emergency contraceptive pills.


Olsen CL, Santarsiero EC, Spatz D. School of Nursing, University of Pennsylvania, Philadelphia 19104, USA.

STUDY OBJECTIVE: This project was initiated to better understand why some African-American adolescent females do not use emergency contraceptive pills (ECP), despite their widespread availability. Adolescents are considered likely candidates for ECP because they are more likely to inconsistently use birth control and have sporadic sexual behavior patterns. These factors increase the risk of unprotected intercourse and unplanned pregnancy. DESIGN: A qualitative study design was employed to assess the knowledge of African-American adolescent females regarding ECP and their beliefs affecting use and nonuse of ECP. SETTING: An adolescent clinic at a large, urban, academic children's hospital. PARTICIPANTS: Twenty-nine African-American adolescent (age 13-18) females. Interventions. Semi-structured, qualitative interviews lasting 15-20 minutes. MAIN OUTCOME MEASURES: Interviews yielded qualitative data that was coded and categorized into themes. RESULTS: Through the interviews, eight themes emerged: Taking Care of Self, Lack of Knowledge of ECP, Inaccurate Information, Sources of Information, Acceptability of Adolescent Pregnancy, Partner's Influence on Adolescent Choices, Discomfort Talking About Sex, and Concern About Sexually Transmitted Infections (STIs). CONCLUSIONS: The results from this qualitative study will contribute to future quantitative research efforts by providing insight into the decision-making process regarding ECP among this population. The themes provide a foundation for clinical implications and educational interventions. Although a large proportion of the sample (24%) had used ECP, misinformation about ECP and basic reproductive health issues was prevalent. Most of the adolescents report they obtain reproductive health information from a complex network of information sharing, in which their primary sources tend to be peers.
How safe is emergency contraception?


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Emergency contraception is used to prevent pregnancy after unprotected sex but before pregnancy begins. Currently, women can use emergency contraception by taking higher doses of the active ingredients found in ordinary oral contraceptive pills [either combined estrogen-progestogen (progestin) or progestogen-only formulations], or by having providers insert copper-bearing intrauterine devices (IUDs). The antiprogestogen mifepristone also has an excellent efficacy and safety profile as emergency contraception, but it is currently available for this indication only in China. Many studies have documented providers' and women's fears about the individual and public health safety risks of emergency contraception. Some of these concerns include potentially increased risks of cardiovascular events (including arterial and venous disease), worries about possible effects on future fertility, feared teratogenic consequences following method failure or inadvertent use during pregnancy, exaggerated or extreme fears of adverse tolerability, and concerns about drug interactions with other medications. Wider public health questions include feared reductions in the use of ongoing, more effective contraception, possible 'abuse' of emergency contraception through overly frequent use, and potential increases in risky sexual encounters (owing to the existence of a back-up, postcoital method) and therefore in rates of sexually transmitted infections, including HIV/AIDS. These fears can each be generally allayed. Direct and indirect investigations of emergency contraception in the biomedical and social science literature, the extensively documented safety profile of ordinary oral contraceptives, and more than 30 years of clinical experience since hormonal emergency contraception was first described, give strong evidence for its safety. This review confirms declarations by the World Health Organization and the US Food and Drug Administration, and shows that emergency contraception has an excellent safety profile in nearly all women. Finally, emergency contraception allows women a second chance to avoid unwanted pregnancies. Whether pregnancy is carried to term or terminated, the condition has inherent risks that are greater than any posed by emergency contraception.
Progestogen-only emergency contraception and ectopic pregnancy.


Harrison-Woolrych M, Woolley J.
Mifepristone was more effective than the Yuzpe regimen for emergency contraception.


Satove L.  Addiction Services, Out and About Clinic, Hotel Dieu Health Sciences, Hospital Niagara, St Catharines, Ontario, Canada.
Adolescent access to emergency contraception in A and E departments: reviewing the literature from a feminist perspective.


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Recent moves in parts of UK to provide opportunities for 'over the counter' purchasing at pharmacies, has meant that access to emergency oral hormonal contraception for adolescents is undergoing something of a revolution. The provision of emergency contraception (EC) to adolescents in Accident and Emergency (A and E) departments, however, is nothing new and is now an established component of the current government objective to reduce teenage pregnancy rates in this country. The tensions apparent in A and E departments related to the provision of EC, particularly to adolescents, have recently been recognized, but little attention has been paid to analysing the reasons why such tensions might exist. This article is based on a literature review carried out as part of a study of nurses' encounters with adolescents accessing EC in A and E departments in the North-west of England. It is a reappraisal of the salient issues in this arena from a feminist perspective, aiming to provide an alternative with which to view the encounter between adolescents and service providers in A and E.

Review; Tutorial
Switching emergency contraception to over-the-counter status.


Rothschild TJ.

Comment; Letter
Emergency contraception: from accessibility to counseling.


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Since emergency contraception (EC) users have a higher risk sexual profile, they may miss an opportunity for medical counseling if getting EC directly from a pharmacy. However, direct access to emergency contraception through pharmacies has been shown to increase EC use. Informational materials destined for EC users could alert women to the importance to check for sexually-transmitted infections considering health issues related to STDs.
Emergency contraception: improving access.


[No authors listed]
Emergency contraception: increasing public awareness.


[No authors listed]

This article begins by addressing misperceptions that emergency contraception is something new and untested or inherently unsafe, and that it is comparable to an abortion. It then describes efforts that are underway to increase awareness among consumers and health care providers alike.

Historical Article
Metoclopramide pretreatment attenuates emergency contraceptive-associated nausea.


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OBJECTIVE: The study was undertaken to determine whether metoclopramide pretreatment attenuates side effects associated with high-dose estrogen/progestin emergency contraception in at-risk patients. STUDY DESIGN: This was a randomized, prospective, double-blind, placebo-controlled study at the University of Kansas. Patients (141) requesting emergency contraception and lacking contraindications were offered entry in the study. Both the treatment (metoclopramide 10 mg) and placebo groups received active emergency contraception. Participants evaluated symptom severity with a 12-question survey tool developed for this study. RESULTS: Metoclopramide pretreatment provided protection against nausea and cramping associated with estrogen/progestin emergency contraception. The average scores on a 10-point scale for the treatment group and placebo group were as follows: nausea 3.2 versus 4.8 (P = .01) and cramping 0.9 versus 2.2 (P < .01), indicating less severe nausea and cramping in the treatment group. CONCLUSION: Metoclopramide pretreatment attenuates the nausea and cramping associated with Yuzpe emergency contraceptive treatment.
Emergency contraception.


Miller DP.

Comment; Letter
Emergency contraception: a pilot study by school nurses.


Smith G. Selby and York NHS Trust.

Tackling unintended teenage pregnancy and reducing sexually transmitted infection is a priority for school nurses in Selby and York NHS Trust. Research from the NHS Centre for Reviews and Dissemination in 1997 suggested that school-based sex education could be effective in reducing teenage pregnancy when it was linked to contraceptive services. With this in mind a pilot study was devised whereby an emergency contraception service was introduced to two secondary schools: one rural and one inner city. Results of the pilot, conducted for a complete school year from September 2001 to July 2002, revealed a significant difference in the numbers of teenagers accessing advice and requesting condoms in the two schools. Reasons for the findings are discussed, as well as the vital role of the school nurse in addressing the sexual health needs of young people.

Evaluation Studies
Surfing on the morning after: analysis of an emergency contraception website.


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The introduction of widespread nonprescription delivery of hormonal emergency contraception (EC) calls for development of innovative tools to provide information to and gather feedback from EC users. Individuals seeking confidential information on sexual health and contraception are increasingly turning to the Internet as the resource of choice. This study employed analytical software and manual content analysis to examine the use of a website dedicated to an EC product (www.norlevo.com) over the course of 2 years. Frequency of visits to and pageviews of the site increased consistently over the 2-year time period, and the bulk of the visitors to the site were EC users seeking responses to frequently asked questions. The most common concern raised by users was the occurrence of spotting and menstrual bleeding following EC use. This analysis reveals that within the context of nonprescription access to hormonal EC, a website can constitute a potent educational tool for health professionals and EC users and provide a valuable source of post-marketing feedback on product use.
Effectiveness of the Yuzpe regimen of emergency contraception by cycle day of intercourse: implications for mechanism of action.


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OBJECTIVE: The purpose of this study was to provide evidence about the mechanism of action of the Yuzpe method of emergency contraception by examining effectiveness by cycle day of intercourse relative to ovulation. METHODS: Through a literature search, we identified eight studies that present the number of women treated and outcome of treatment by cycle day of unprotected intercourse relative to expected day of ovulation. Using five sets of external estimates of conception probabilities by cycle day of intercourse among women not using contraception, we assessed and compared the effectiveness of the Yuzpe regimen by whether intercourse occurred on or before the second day before ovulation or afterward, and whether intercourse occurred on or before the first day before ovulation or afterward. RESULTS: In 36 of the 45 pairs of estimates of effectiveness, based on eight separate studies and the eight studies combined and five different sets of conception probabilities by cycle day, effectiveness was higher-and in most cases substantially higher-when intercourse occurred on or before the second day before ovulation (day -2) than when it occurred later. When data were stratified by whether intercourse occurred on or before the day before ovulation (day -1), effectiveness was greater when intercourse occurred early in 43 of 45 pairs. CONCLUSIONS: These results suggest that one hypothesized mechanism of action of the Yuzpe method, inhibiting implantation of a fertilized egg, is unlikely to be the primary mechanism of action.
Emergency contraception: the journey so far.


Haggai DN. Department of Obstetrics and Gynecology, Ahmadu Bello University Teaching Hospital, Kaduna, Zaria, Nigeria
The role of the pharmacist in contraception.


Taylor B.

Editorial


Faculty of Family Planning and Reproductive Health Care Clinical Effectiveness Unit.

Practice Guideline
Pharmacists' attitudes toward and practices with adolescents.


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BACKGROUND: Adolescents often face barriers to health care. As pharmacists' scope of practice expands, they may be in positions to decrease barriers to care for adolescents. OBJECTIVE: To describe pharmacists' attitudes toward and practices with adolescents. DESIGN: Cross-sectional self-administered survey of chief pharmacists at 1361 Indiana pharmacies. Survey items inquired about sociodemographic variables, adolescent-specific pharmacy practices, and training in adolescent health issues. SETTING: All active, licensed pharmacies in Indiana were surveyed. PARTICIPANTS: Nine hundred forty-eight surveys (70%) were returned. Sixty-five percent of responding pharmacists were male, 54% were younger than 45 years, and 58% had been practicing for more than 15 years; 47% practiced in areas with fewer than 30 000 people. MAIN OUTCOME MEASURES: Pharmacists' attitudes toward and practices with adolescents. RESULTS: The majority of pharmacists (94%) dispensed prescriptions for adolescents, but 57% felt inadequately trained in adolescent-specific issues. Forty-eight percent of pharmacies did not dispense emergency contraception. Pharmacists were more likely to report dispensing contraceptives directly to 17-year-olds than to 14-year-olds, and were more likely to report contacting a parent or provider before dispensing contraceptives to 14-year-olds. CONCLUSIONS: Adolescents often require pharmacy services, but many pharmacists feel inadequately trained in adolescent-specific issues. Confidentiality may not be maintained by all members of the health care team, and a prescription may be refused by the receiving pharmacist. Younger adolescents may face more barriers to care than older adolescents. Increasing pharmacists' knowledge and skills in adolescent issues, especially confidentiality, may decrease barriers to care and improve adolescent health outcomes.
Emergency contraception.

BMJ. 2003 Apr 12;326(7393):775-6.

Webb AM.

Editorial
Is single-dose levonorgestrel as effective as other emergency contraception regimens?


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Progestogen-only emergency contraception.


Gainer E, Mery C, Ulmann A.

Comment; Letter
Emergency contraception: lessons learned from the UK.


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CONTEXT: Since January 2001, women aged over 16 years in the UK have been able to purchase progestogen-only emergency hormonal contraception from pharmacists without prescription. This paper outlines the context in which these changes took place, including contraceptive choices in the UK, changes within the pharmacy profession and political pressures.

OBSERVATIONS: We chart the multisectoral developments required to make emergency contraception (EC) available without prescription in the UK, from clinical research findings and results on the views and behaviour of health care professionals and users of EC, through to professional and policy developments, including challenges during and after this process.

DISCUSSION: Lessons learnt from the innovative experience of the deregulation of EC in the UK apply to other regions currently considering similar change. We extrapolate internationally applicable lessons including the importance of stakeholder partnership, transparency and cautious pace of change, and the vital role of professional groups. CONCLUSION: Although this change brought a new element of reproductive choice to some women, significant barriers to access to EC still remain for young women and women unable to afford the high price (24/euro;37/$39) of pharmacy purchase in the UK.
Randomised controlled trial assessing the acceptability of GyneFix versus Gyne-T380S for emergency contraception.


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OBJECTIVE: To assess insertion-linked pain and the short-term user-acceptability and safety of the GyneFix as compared with T-framed intrauterine devices (IUDs). DESIGN: A randomised controlled trial in an outpatient clinic setting. METHOD: Women requesting an IUD for emergency contraception (EC) were allocated to either the short-term arm (GyneFix versus Nova-T200, or the long-term arm (GyneFix versus Gyne-T380S, and then randomised within each group. Visual analogue scores were used to assess the women's perception of the pain associated with insertion, which was patient-blinded. Follow-up was double-blinded, at 6 weeks, with bleeding and pain recorded over this time. RESULTS: A total of 175 women received an IUD in the long-term arm. The short-term arm was discontinued due to low recruitment (17 women at 20 months) and therefore the results relate to the long-term arm only. Outcome was known in 98% of subjects. The actual insertion procedure was scored as more painful for the GyneFix, both by the women (p = 0.013) and the doctors making their assessment of the women's pain (p = 0.04). The women with GyneFix described less pain in the subsequent 30 days after insertion (p = 0.005). Only 13% of women with GyneFix requested removal as compared with 20% with Gyne-T380S, with the difference being attributed to removal due to pain. The bleeding pattern was similar for those using GyneFix and Gyne-T380S. CONCLUSIONS: Our study suggests that although the actual fitting may be more painful, pain is less during the 6 weeks after insertion of GyneFix and fewer women discontinue its use because of pain, as compared with Gyne-T380S. The high overall continuation rate of all emergency IUDs at 6 weeks and low morbidity seen in this study favours more frequent IUD insertion where unprotected intercourse has occurred, given also its higher efficacy over oral hormonal EC.

Clinical Trial; Randomized Controlled Trial
Training and supporting pharmacists to supply progestogen-only emergency contraception.

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**OBJECTIVE:** To describe and evaluate the training and support provided to the first cohort of community pharmacists to supply progestogen-only emergency contraception (POEC) under a Patient Group Direction (PGD) in Lambeth, Southwark and Lewisham, London. **DESIGN:** The study comprised (a) a systematic analysis of written and oral data from pharmacists before and during training, and at 5 and 13-14 months after launch; (b) analysis of telephone calls to clinical support and (c) analysis of written pharmacy records. **SUBJECTS:** A total of 20/22 pharmacists in the first training cohort; 6/23 pharmacists who applied but were not accepted were also followed up. **RESULTS:** A formal course with role-play was a successful training method, and the course also served as a team-building exercise. Subsequent interviews demonstrated that pharmacists had understood the concept of client confidentiality and gained confidence over time in the use of the PGD. The on-call consultants received 152 calls in the first 12 months of the scheme. Over 80% of the calls concerned clinical criteria (notably including 22% that were queries about oral contraceptives). Frequency ranged from one to eight calls per week with 28% made at weekends. In over half (60%) of the calls the pharmacist was subsequently able to make a supply. Queries over client management resulted in several changes in the protocol. The primary expressed concern for all pharmacists at all time points was how clients might 'misuse' or 'abuse' the service, and this remained a concern despite the fact that it also applies to other routes of supply of POEC. However, the PGD cohort was more positive on local benefits than pharmacists who were not selected. **CONCLUSIONS:** Training and support have enabled this often-underused group of professionals to participate in an extended reproductive health service. Mobile phones are an essential support tool.
False risk attribution results in misleading assessment of the relationship between suppression of ovulation and the effectiveness of the Yuzpe regimen for emergency contraception.


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Ectopic pregnancies following emergency levonorgestrel contraception.


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There are little or no data on the risk of ectopic pregnancy following levonorgestrel treatment as an emergency contraception. We encountered three cases of ectopic pregnancy following the use of levonorgestrel administered peri- or postovulation. Here we report these cases and discuss the clinical and epidemiologic implications of this association. Health providers should be alert to the possibility of an ectopic pregnancy in women who become pregnant or complain of lower abdominal pain after taking levonorgestrel.
Adolescents accessing emergency contraception in the A&E department - a feminist analysis of the nursing experience.


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This paper outlines the findings and discussion of a qualitative research study that focused on the experiences of seven qualified nurses working in three Accident and Emergency (A&E) departments in the North West of England. It was exploratory in nature, aiming to describe and explain the nurses' encounters with adolescents accessing emergency contraception (EC) in A&E. The study was carried out using a feminist methodology and a grounded theory method. The findings indicated that accident and emergency is a contradictory location for access to EC for adolescents, where the 'promise' of easy, confidential access contrasts sharply with the nurse's description of reality. The nurse's role is similarly contrasting, where their ideal is counter balanced by organisational limits, and is further shaped by both personal and professional guiding philosophies. The nurse's perceptions of the adolescents revealed the contradiction of both sympathetic and judgmental attitudes towards them, including an 'interpretation' of the reasons the adolescents gave for their attendance. These encounters led to a series of health, legal, and moral dilemmas for the nurses, and a strategy of referral of the adolescents to other agencies was used by them whenever possible.

Multicenter Study
Estimating the effectiveness of emergency contraceptive pills.


We use new estimates of conception probabilities by cycle day of intercourse, where cycle day is measured with day 1 being the first day of bleeding in a cycle, to propose a new approach for estimating the effectiveness of emergency contraceptive pills (ECPs). We use this new approach to examine the absolute effectiveness and the cost-effectiveness of ECPs and whether ECPs are more effective the sooner after unprotected intercourse they are initiated. Using the new set of conception probabilities, we employ data from two recent clinical trials of ECPs, one from the Population Council and the other from the World Health Organization (WHO), to examine the effectiveness of the combined ECP regimen. The expected pregnancy rate among typical users was 6.2% in the Population Council trial and 7.4% in the WHO trial based on conception probabilities by cycle day relative to the day of ovulation. Based on conception probabilities by cycle day relative to the first day of bleeding, the expected pregnancy rates dropped to 5.4% and 5.2%, respectively. The two trials yield conflicting evidence regarding whether effectiveness declines with treatment delay. Our results suggest that the absolute levels of effectiveness for the Yuzpe regimen of emergency contraception and the cost-effectiveness of this regimen have probably been overstated when based on conception probabilities by cycle day relative to day of ovulation.
Expanding access to emergency contraception: the case of Brazil and Colombia.


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Emergency contraception was proven effective nearly 30 years ago yet remains greatly under-utilised. In the Latin American and Caribbean region, it would serve the goals of reducing unwanted pregnancy, unsafe abortion and related morbidity, and as a back-up to condom use and a bridge to longer-term contraceptive methods if made more widely known and available. The International Planned Parenthood Federation Western Hemisphere Region has developed a model for the integration of emergency contraception into sexual and reproductive health care services. This model is being tested in a two-year project with national affiliates in Brazil, Chile, Colombia, the Dominican Republic and Venezuela, and will contribute to the work of the Latin American Consortium for Emergency Contraception. Case studies of Brazil and Colombia describe how health sector reforms, e.g. decentralisation and managed competition among health insurers and service providers, have influenced promotion strategies. The experience of Profamilia Colombia with registration of a dedicated product and providing emergency contraception within its national network of clinics, with a focus on staff training and work with young people, is described. In Brazil, BEMFAM's study of different modalities for offering emergency contraception, e.g. through contractual agreements with municipalities and its own clinics, is highlighted.
Emergency contraception and stroke.


Hamandi K, Scolding J.

Comment; Letter
Commentary on repeat emergency contraception.

Contraception. 2003 May;67(5):421.

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Postcoital treatment with levonorgestrel does not disrupt postfertilization events in the rat.


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Levonorgestrel (LNG), a progestin widely used for regular hormonal contraception, is also used for emergency contraception (EC) to prevent pregnancy after unprotected intercourse. However, its mode of action in EC is only partially understood. One unresolved question is whether or not EC prevents pregnancy by interfering with postfertilization events. Here, we report the effects of acute treatment with LNG upon ovulation, fertilization and implantation in the rat. LNG inhibited ovulation totally or partially, depending on the timing of treatment and/or total dose administered, whereas it had no effect on fertilization or implantation when it was administered shortly before or after mating, or before implantation. It is concluded that acute postcoital administration of LNG at doses several-fold higher than those used for EC in women, which are able to inhibit ovulation, had no postfertilization effect that impairs fertility in the rat.
Evaluation of an emergency contraception advance provision service.


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Timely access to emergency contraception (EC) could increase use when needed, and potentially lead to improved efficacy. We evaluated an advance provision service in the UK. Women were supportive of the service. They indicated that having EC on hand would not change their regular contraceptive use, and supported wider dissemination of information on the service, particularly to younger women. Although some women were supportive of further deregulation of EC, many cited fear of "abuse" or health risks of EC as reasons for strict control. We conclude that advance provision services increase access to EC and are particularly important where EC is not yet available from pharmacists. Providers and women need accurate information on the safety of EC. Uptake of advance provision services could be improved by providing subsidized or free EC to those who cannot pay, and by targeting information to younger women.
Exposure to emergency contraception in an undergraduate medical curriculum.


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OBJECTIVES: To determine senior medical students' exposure to lectures and clinical experiences on emergency contraception (EC). METHODS: Ninety third-year medical students at the University of Western Ontario (UWO) were surveyed at the end of a year of clinical clerkship. The survey assessed exposure to contraception, EC, and other reproductive health experiences over the preceding 3 years of medical training, as well as personal opinions about the availability of family planning services. Survey data were analyzed using Statistical Package for the Social Sciences (SPSS 10.0) software. RESULTS: Seventy-three medical students (47% female) completed the questionnaire, giving a response rate of 81.1%. Classroom teaching of EC was reported by 71.2% of the cohort. Only 16.9% had counselled women about EC themselves; 33.8% had not been exposed to it at all in a clinical setting. A majority of students (92.5%) stated they would provide services for contraception, but only 7.5% felt such issues were well addressed in the undergraduate medical program. CONCLUSION: Undergraduate medical trainees at UWO perceive that the subject of contraception in general and EC in particular are not well addressed.
Transvaginal ultrasonography in women receiving emergency contraception.


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OBJECTIVE: To determine whether transvaginal ultrasonography improves evaluation of conception time in women seeking emergency contraception. DESIGN: Prospective study. SETTING: Obstetrics and Gynecology Department, Siena University, Siena, Italy. PATIENT(S): One hundred sixty-three women seeking postcoital contraception. MAIN OUTCOME MEASURE(S): Data on menstrual history and time of unprotected intercourse were recorded. Ultrasonographic variables evaluated were ovarian follicle or corpus luteum diameter, endometrial echopattern and thickness, and peritoneal fluid volume. Expected pregnancy rates were calculated according to the probability of conception as estimated from Dixon's table of data, based solely on anamnestic data, or from endometrial or ovarian findings on transvaginal ultrasonography. RESULT(S): According to the menstrual history (cut-off level < 0.03) we expected to find 7.6 pregnancies (7.9 in the high-risk group and 0.31 in the low-risk group). According to transvaginal ultrasonography (at the same cut-off), we expected 11.2 pregnancies (0.3 in the low-risk group and 10.9 in the high-risk group). No more than 7 pregnancies were observed, all of which occurred in the high-risk group as determined by transvaginal ultrasonography. In contrast, on the basis of anamnestic data, 4 of 7 pregnancies were in the high-risk group and 3 of 7 were in the low-risk group. CONCLUSION(S): Transvaginal ultrasonography allows timely definition of the fertile period and is a reliable method of computing the day of ovulation. It improves therapeutic options by allowing treatment of only women at high risk of conception.
Some problems on populizing emergency contraception in clinic [Article in Chinese]


Cheng LN.

EDITORIAL
Effects of mifepristone of different doses on emergency contraception, a randomized double-blind study. [Article in Chinese]


OBJECTIVE: To compare the effects of mifepristone of different doses on emergency contraception. METHODS: 3,052 healthy women with regular menstrual cycle who visited the 10 family planning institutes and hospitals in Beijing, Shanghai, Shandong, Sichuan, Tianjin, Guangdong, and Liaoning for emergency contraception within the period of 120 hours after a single act of unprotected sex were given a single dose of 10 mg or 25 mg mifepristone randomly and double-blindedly. They were asked to record the vaginal hemorrhage that would occur and not to have unprotected sex until the next menstrual onset when they were followed up. The trial for a specific subject ended when she menstruated. If the menstruation was irregular or a specific subject failed to menstruate on time a blood or urine human chorionic gonadotropin (hCG) test was made. If the hCG test was negative, an appointment was made to follow up once one week later. If the hCG test was positive ultrasound examination was made to detect pregnancy. If the subject still failed to menstruate and the hCG test was still negative follow-up for this subject could be finished. RESULTS: Twenty-two of the 3,052 subjects were lost to follow up. Among the remaining 3,030 women 1,516 were in the 10 mg group and 1,514 in the 25 mg group. Seventeen pregnancies occurred in each group, with a pregnancy rate of 1.1% for both groups. The relative risk of pregnancy of treatment of 25 mg mifepristone in comparison with treatment of 10 mg mifepristone was 1.0 (95% CI: 0.51-1.95). Both doses prevented about 85% approximately 86% of the anticipated pregnancy if no measure had been adopted. The pregnancy rate nearly doubled in the women who had unprotected sex after treatment of mifepristone. The efficacy of mifepristone decreased along with the delay of mifepristone administration. Side effects were uncommon and mild. Delay of 7 days or more in the onset of next menstruation occurred in 9%-10% of the women. CONCLUSION: Mifepristone of the dose of 10 mg is safe and effective for emergency contraception. Earlier administration is preferable, although the method can be used effectively up to five days after the unprotected sex.

CLINICAL TRIAL; RANDOMIZED CONTROLLED TRIAL
Emergency contraception for prevention of adolescent pregnancy.


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Adolescent pregnancy remains a significant problem in the United States today, despite availability of effective contraceptive methods. Not all sexually active adolescents use contraception, and even those who do use contraception sometimes use it incorrectly. Emergency contraception, which refers to methods of pregnancy prevention used after unprotected intercourse, has the potential to prevent most unplanned adolescent pregnancies. Emergency contraceptive pills (ECP) containing estrogen and progestin or progestin alone are more than 75% effective when the first dose is taken within 72 hours after unprotected sex and the second dose is taken 12 hours later. However, barriers to accessing ECPs include lack of knowledge of the method, fear of loss of privacy, difficulties in finding a provider, and cost. Another barrier is that controversy exists about the mechanisms of action of emergency contraception about its role in pregnancy prevention. As a result, some nurses are not comfortable with suggesting emergency contraception to their patients. Nurses can play a critical role in providing ECPs to adolescents by developing programs to streamline distribution of ECPs, while maintaining adolescent privacy. Other essential roles for nurses include providing education about ECPs to parents, other healthcare providers and community members, and advocating for political and legal changes that will ease restrictions on ECP distribution. Nurses who are personally uncomfortable discussing emergency contraception can refer their patients to other providers for information and access to this method.
Emergency contraception: models to increase accessibility.


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Much of the recent focus on emergency contraception (EC) has been on the need to increase the availability of EC without a prescription. Barriers to the wider accessibility of EC include the need to use the medication within a 72-hour window, cost, and knowledge about its availability. Concerns about the non-prescription accessibility of EC include missing the opportunity to see a physician, possible reduced use of barrier contraceptives and the resulting increase in sexually transmitted infections, and overuse of EC and underuse of regular contraception. As the wider availability of EC is a reality, and pressure to further increase its access is growing, it is timely that issues surrounding accessibility of EC be discussed. This paper explores the issues around making EC more accessible and the various models of obtaining EC, namely, prescription medication, pharmacist-physician collaboration, pharmacist-dispensed medication, schedule II (behind the counter) medication, or on-the-shelf medication. The ideal model will be the one that provides improved accessibility for adolescents, other low-income women, and indeed for all women. Increased accessibility of EC should also lead to cost savings for the health-care system because of fewer unwanted pregnancies.
Emergency contraception pills (ECPs): current trends in United States college health centers.


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Access to emergency contraception pills (ECPs) could drastically reduce the high rates of unintended pregnancies in college women. In spring 2001, a survey was distributed to 139 US college health centers to assess availability of ECPs. Those that prescribed ECPs provided additional information about health center distribution policies and procedures, provider practice patterns, advertising and staff attitudes. Those that did not offer ECPs were asked to state reasons for not providing this service and whether FDA approval of dedicated emergency contraception products might promote availability. The majority of campuses (66.9%) prescribe ECPs; however, many barriers exist to access. Campuses not prescribing ECPs cited moral conviction (56.5%) as a main reason for not providing this service. Staff and administration attitudes appear to play a major role in whether campuses make ECPs available to their students. Despite recent advances leading to increased availability of ECPs among college health centers, a number of campuses still do not prescribe ECPs.
Extending the time limit for starting the Yuzpe regimen of emergency contraception to 120 hours.


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Current protocols state that the Yuzpe regimen of emergency contraception can be initiated up to 72 hours after unprotected intercourse. The purpose of this study was to determine whether the window for emergency hormonal contraception can be extended to 120 hours. In an observational study, we tracked 111 women who requested emergency contraception between 72 and 120 hours after unprotected sex but refused postcoital copper intrauterine devices (IUDs), preferring instead the Yuzpe regimen. We compared failure rates for this group with rates among 675 otherwise similar women who started the same therapy within 72 hours. Both perfect use (1.9%) and typical use (3.6%) failure rates were low among women presenting between 72 and 120 hours after unprotected intercourse. These rates did not statistically differ from failure rates for the standard Yuzpe regimen (2.0% during perfect use and 2.5% during typical use). Our small sample size of 111, however, gave us just 25% power to detect a doubling in the failure rates (2% to 4%) and 59% power to detect a tripling in the failure rates (2% to 6%). The 72-hour cutoff for the Yuzpe regimen of emergency contraception appears needlessly restrictive. Women who request this therapy more than 72 hours after unprotected sex should be allowed to receive it, particularly if they decline postcoital insertion of a copper IUD and would otherwise have no options for reducing pregnancy risk.
Modifying the Yuzpe regimen of emergency contraception: a multicenter randomized controlled trial.


Emergency contraceptives can prevent unintended pregnancy after unprotected intercourse. The best-studied regimen ("Yuzpe") consists of ordinary combined oral contraceptives containing levonorgestrel and ethinyl estradiol. Women traditionally take one dose within 72 hours after unprotected intercourse, and a second dose 12 hours later. Historically, half experience nausea and a fifth vomit. The purpose of this study was to determine whether 1) women could use combined oral contraceptives other than those containing levonorgestrel and 2) eliminating the second dose improves comfort and convenience.Women presenting within 72 hours after unprotected intercourse were randomized to receive 1) standard two-dose Yuzpe, 2) a variant of Yuzpe substituting norethindrone for levonorgestrel, or 3) only the first dose of Yuzpe, followed 12 hours later by a placebo.Perfect-use failure rates were low in all groups and did not differ in a statistically significant way (standard Yuzpe 2.0% [n = 589], norethindrone-ethinyl estradiol 2.7% [n = 547], single dose of Yuzpe 2.9% [n = 546]). Typical-use failure rates were slightly higher but similarly did not differ significantly. Side effects were similar across groups, except that women taking the single dose reported half the vomiting. Taking the pills with food did not seem to reduce nausea or vomiting, and the pills were not more effective when started sooner after unprotected intercourse.Oral contraceptives containing norethindrone-ethinyl estradiol work approximately as well for emergency contraception as levonorgestrel-ethinyl estradiol formulations and should be offered when first-line therapies are not available.
Knowledge and perception of emergency contraception among female Nigerian undergraduates.


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CONTEXT: The reproductive health hazards of unintended pregnancies and unsafe abortions are well documented. The potential of emergency contraceptives to prevent unwanted pregnancy in developed countries has been described, but in Nigeria, the awareness about the method is poor and no study has looked at efficacy. METHODS: Between September and October 2001, a randomly selected sample of female undergraduate students at the University of Benin, Nigeria, were surveyed about their demographic information, sexual history and contraceptive use, and their awareness and knowledge of emergency contraception. RESULTS: Of the 880 respondents, 43% were sexually active, 39% had ever practiced contraception and 34% had ever had an induced abortion. Overall, 58% of respondents reported knowing about emergency contraception; sexually active respondents were significantly more likely than those who were not and those who had ever practiced contraception were more likely than those who had not to be aware of emergency contraceptives. However, only 18% of respondents who reported knowing about emergency contraception knew the correct time frame in which emergency contraceptives must be used to be effective. CONCLUSION: There is an urgent need to educate Nigerian young people about emergency contraception, emphasizing available methods and correct timing of use.
Emergency contraception: knowledge, attitude, and practices among health care providers in North India.


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AIMS: The present study was conducted to assess knowledge, attitude, and practice of emergency contraception in health care providers and users in North India. METHODS: A survey was carried out with the help of a predesigned questionnaire comprising of two groups of clients (abortion seekers at Family Welfare center, and non-medical college students (prospective clients)); and 4 groups of health care providers (gynecologists, general practitioners, paramedical workers, and medical students). RESULTS: Practically none of the clients were familiar with the concept of emergency contraception and so the rest of the information could not be obtained from them and hence this was excluded from further analysis. Many providers (84.8% gynecologists, 41.0% general practitioners, 2.7% paramedical workers, and 64.4% medical students) were vaguely familiar with the concept of emergency contraception, very few knew accurately about timing and doses. The majority of these thought it to be an essential component of contraceptive services but preferred distribution through health care providers only. The practice of emergency contraception as reported in the present survey was inconsistent. Yuzpe regimen was the most commonly used method and nausea/vomiting were the commonest side-effects. The question of efficacy of emergency contraception was not answered reliably by the health care providers. CONCLUSIONS: Awareness about emergency contraception among the general population and paramedical workers studied is practically nonexistent. Precise knowledge about emergency contraception among doctors (both gynecologists and general practitioners) is also inadequate. Prescription practices can improve by generating demand and training of health care providers.
Uncertainty in estimating the day of ovulation causes overestimation of the role of ovulation disturbance on the effectiveness of the Yuzpe method of emergency contraception.


COMMENT; LETTER
"Actual use" study of emergency contraceptive pills provided in a simulated over-the-counter manner.


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OBJECTIVE: To evaluate use of an emergency contraceptive pill product dispensed under simulated over-the-counter conditions. Secondary objectives were to assess repeat use, pregnancy, and adverse events. METHODS: The study was conducted at family planning clinics and pharmacies in the United States. During enrollment, these facilities did not provide unsolicited counseling about or evaluations for emergency contraceptive pills. Women who requested emergency contraception were asked to examine a package that was modified for over-the-counter use. A package (levonorgestrel, two 0.75-mg tablets) was provided to each woman who met study criteria and indicated that she wished to receive one. Each subject paid the amount normally charged by the facility for emergency contraceptive pills. Subjects were contacted 1 and 4 weeks later and asked about use of the product, side effects, and pregnancy. RESULTS: Of 665 women screened for the study, 585 received at least one package, and 540 reported having used the product. Of classifiable first uses, 1.3% (97.5% confidence interval [CI] 0.5%, 3%) were contraindicated and 28% (97.5% CI 23%, 32%) were incorrect by strict primary definitions of these inappropriate use patterns, based on the label instructions. Only 6.6% (97.5% CI 4.3%, 9.5%) of classifiable first uses were incorrect by a reasonable alternate definition. Ten subjects received the product more than once, and ten were found to be pregnant during the study. The pattern of adverse events was consistent with findings of previous studies. CONCLUSION: Most women used emergency contraceptive pills appropriately without provider evaluation and counseling.
Advance supply of emergency contraception. effect on use and usual contraception--a randomized trial.


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OBJECTIVE: To evaluate whether advance provision of emergency contraception increases its use and/or adversely affects usual contraceptive practices. METHODS: We performed a randomized controlled trial comparing advance provision of emergency contraception with usual care in 370 postpartum women from an inner-city public hospital. Participants were followed for 1 year; 85% were available for at least one follow-up session. All participants received routine contraceptive education. The intervention group received a supply of emergency contraception (eight oral contraceptive pills containing 0.15 mg of levonorgestrel and 30 microg of ethinyl estradiol) and a 5-minute educational session. We compared use of emergency contraception and changes in contraceptive behaviors between groups. RESULTS: Women provided with pills were four times as likely to have used emergency contraception as women in the control group over the course of the year (17% versus 4%; relative risk [RR] 4.0; 95% confidence interval [CI] 1.8, 9.0). Women were no more likely to have changed to a less effective method of birth control (30% versus 33%; RR 0.92; 95% CI 0.63, 1.3), or to be using contraception less consistently (18% versus 25%; RR 0.74; 95% CI 0.45, 1.2). About half of each group reported at least one episode of unprotected intercourse during follow-up, but women who received emergency contraception were six times as likely to have used it (25% versus 4%; RR 5.8; 95% CI 2.1, 16.4). CONCLUSION: Advance provision of emergency contraception significantly increased use without adversely affecting use of routine contraception. It is safe and appropriate to provide emergency contraception to all postpartum women before discharge from the hospital.

CLINICAL TRIAL; RANDOMIZED CONTROLLED TRIAL
Emergency contraception. the right questions?


Raine T.

COMMENT; EDITORIAL
Metoclopramide reduces nausea from emergency contraception.


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COMMENT
Investigating the knowledge, attitude and its relationship with the mean of using emergency contraception.


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The aim of this study was to investigate women’s knowledge about and attitude toward emergency contraception (EC) in women who referred to health centers of Tehran University of Medical Science. The subjects in this study consisted of 250 married women of fertility age who had been selected randomly and interviewed by the researcher. The majority of the subjects had not used EC. Just 5.2% (13 women) had used this method and 8.31% had knowledge and information about EC. There was a significant correlation between knowledge about and use of this method (p = 0.0001). Although the users of this method were more knowledgeable about EC than nonusers, a majority of subjects (76.57%) had a positive attitude toward EC; however, there was not a significant correlation between positive attitude and use of EC (p = 0.184).
Improving young people's access to emergency contraception.


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A lack of knowledge about contraception, poor access to contraceptive services and alcohol use are all contributory factors to the UK's high teenage pregnancy rate. Improving young people's access to emergency contraception is one intervention that could have a positive impact on reducing this statistic.

REVIEW; REVIEW LITERATURE
Bringing emergency contraception over the counter: experiences of nonprescription users in France, Norway, Sweden and Portugal.


Emergency contraceptive pills are now available on a nonprescription basis in over 25 countries worldwide. In an effort to learn about women's experiences with this new means of emergency contraception (EC) service delivery, we conducted focus-group discussions with nonprescription EC users from France, Norway, Portugal and Sweden. Participants from these countries overwhelming supported pharmacy access to EC, explaining that pharmacy delivery facilitated rapid access to the method. Despite expressing mixed reviews of the counseling given by the providing pharmacists, participants reported that they knew how use the method safely and properly. Most indicated that the package insert was easy to understand and adequately answered the majority of their questions. Participants described the EC experience as a motivating factor that, in many cases, has led to more consistent use of regular contraceptive methods. These data are valuable to policy-makers and institutions interested in learning more about the safety and acceptability of nonprescription access to emergency contraceptive pills.
Emergency contraception. [Article in English, French]


OBJECTIVE: To review current knowledge about emergency contraception (EC), including available options, their modes of action, efficacy, safety, and the effective provision of EC within a practice setting. OPTIONS: The combined estradiol-levonorgestrel (Yuzpe regimen) and the levonorgestrel-only regimen, as well as post-coital copper intrauterine devices, are reviewed. OUTCOMES: Efficacy in terms of reduction in risk of pregnancy, safety, and side effects of methods for EC and the effect of the means of access to EC on its appropriate use and the use of consistent contraception. EVIDENCE: MEDLINE and the Cochrane Database were searched for English-language articles published from January 1998 through March 2003, to update the previous SOGC guidelines published in 2000. Clinical guidelines and position papers developed by health or family planning organizations were also reviewed. Key words used were: emergency contraception, post-coital contraception, emergency contraceptive pills, postcoital copper IUD. VALUES: The studies reviewed were classified according to criteria described by the Canadian Task Force on the Periodic Health Exam and the recommendations for practice were ranked based on this classification. BENEFITS, HARMs, AND COSTS: These guidelines are intended to help reduce unintended pregnancies by increasing awareness and appropriate use of EC. RECOMMENDATIONS: 1. Women who have had unprotected intercourse and wish to prevent pregnancy should be offered hormonal EC up to 5 days after intercourse. (II-2A) 2. A copper IUD can be used up to 7 days after intercourse in women who have no contraindications. (III-B) 3. Women should be advised that the levonorgestrel EC regimen is more effective and causes fewer side effects than the Yuzpe regimen. (I-A) 4. Either 1 double dose of the levonorgestrel EC regimen (1.5 mg) or the regular 2-dose levonorgestrel regimen (0.75 mg each dose) may be used, as they have similar efficacy with no difference in side effects. (I-A) 5. Hormonal EC should be started as soon as possible after unprotected sexual intercourse. (II-2B) 6. Women of reproductive age should be provided with a prescription for hormonal EC in advance of need. (I-A) 7. The woman should be evaluated for pregnancy if menses have not begun within 21 days following EC treatment. (III-A) 8. A pelvic examination is not indicated for the provision of hormonal EC. (II-2A) Validation: These guidelines have been reviewed by the Clinical Practice Gynaecology and Social and Sexual Issues Committees of the Society of Obstetricians and Gynaecologists of Canada. Sponsor: The Society of Obstetricians and Gynaecologists of Canada.
Improve adolescents' access to emergency contraception.


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REVIEW; TUTORIAL
Emergency contraception and risk of ectopic pregnancy: is there need for extra vigilance?


Vinson DR.

LETTER
Women's knowledge and opinions of emergency contraception.


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Emergency contraception given via a patient group direction.

*Nurs Times. 2003 Aug 26-Sep 1;99(34):34-6.*

Walsh S. Victoria Clinic for Sexual Health, London.

The aim of this audit was to evaluate the effectiveness of a patient group direction (PGD) for nurses issuing the emergency contraceptive Levonelle-2 within a sexual health clinic. The PGD was designed to increase the accessibility of emergency contraception for women, not only minimising the time they needed to spend in the clinic, but also reducing the time at which the emergency contraception was taken after unprotected intercourse, which is an important factor in efficacy rates.
Patient autonomy versus religious freedom: should state legislatures require Catholic hospitals to provide emergency contraception to rape victims?


Skeeles HR.

Washington and Lee University School of Law, USA.
Health personnel perceptions about emergency contraception in primary health-care centers.


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OBJECTIVE: The aim of this study was to assess the knowledge, attitudes and practices regarding emergency contraception in primary health-care workers. METHODS: This survey was conducted among health-care personnel in 20 primary healthcare centers in Izmir. A self-administered questionnaire was completed by 190 health-care personnel (doctors, nurses and midwives). Specific questions regarding knowledge of emergency contraception were asked. RESULTS: In all, 22% of personnel had received specialized training in family planning. Of the respondents, 53.7% had heard of emergency contraception. General practitioners were much more well informed than other health personnel. CONCLUSION: Primary health-care personnel play a significant role in the provision of reproductive health care for women. There is a need to educate primary health-care personnel further about emergency contraception.
Why do university students use hormonal emergency contraception?


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OBJECTIVES: To establish why university students in Finland, who have easy access to well-affordable health services, still use hormonal emergency contraception. METHOD: All students who sought emergency contraception in the Tampere Student Health Station during the period from 1 September 2000 to 31 December 2001 received a questionnaire on their use of it. Of the total, 114 (67%) were returned. RESULTS: Two-thirds of respondents experienced condom failure, and the remainder used no contraception. In open answers, respondents gave many explanations as to why they had used no contraception, e.g. having been over-passionate or drunk. CONCLUSION: Finnish students use emergency contraception, but to no great extent. Our results indicate that service providers should pay attention to sexual health in the full sense but not omit to give detailed advice on condom use during counselling.
Awareness, prior use, and intent to use emergency contraception among Montana women at the time of pregnancy testing.


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OBJECTIVES: To identify factors associated with awareness of emergency contraception (EC), prior use of EC, and intent to use EC in the future among women at the time of pregnancy testing. METHODS: A convenience sample of women presenting for pregnancy testing and being found to be pregnant in 38 primary health care facilities completed a self-administered, anonymous questionnaire. Information regarding demography, pregnancy intentions, use of any contraception, awareness of EC, prior use of EC, and intent to use EC in the future was collected. RESULTS: Of the 583 women that completed the questionnaire, 62% were aware of EC, 4% had previously used EC, and 13% considered using EC in the future. Women aware of EC were more likely to be white, have ≥ 12 years of education, and report use of birth control prior to the current pregnancy. Younger women, those with < 12 years of education, and those not currently living with a partner were more likely to have previously used EC. Women who considered using EC in the future were more likely to be younger, non-white, have < 12 years of education, not currently living with a partner, and their usual source of care was a public clinic. Women who considered using EC in the future were also more likely to not want to be pregnant now or ever (21%) compared to women who wanted to be pregnant now or sooner (12%), or with those who were unsure of their current pregnancy (7%). CONCLUSION: Strategies need to be developed to increase the awareness of EC and determine the factors that would assist in enhancing its utilization.
Emergency contraception—clinical and ethical aspects.


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Emergency contraception (EC) consists of either 1.5 mg of levonorgestrel (LNG) in one or two doses, or a combination of LNG with ethinylestradiol, administered for up to 5 days after unprotected intercourse. Clinical studies indicate that LNG alone is more effective and has less side effects. Its effectiveness decreases the longer after coitus it is taken. EC is indicated when there is non-compliance or accidents with the use of regular methods of contraception, or when women have had voluntary or imposed unprotected intercourse. The ethics of providing EC has been questioned by some, arguing that it acts by preventing implantation. Scientific evidence does not support this concept, but shows that EC acts mostly before fertilization. Placing obstacles to the access of EC is unethical as it transgresses the ethical principles of autonomy, non-maleficence beneficence and justice. Far from inducing abortions, EC reduces unwanted pregnancies and prevents abortion.
Emergency contraception in France: the user profile [Article in French]


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OBJECTIVES: Emergency contraception pill (ECP) has recently become available in France without prescription since 1999. The aim of this study was to explore knowledge, attitudes toward, and use of ECP. PATIENTS AND METHODS: A national sample of 1639 women were interviewed by telephone randomly selected from the telephone directory. After sending a letter to each household to minimize the number of refusals, finally 397 eligible women aged 18-44 years accepted to answer. RESULTS: Seventy-one percent of women know ECP and 9% had ever used ECP. ECP users were younger, more often single, but no important difference was found with education level, religion and knowledge of ECP between users and non-users. Only 25% of the women knew the exact correct time for using it (within 72 h following an unprotected sex). ECP users had more sexual partners in their life (12 vs. 4, P < 0.05) and 27% vs. 8%, had a previous history of sexual transmitted disease (P < 0.01). ECP users had a different contraceptive profile than non-users; they used less effective methods but the frequency of contraception use was found to be higher. Finally, over 1 year, the percentage of potential ECP users can be estimated at 13% considering women who had reported problems with condom use, forgot their pill once or more. DISCUSSION AND CONCLUSION: ECP users are different from non-users, but all women are concerned and should receive increased education on ECP use. Making ECP more easily available in population may reduce the rate of unintended pregnancy.
This article presents the results of a study on the acceptability of emergency contraception (EC) in Brazil, Chile, and Mexico. Opinions of potential users and possible providers were obtained through discussion groups and those of authorities and policy-makers through semi-structured interviews. Most participants had a positive opinion of EC, based on the view that it can help reduce unplanned pregnancy, adolescent pregnancy, and unsafe abortion. Several interviewees felt that all women should be informed about EC, while others viewed it as a method for special situations such as rape and unprotected first sexual intercourse. Concern was expressed that its introduction might be associated with a decrease in condom use, increase in sexually transmitted diseases, and irresponsible or promiscuous sexual behavior among adolescents. The need for EC was clearly perceived by most participants, leading to the conclusion that health authorities have the responsibility of implementing programs for its introduction. Training of health care personnel should include the discussion of reproductive health problems that could be prevented by EC.
The impact of using emergency contraception on reproductive health outcomes: a retrospective review in an urban adolescent clinic.


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The effort to make emergency contraception (EC) more easily available has been challenged by concerns that prescribing EC may tempt adolescents to have unprotected intercourse, resulting in higher rates of pregnancy and sexually transmitted infections (STIs). This study examined differences in reproductive health history and outcomes among girls who were prescribed EC compared with those seeking other reproductive health care. In a retrospective chart review, the subjects (182 total: 92 EC, 90 control) were girls aged 13 to 21 years, 63% black and 31% white, in an urban, hospital-based adolescent outpatient clinic. Pregnancies, STIs, and visits for first pelvic examination and Pap smear were compared for the 12 months before the identifying visit (IDV) and for up to 2 years after the IDV (mean: 10.9 months +/- 8.2 months). Twenty-six subjects became pregnant with no significant difference between groups. Control subjects were found to have a higher incidence of chlamydia. Before the IDV, EC users were more likely than controls to have never had a pelvic examination (23% vs. 6%, P<0.002) or a Pap smear (24% vs. 6%, P<0.002). However, 80% of EC subjects who had never had a pelvic examination received one as a result of the initial visit and follow-up related to receiving EC. Using EC is not associated with increased risk for future STIs and pregnancy among adolescent girls. Requesting EC may initiate routine gynecologic care.
Sexual partners and use of emergency contraception.


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OBJECTIVE: This study investigates the role of male sexual partners and relationships in determining whether women seek emergency contraception (EC) when needed. STUDY DESIGN: Data on EC use from a clinic-based sample of sexually active women, aged 15 to 30 years, in the San Francisco Bay area (n=497) were analyzed with multivariate logistic regression analysis. RESULTS: Results show that factors measuring power dynamics, such as male dominant decision making (odds ratio [OR]=4.1, P=.035) and pressure for sex (OR=2.7, P=.006), as well as a strong desire to avoid pregnancy on the part of the male partner (OR=4.2, P <or=.001), have a significant association with the use of EC. However, relationship factors known to be associated with use of other contraceptive methods, such as communication, satisfaction, and commitment, show no association with EC use. CONCLUSION: Factors predicting EC use, including male partner and relationship factors, may not always be evident to a clinician, so it is important to include EC as part of routine counseling.
Pharmacists' knowledge and the difficulty of obtaining emergency contraception.


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This cross-sectional study was performed to examine knowledge and attitudes among pharmacists about emergency contraception (EC) and determine the factors associated with their provision of EC. A random systematic sampling method was used to obtain a sample (N = 320) of pharmacies in Pennsylvania. A "mystery shopper" telephone survey method was utilized. Only 35% of pharmacists stated that they would be able to fill a prescription for EC that day. Also, many community pharmacists do not have sufficient or accurate information about EC. In a logistic regression model, pharmacists' lack of information relates to the low proportion of pharmacists able to dispense it. In conclusion, access to EC from community pharmacists in Pennsylvania is severely limited. Interventions to improve timely access to EC involve increased education for pharmacists, as well as increased community request for these products as an incentive for pharmacists to stock them.
Praise for emergency contraception info.


Limoges M.

COMMENT; LETTER
Emergency prophylaxis following needle-stick injuries and sexual exposures: results from a survey comparing New York Emergency Department practitioners with their national colleagues.


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BACKGROUND: Emergency prophylaxis following needle-stick and sexual exposures includes HIV post-exposure prophylaxis, hepatitis B prophylaxis and emergency contraception. The Centers for Disease Control and Prevention endorse HIV post-exposure and hepatitis B prophylaxis for health care workers, and hepatitis B prophylaxis and emergency contraception after sexual assault. The New York State Department of Health advocates HIV post-exposure prophylaxis after sexual assault. This study compares emergency department practitioners in New York State (NYS) with those from other states in their willingness to offer emergency prophylaxis after needle-stick and sexual exposures, and their self-reported history of prescribing and using HIV post-exposure prophylaxis. METHODS: The authors surveyed emergency department practitioners from across the US at the American College of Emergency Physicians 2000 Scientific Assembly. The questionnaire included clinical scenarios describing different patients who present to the emergency department within one hour of a needle-stick injury, sexual assault or consensual sexual encounter, and had questions on the practitioners self-reported prescribing and usage of HIV post-exposure prophylaxis. For each scenario the practitioners were asked to indicate if they would offer emergency prophylaxis to different patients at varied HIV risk levels. The data were processed through SPSS 10.0. RESULTS: Of the 600 respondents, 100 were from NYS. In the clinical scenarios, NYS practitioners were more likely than other US practitioners to offer HIV post-exposure prophylaxis for exposures to unknown and low HIV risk sources (p<0.05) and to offer hepatitis B prophylaxis in most of the sexual exposure scenarios (p<0.01). All practitioners offered HIV post-exposure and hepatitis B prophylaxis less often after consensual sexual encounters than after sexual assault and needle-stick injuries. In most cases, NYS practitioners were more willing to offer emergency contraception after sexual assault and consensual sexual encounters than were other practitioners (p<0.05). In terms of self-reported prescribing of HIV post-exposure prophylaxis, NYS practitioners had prescribed HIV post-exposure prophylaxis after sexual assault (p<0.001) and non-health-care-worker needle-stick injuries (p<0.05) much more often than did other practitioners. CONCLUSIONS: Compared to their national colleagues, NYS emergency department practitioners were generally more willing to offer all forms of emergency prophylaxis after sexual assault. They also reported having had more experience than other practitioners in prescribing HIV post-exposure prophylaxis. Although most practitioners were clearly willing to offer HIV post-exposure prophylaxis for nonoccupational exposures, NYS practitioners were less willing to offer emergency prophylaxis following consensual sex than after sexual assault. These findings suggest that the NYS guidelines for HIV post-exposure prophylaxis after sexual assault may have influenced emergency practitioners willingness to offer and prescribe prophylaxis.
Clinical practice. Emergency contraception.


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CASE REPORTS
Levonorgestrel as an emergency contraceptive drug.


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The potential of low-dose levonorgestrel, alone or in combination with ethynylöestradiol (Yuzpe regimen), as emergency contraception is reviewed for its acceptability and effectiveness. Plasma levonorgestrel concentration ranges from 9-12 nmol/l at 12 hours with a peak of 27-33 nmol/l 2-2.5 hours after taking one 0.75 mg tablet. The concentration of steroid hormone binding globulins in plasma is not influenced by the presence of levonorgestrel during this period. The success rates for levonorgestrel-only and the Yuzpe regimen as emergency contraception are 85% and 57%, respectively, while the failure rates are 1.1% and 3.2%, respectively, within the prescribed time limit of use. The mode of action of levonorgestrel emergency contraception is to prevent or delay ovulation and/or alter the endometrium unfavourably the for implantation of an embryo. The use of emergency contraceptive pills within 72 hours after unprotected sexual intercourse reduces the risk of pregnancy by about 75% and is safe, with no serious side-effects.
Emergency contraception: pharmacy access in Albuquerque, New Mexico.


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OBJECTIVE: Emergency contraception could reduce the approximately 3 million unintended pregnancies that occur annually in the United States. Dedicated emergency contraception products may be particularly useful because instructions are easy to understand and simple to follow. However, they must be available within a few days to women who have had unprotected intercourse. The goal of this study was to investigate whether women presenting to pharmacies in a moderately sized metropolitan area with a prescription for Plan B or Preven could get it filled. METHODS: Two research assistants posed as women needing emergency contraception. They visited 89 pharmacies in Albuquerque, New Mexico, presenting a prescription for either Plan B or Preven. The assistants recorded the availability of the products in the pharmacies. When the product was not in stock, the research assistants asked pharmacy providers why the products were not carried. Fisher exact test was performed to compare categoric data. RESULTS: Plan B and Preven were in stock at only 19 visits (11%). Of the pharmacies that did not stock the products, 53% reported they could obtain Plan B or Preven within 24 hours. The most common reason cited by pharmacy providers for not stocking Plan B or Preven was the lack of prescriptions received for them (65%). CONCLUSION: Plan B and Preven were not in stock at the majority of pharmacies in a moderately sized metropolitan area. Lack of availability at the pharmacy constitutes a major barrier to emergency contraception access.
Levonorgestrel and mifepristone in emergency contraception.


Research on new technologies by the Special Programme of Research, Development and Research Training in Human Reproduction at WHO has led to the development of two new methods for emergency contraception, the levonorgestrel regimen and a low-dose mifepristone regimen. In 4 years, the levonorgestrel regimen has already been approved in some 95 countries. We review this research and present combined data from our multinational trials and combined estimates of efficacy for mifepristone and for levonorgestrel separately. Data were available for 6283 women in 10mg mifepristone groups and 4098 women in levonorgestrel groups. One of these studies compared the two methods, namely a randomized, double-blind trial in which we also investigated a single dose of 1.5mg of levonorgestrel. Both levonorgestrel and mifepristone are effective for emergency contraception and prevent a high percentage of pregnancies when used within a few days after coitus. Mifepristone is associated with later return of menses compared to levonorgestrel.
Mechanisms of action of emergency contraception.


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The use of levonorgestrel (LNG) alone or combined with ethinylestradiol (Yuzpe regimen), for hormonal emergency contraception (HEC) has been approved in several countries whereas in others it is still under debate or has been rejected under the claim that these formulations abort the developmental potential of the embryo. The issue is whether they act by preventing fertilization or by impeding the successful development of the zygote through and beyond implantation. Until now, published work has left this issue largely unresolved, and this paucity of knowledge sustains heated controversies in many settings. A single study indicates that LNG impairs sperm migration in the genital tract of women in ways that could interfere with fertilization. Several studies in women examined the effects of HEC on the outcome of the leading follicle, but lack of precision in the timing of treatment relative to follicular growth, maturation, or rupture confers great variability and inconsistency of results within and between studies. Nonetheless, results indicate that ovulatory dysfunction may account for the prevention of pregnancy in a large proportion of cases. Studies searching for possible alterations of the endometrium at the time implantation would normally take place, found minimal changes of doubtful significance. Recent studies in animals cast serious doubts that LNG prevents pregnancy by interfering with post-fertilization events. Failure to prevent expected pregnancies is close to 25% in women, and this is likely to be accounted for entirely by treatment given too late to prevent fertilization. The exact mode of action of HEC remains undetermined.
Miscommunication between healthcare providers and patients may result in unplanned pregnancies.


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Our objective was to examine the impact of prior healthcare provider counseling on previous use of contraception and knowledge of emergency contraception in women seeking surgical abortion. We performed a retrospective analysis of 342 patient charts from women seeking an office abortion in a private practice setting from January 1999 to June 2001. Data extracted included demographic information, primary method of contraception over the preceding few months, compliance with that method, contraceptive history, knowledge of emergency contraception and postabortion contraception. Patients were primarily white (69%) and unmarried (63%) and had private insurance that covered abortion services (72%). Only 19% of women were using a birth control method with no recognized potential failure. Twenty-two percent of women were using their birth control method correctly but experienced an event that put them at risk for pregnancy, 32% were using their birth control method incorrectly and 27% were using no birth control method at all. Miscommunication between patients and their healthcare provider(s) negatively affected use of a primary contraceptive method in 14% of patients. Of the 77% of women who did not know about emergency contraception, nearly two thirds had an identifiable event for which emergency contraception could have been used. Healthcare providers may contribute to the occurrence of unintended pregnancy if they provide poor medical advice or miscommunicate with patients.
The benefits and risks of over-the-counter availability of levonorgestrel emergency contraception.


Removing the prescription requirement for Plan B will help ensure that the product plays a larger role nationally in the reduction of unintended pregnancy and abortion-important public health goals. Over-the-counter (OTC) sale of Plan B should present no serious safety issues. OTC consumers are able to understand and follow the instructions for proper use of Plan B. Efficacy of the OTC product is likely to be the same as, or better than, the prescription product, given more timely access to treatment. Based on the results of a growing body of literature and foreign marketing experience, the risk of unintended health consequences also appears to be minimal. There is no evidence to suggest that American women will abuse Plan B as an OTC product.
Pharmacy provision of emergency contraception: the Ontario emergency contraception pilot project.


OBJECTIVES: To develop and evaluate a program to provide emergency contraception (EC) directly in pharmacies that would recruit and train pharmacists and physician partners, and inform women about the availability of EC in pharmacies. METHODS: Pharmacists and physicians working in the Scarborough, Rexdale, and North York regions of Toronto were recruited to receive a training program on EC. The pharmacists in each pharmacy were linked with a designated physician who retrospectively authorized prescriptions provided under the protocol. Client eligibility for EC was determined using a self-administered questionnaire that was reviewed by the pharmacist. A poster and radio campaign advertised the service, and a telephone hotline informed users of their nearest participating pharmacy. Data on the client's age, reasons for requesting EC, time elapsed from intercourse until presentation, and requests for follow-up referral were analyzed using descriptive methodology. User satisfaction was determined through a mail-back questionnaire. RESULTS: A total of 146 pharmacists practising in 40 pharmacies were linked with 34 physicians. In the 1 year of the project, 6931 prescriptions for EC were provided. Fifty-four percent of the women accessed EC within 24 hours of intercourse. The majority of women were very satisfied with the service, and 21.1% indicated that had they not obtained EC in this way, they would not have obtained it elsewhere. More information about birth control was desired by 10.2% of the women. CONCLUSION: Direct pharmacist provision of EC is an effective pregnancy-prevention strategy that is well accepted by the women who access it.
Access to emergency contraception.


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The merits of non-prescription distribution of levonorgestrel as emergency contraception (EC), which is effective within 72 hours of unprotected intercourse, are contentious. The advantage of promptness and convenience of access may be offset by the absence of medical counselling. Opposition to EC based on the possibility of the drug acting after fertilization but before implantation departs from standard medical criteria of pregnancy. Physicians who propose to apply non-medical criteria, and use religious objections to abortion to deny prescription of EC, must publicize their opposition in advance, so that women may seek assistance elsewhere. When objecting practitioners, or facilities, become responsible for women for whom EC is indicated, such as rape victims, they are bound ethically and legally to refer them to reasonably accessible non-objecting sources of care.
Acceptability of emergency contraception in Brazil, Chile, and Mexico. 2 - Facilitating factors versus obstacles.


Diaz S, Hardy E, Alvarado G, Ezcurra E. Instituto Chileno de Medicina Reproductiva, Santiago, Chile.

A multi-center study was performed in Brazil, Chile, and Mexico to identify factors that may facilitate or hinder the introduction of emergency contraception (EC) as well as perceptions concerning emergency contraceptive pills. Background information on the socio-cultural, political, and legal context and the characteristics of reproductive health services was collected. The opinions of potential users and providers were obtained through discussion groups, and those of authorities and policymakers through semi-structured interviews. Barriers to introduction included: perception of EC as an abortifacient, opposition by the Catholic Church, limited recognition of sexual and reproductive rights, limited sex education, and insensitivity to gender issues. Facilitating factors were: perception of EC as a method that would prevent abortion and pregnancy among adolescents and rape victims; interest in the method shown by potential users as well as by some providers and authorities. It appears possible to reduce barriers through support from segments of society committed to improving sexual and reproductive health and adequate training of health care providers.
Mifepristone for luteal phase contraception.


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The concept of luteal phase contraception and the use of mifepristone in clinical trials, which allows for testing of its validity, as well as clinical pharmacological research designed to understand its mode of action, are reviewed. Early luteal phase administration has a variety of morphological, physiological and biochemical effects on the endometrium that are likely to interfere with embryonic-endometrial interactions. In fact, specifically designed pilot clinical trials as well as data derived from emergency contraception studies indicate that early luteal phase administration of mifepristone is highly effective in preventing pregnancy, with minimal disturbance of hormonal parameters or menstrual cyclicity. Mid and late luteal phase administration of mifepristone at doses above 25 mg are highly effective in inducing endometrial bleeding in nonconceptional cycles. However, administration of mifepristone within the period between implantation and expected menses fails to induce bleeding in a significant proportion of cases, and furthermore the bleeding induced does not insure the termination of pregnancy. While the data suggest there is potential for a once-a-month contraceptive pill, it is likely that no molecule endowed with partial agonistic properties, like mifepristone, will completely and reliably suppress the essential functions of progesterone in order to achieve contraceptive efficacy comparable to that of modern contraceptive methods.
Luteal phase treatment with mifepristone and misoprostol for fertility regulation.

**Contraception. 2003 Dec;68(6):477-82.**

Xiao B, von Hertzen H, Zhao H, Piaggio G. National Research Institute for Family Planning, No. 12 Da Hui Si, 100081, People's Republic of, Beijing, China

Emergency contraception (EC) with 10 mg mifepristone can prevent pregnancy up to 5 days after a single act of unprotected intercourse. No methods have been shown to be effective when treatment is administered more than 5 days after a single unprotected act or after several unprotected acts. Therefore, we tested, among 699 Chinese women requesting EC and exposed to the risk of pregnancy described, the potential of 100 mg mifepristone followed 2 days later by 0.4 mg misoprostol orally, when administered in the luteal phase of the cycle. At the time of treatment urinary pregnancy test had to be negative. Despite treatment, 25 women (2.7%) became pregnant. Among women with treatment delayed more than 5 days, the pregnancy rate was related to the number of acts of intercourse before treatment, being 1.4% with one episode and increasing to 6.5% when the number of episodes was two or more (relative risk = 4.62, 95% CI: 1.06-20.18). Side effects within a week after treatment were mild, and most women (57.2%) had menstruation within 3 days as expected. An occasional treatment with mifepristone in combination with misoprostol could provide an option for preventing unwanted pregnancies in women who are late for EC.
Mechanisms of action of mifepristone when used for emergency contraception.


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An emergency contraceptive method is used after coitus but before pregnancy occurs. The use of emergency contraception is largely underutilized worldwide. Recently, treatment with 10 mg mifepristone as a single dose has emerged as one of the most effective hormonal methods for emergency contraception, with very low side effects. However, the mechanism of action of mifepristone in humans when used for contraceptive purposes and especially for emergency contraception remains largely unknown. The objective of this review is to summarize available data on the effect of mifepristone on female reproductive functions relevant to emergency use of the compound. Taken together, available data from studies in humans indicate that the contraceptive effect of mifepristone used as a single low dose for emergency contraception is mainly due to impairment of ovarian function, either by blocking or postponing the luteinizing hormone surge, rather than to inhibiting of implantation.
A multiparametric study of the action of mifepristone used in emergency contraception using the Rhesus monkey as a primate model.


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Mifepristone is a potent agent used in emergency contraception (EC). In the present study, we examined the contraceptive efficacy of mifepristone used in EC and then, using the model of mifepristone-based EC, we investigated its mechanism of action in the rhesus monkey. Sexually mature females were allowed to cohabitate with male animals from 1600 to 900 h of any one day of days 8-17 of cycle without (Group I; n = 6) and with a single dose of mifepristone (Group II, n = 31, 25 mg per animal, subcutaneous) 72 h postcoitus. Blood samples from all animals of Groups I and II were used to determine the concentrations of estradiol (E), progesterone (P) and chorionic gonadotrophin in peripheral circulation for retrospective analysis of the days of ovulation and blastocyst implantation. Four out of six animals (66.6%) in Group I became pregnant, while all 31 monkeys in Group II failed to establish pregnancy along with marginal changes in serum concentrations of E and P. In the second part of the study, animals were subjected to the same experimental protocol followed by collection of endometrial tissue samples on cycle day 22 from animals of both Group I (n = 6) and Group II (n = 24). Endometrial samples were subjected to morphological analysis including mitotic index, immunohistochemistry for vascular endothelial growth factor (VEGF), leukemia inhibitory factor (LIF), transforming growth factor beta1, estradiol receptor (ER), progesterone receptor (PR), proliferating cell nuclear antigen, placental protein 14 (PP 14) and detection of apoptosis by terminal nick end labeling method followed by histometric analysis. The results were retrospectively analyzed between the two groups on the basis of the day of treatment after ovulation: early luteal phase (days 0-3 postovulation) and mid-luteal phase (days 4-7 after ovulation). Mifepristone used in EC in the present study resulted in general loss of functional integrity of epithelial compartment characterized by loss of secretory maturation, increased apoptosis and higher degree of degeneration along with decreased expression of VEGF, LIF, PP14 and ER, while PR level increased as compared to control samples. The vascular compartment appeared to be compromised along with affected morphological features and decreased expression of VEGF, LIF, ER and PR following the administration of mifepristone. It appears that mifepristone used in EC alters the physiological homeostasis in epithelial and vascular compartments of implantation stage endometrium rendering it hostile to blastocyst implantation. Furthermore, the degree to which the endometrial function is affected largely depends on the day of mifepristone treatment in a parameter-specific manner resulting in a higher degree of degenerative changes in samples obtained from animals who received mifepristone during mid-luteal phase of cycles.
Meta-analyses of randomized trials comparing different doses of mifepristone in emergency contraception.


There is some evidence from randomized trials that different doses of mifepristone for emergency contraception do not differ in efficacy in the range from 10 mg to 600 mg. Lower doses have a better side effect profile and are cheaper and therefore they would be preferable in the absence of a dose effect. However, the lack of significance is not evidence of absence of an effect. More evidence can be obtained by combining results of trials. We present meta-analyses of randomized trials comparing doses of mifepristone for emergency contraception from 5 mg to 600 mg, with regard to the efficacy to prevent unwanted pregnancies. We use two approaches for analysis, one using only within-trial information and another one combining within-trial with between-trial information. We discuss the results in terms of equivalence. There is some evidence of a small dose effect on efficacy in the lower range of doses (<50 mg). The pregnancy rate increases by a factor of 1.6 when the dose of 10 mg is used instead of 25 mg (95% confidence interval: 1.1-2.4). In terms of the number of women needed to treat, however, using 10 mg in the place of 25 mg implies having one extra pregnancy every 146 women requesting emergency contraception, which might be a low cost compared to the benefit of more women having access to treatment.
Combined estimates of effectiveness of mifepristone 10 mg in emergency contraception.


The present paper combines the estimates of efficacy and side effects of 10 mg mifepristone for emergency contraception obtained from randomized trials. A total of 6083 women participating in 12 randomized trials and receiving 10 mg mifepristone for emergency contraception up to 120 h after intercourse, were analyzed for efficacy. Between 4188 and 5833 women were analyzed for side effects and 3601 for delay of menses of more than 7 days. Prevented fractions, the effect of delay and of further acts of intercourse after treatment administration were analyzed in 3440 women, using individual data. The combined pregnancy rate from all the 12 trials was 1.7% [101/6083, 95% confidence interval (CI): 1.3-2.2]. From the three trials providing individual data, the combined pregnancy rate was 1.3% (45/3440, 95% CI: 0.9-1.7) and the estimate of pregnancies prevented was 83.4% (95% CI: 77.4-87.8). There was a sharp decline in efficacy when treatment was administered during the 5th day after intercourse compared to administration during the 1st day, the odds of pregnancy increasing by a factor of 5.3 (95% CI: 1.9-14.9). The relative risk of pregnancy was about 28 times higher among women with unprotected acts of coitus between treatment administration and the onset of next menses, compared with women reporting none [odds ratio (OR) = 27.6, 95% CI: 12.7-60.2]. The increase in risk for women reporting protected acts of intercourse during this interval was not statistically significant (OR = 1.8, 95% CI: 0.9-3.8). There was a large heterogeneity among trials in all side effects and delay of menses of more than 7 days (all had p < 0.0001 for the test of homogeneity). The percentage of women with nausea ranged from 0.0-19.4% (highest upper 95% confidence limit: 23.0%), that of vomiting from 0.0-4.3% (highest upper 95% confidence limit: 6.1%), that of lower abdominal pain from 4.3-19.1% (highest upper 95% confidence limit: 22.7%). The percentage of women with delay of menses of more than 7 days ranged from 4.3-25.8% (highest upper 95% confidence limit: 34.1%). We conclude that 10 mg mifepristone is an effective emergency contraception regimen, with an acceptable side-effects profile. Postponing treatment until the 5th day seriously decreases efficacy. The risk of pregnancy is dramatically increased among women having unprotected acts of intercourse between treatment administration and the onset of next menses. This risk may be enhanced for women whose ovulation is postponed by treatment.
Expanded clinical trial of emergency contraception with 10 mg mifepristone.


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We conducted a clinical single-arm trial to evaluate the effectiveness of 10 mg mifepristone for emergency contraception (EC) in a large population in China. The participating centers were 31 family-planning clinics and hospitals in the following 19 provinces or municipalities in China: Beijing, Shanghai, Tianjin, Harbin, Changchun, Shenyang, Shijiazhuang, Zhengzhou, Taiyuan, Nanjing, Jinan, Hangzhou, Guangzhou, Wuhan, Changsha, Chongqing, Guiyang, Chengdu, Kunming. A total of 4945 women requesting EC within 120 h after a single act of unprotected intercourse were recruited and treated with 10 mg mifepristone. A total of 28 women were lost to follow-up, and 4917 women were included in the analysis, of whom, 69 became pregnant. The combined pregnancy rate was 1.4 [95% confidence interval (CI): 1.0-1.9] and the percentage of pregnancies prevented was 82.2% (95% CI: 77.5-86.2%). There was a significant inverse trend in pregnancy rate with body mass index that disappeared when adjusted for other variables. The pregnancy risk was double among nulliparous women compared to parous women (2.3% compared to 1.0%), and it increased by a factor of 1.5 when the treatment was administered at 25-48 h and at 49-72 h compared to administration within 24 h, although this association was not significant. The risk of pregnancy was higher if intercourse took place during the follicular or preovulatory phase of the cycle. Women having repeated intercourse after treatment without any contraceptive methods had a dramatic increase in the risk of pregnancy, while those who used contraceptives had similar risk to those without acts. Side effects were mild and present in only small proportions of women: nausea and vomiting in 9% and other side effects in 2-3%. Delay of menstruation of 7 days or more occurred in 6.5% of women. The expanded study confirmed the high efficacy and safety of 10 mg mifepristone for EC.
Pharmacokinetics of 10 mg of mifepristone.


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The results of several randomized studies have verified the efficacy of 10 mg mifepristone in emergency contraception. In the present study we characterized the pharmacokinetics of 10 mg mifepristone. Eight healthy female volunteers received a single oral dose of mifepristone on the day 10 or 11 of their menstrual cycle. Blood samples were collected at 0, 1, 2, 4 and 8 h, daily for the next 6 days and on day 10 after mifepristone. Mifepristone concentrations were determined by radioimmunoassay preceded by column chromatography. A peak level of 1.41 +/- 0.31 micromol/L (mean +/- SD) was measured at 1 h. Individual elimination phase half-lives varied from 15.3 to 26.8 h, the mean (+/- SD) value being 19.6 +/- 4.50 h. Serum mifepristone concentrations exceeded 10 nmol/L in all volunteers for an average of 4.9 days. The pharmacokinetic data on 10 mg mifepristone are in line with previous pharmacokinetic and clinical data, and encourage further development of the 10-mg dose in emergency contraception.
The pharmacokinetics of mifepristone in humans reveal insights into differential mechanisms of antiprogestin action.


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The pharmacokinetics of mifepristone is characterized by rapid absorption, a long half-life of 25-30 h, and high micromolar serum concentrations following ingestion of doses of >/=100 mg of the drug. The serum transport protein-alpha 1-acid glycoprotein (AAG)-regulates the serum kinetics of mifepristone in man. Binding to AAG limits the tissue availability of mifepristone, explaining its low volume of distribution and low metabolic clearance rate of 0.55 L/kg per day. In addition, the similar serum levels of mifepristone following ingestion of single doses exceeding 100 mg can be explained by saturation of the binding capacity of serum AAG. Mifepristone is extensively metabolized by demethylation and hydroxylation, the initial metabolic steps being catalyzed by the cytochrome P-450 enzyme CYP3A4. The three most proximal metabolites, namely, monodemethylated, didemethylated and hydroxylated metabolites of mifepristone, all retain considerable affinity toward human progesterone and glucocorticoid receptors. Also, the serum levels of these three metabolites are in ranges similar to those of the parent mifepristone. Thus, the combined pool of mifepristone-plus its metabolites-seems to be responsible for the biological actions of mifepristone. Recent clinical studies on pregnancy termination and emergency contraception have focused on optimization of the dose of mifepristone. In these studies it has become apparent that the doses efficient for pregnancy termination differ from those needed in emergency contraception-mifepristone is effective in emergency contraception at a dose of 10 mg, which results in linear pharmacokinetics. However, the >/=200 mg doses of mifepristone needed for optimal abortifacient effects of mifepristone result in saturation of serum AAG and thus nonlinear pharmacokinetics. In view of the pharmacokinetic data, it may be speculated that dosing of mifepristone for pregnancy termination and for emergency contraception could be reduced to approximately 100 mg and 2-5 mg, respectively. It remains to be seen whether the newly synthesized, more selective antiprogestins will prove more efficacious in the clinical arena.
Summary of evidence and research needs on the use of mifepristone in fertility regulation: consensus from the conference.


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The conference on the use of mifepristone to reduce unwanted pregnancy, sponsored by the World Health Organization, Concept Foundation and the Rockefeller Foundation, took place in Bellagio, Italy, between 24 and 28 September 2001. The objective of the conference was to review the scientific information and to evaluate the use of mifepristone for emergency contraception, luteal contraception and menstrual induction. Mifepristone is highly effective for emergency contraception but its advantages and disadvantages in comparison with levonorgestrel need to be further studied. Data indicate that mifepristone alone or in combination with misoprostol has potential for occasional use for women seeking help following repeated unprotected intercourse and/or when the interval between intercourse and treatment is more then 120 h. Administration of mifepristone immediately after ovulation seems to be an effective contraceptive method. However, before it can be used commonly, there is a need for a simple and inexpensive method to identify the right time in the cycle. Once-a-month treatment with mifepristone and misoprostol at the expected time of menstruation is not a practical method due to bleeding irregularities and timing of treatment. Menstrual induction with mifepristone and a suitable prostaglandin analogue is highly effective. A randomized comparison with manual vacuum aspiration is, however, needed before it can be recommended for routine use.
Estimating the efficacy of emergency contraception.

Mikolajczyk RT, Stanford JB.

COMMENT; LETTER.
Supplying emergency contraception via community pharmacies in the UK: reflections on the experiences of users and providers.


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This paper discusses findings from an evaluation of a scheme to provide free emergency hormonal contraception (EHC) via community pharmacies in the North-West of England. Drawing on interview data with pharmacists taking part in the scheme and focus groups with users, we tentatively suggest that the scheme was largely well received. The benefits of the service, cited by both pharmacists and users, included enhanced access to EHC, at times when it was needed, and at no cost to the user. In particular, users noted a welcome absence of judgmental attitudes when accessing the service. Pharmacists too were positive about the service, not least because they believed that it conferred enhanced professional status. However, both users and pharmacists had a number of major concerns about the schemes, centring on the potential for misuse, changes in contraceptive behaviour and the impact on sexually transmitted infections. We conclude that more research is needed to explore these issues.
Ectopic gestation following emergency contraception with levonorgestrel.


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Reports of ectopic gestation after failure of emergency contraceptive pills have thus far been rare, although the use of various types of emergency contraceptive pills is becoming more and more popular world-wide. We report two cases of ectopic gestation following failure of levonorgestrel as over-the-counter emergency contraceptive pills. The women personally purchased the pills over-the-counter at a drugstore and took them routinely. Clinicians should be aware of the possibility of an ectopic gestation when an emergency contraceptive pill fails. We recommend to women the full use of established service networks to enhance education and dissemination of information on emergency contraception. Additionally, health providers should advise women very clearly that, if treatment fails, pregnancy could occur, including ectopic gestation.

Case Reports
Observational study on the use of emergency contraception in Spain: results of a national survey.


Lete I, Cabero L, Alvarez D, Olle C. Gynecology Department, Santiago Apostol Hospital, Vitoria, Spain.

The Consensus Statement on Emergency Contraception recommends the collection of data within each country in order to facilitate the use of emergency contraception; this has led us to design a prospective observational study with a view to identifying the reality in Spain regarding emergency contraception. We have conducted a national observational study including 4390 cases of requests for the prescription of emergency contraception in the entire Spanish territory, collected by means of a questionnaire completed by the person prescribing the emergency contraception between April and December 2002. The mean age of the women requesting emergency contraception was 23 years, with 35.1% of these being adolescents and 71% of them under the age of 24 years. Of the applicants, 40% reported that they were students and 31.8% were working. The educational level of studies was medium or higher. Emergency contraception had previously been used by 19.8% of the women and, of these, 75% used it on a single occasion. The main reason put forward for requesting emergency contraception was condom breakage (68.7%), followed by the failure to use any contraceptive measures whatsoever (15.4%). The Spanish women requesting emergency contraception are young students and resort to this method on one occasion.

Multicenter Study
Adolescent mothers' utilization of contraceptive services in South Africa.


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BACKGROUND: In South Africa, contraceptives, as well as emergency contraceptives, are available free of charge. Since 1996, changed legislation has enabled women of all ages to choose whether they wish their pregnancies to be terminated during the first 12 weeks of pregnancy. Therefore, adolescent mothers, 19 years or younger at the time of their babies' birth, were investigated regarding why they failed to use contraceptive, emergency contraceptive or termination of pregnancy services. AIM: To explore the knowledge of young mothers regarding contraception. METHOD: An exploratory descriptive survey, utilizing questionnaires and convenience sampling. FINDINGS: The majority of the participating 250 adolescent mothers lacked knowledge about contraceptives, emergency contraceptives and termination of pregnancy services. Merely legalizing the termination of pregnancies, and providing free contraceptive and emergency contraceptive services, did not affect the utilization of these services by the 250 adolescent mothers investigated. CONCLUSION: Young mothers require more knowledge to enable them to make better informed decisions, and the services need to become more readily accessible and user friendly to adolescents. Reproductive health services provided specifically to adolescents could enhance the utilization of such services.

Issue Brief Health Policy Track Serv. 2003 Dec 31;1-8.

Rane S, Plaza CI.
Is emergency contraception going over-the-counter?


Woodson S.

Review, Tutorial
Towards consensus on good practice in the prescription of emergency contraception for young people.


Baraitser P. Department of Sexual and Reproductive Health, Southwark Primary Care Trust, St. Giles Hospital, St. Giles Road, London SE5 7RN, UK. paulab@smithg.demon.co.uk
Emergency contraception: latest changes.

**J Fam Plann Reprod Health Care. 2004 Jan;30(1):7-9.**

Webb AM.

Editorial
Contraceptive behaviour of teenagers requesting abortion.


Kozinszky Z, Bartai G. Department of Obstetrics and Gynecology, Faculty of General Medicine, University of Szeged, H-6725 Szeged, Hungary.

OBJECTIVE: To examine the contraceptive use of teenage girls requesting abortion. STUDY DESIGN: A questionnaire survey was made concerning contraceptive use, awareness and the attitude toward contraceptives. The Mantel-Haenszel test was applied to compare contraceptive determinants between teenagers (<20 years old) and older women. RESULTS: The use of reliable contraceptive methods was significantly less frequent among the teenagers than among the older counterparts, but this difference was much more significant (P<0.001) between those who requested abortion (OR=0.44) than between the controls (OR=0.51). The knowledge about emergency contraceptive pills was similarly significantly poorer between the teenagers in the abortion group (P<0.001) relative to the older women (OR=0.07) and the teenagers in the control group (OR=0.10). Financial means was not a significant determinant in the choice of contraceptives. CONCLUSION: To prevent unwanted pregnancy among teenagers, the media, the family, the school and health-care providers should focus on sexual education and information.
Emergency contraception: the journey so far.


Comment on BJOG. 2003 Apr: 110(4):339-45

Swarbrick R.

Comment
Letter
Emergency contraception: the journey so far.

BJOG. 2004 Jan;111(1):91

Comment on BJOG. 2003 Apr: 110(4):339-45

Haynes SV, Dufferidge TJ.

Comment
Letter
Emergency contraception: the journey so far.

BJOG. 2004 Jan;111(1):91

Comment on BJOG. 2003 Apr: 110(4):339-45

Gupta S.

Comment
Letter
Emergency contraception. Has over the counter availability reduced attendances at emergency departments?


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Legislation introduced in January 2001 has meant that progestogen only contraception is now available without prescription for women aged 16 years and over. Patient records of two emergency departments in the South East Thames region between 2000 and 2001 were reviewed and it was found that there was a 52% reduction in the number of women attending these emergency departments with requests for emergency contraception. These findings suggest that the legislation has meant that more women are getting their emergency contraception without prescription from pharmacies as compared with emergency departments.
Ectopic pregnancies following emergency levonorgestrel contraception.


Letters to editor on: Contraception. 2003 Apr;67(4):267-9

Harrison-Woolrych M.
Gainer E, Mery C, Ulmann A.
Sheffer-Mimouni g., Gamzu R.

Comment
Letter
Emergency contraception with levonorgestrel for teenagers--efficacy, tolerability, and level of information awareness

Kolarov G, Dimitrov A, Chernev T, Kamenov Z, Sirakov M, Nikolov A.

OBJECTIVE: Assessment of efficacy and side effects of emergency contraception for teenagers with levonorgestrel (LNG) and the level of users' informedness about possibilities and practical application. METHODS: The subjects are healthy girls (n = 49) with regular menstrual cycles at the age between 15 and 19, having had one unprotected or faultily protected sexual intercourse. All of them have administered 0.75 mg LNG within the 72nd hour, repeated after 12 hours. The data have been processed by variational analysis. RESULTS: One pregnancy was registered of a girl with firstintake at the 67th hour - pregnancy rate - 2.0%. The most frequent side effect was nausea - 26.5%, followed by breast tenderness - 22.4% and fatigue - 20.4%. An up to 7th day delay in menstrual cycle is non significantly more frequent - 14.3%, followed by a delay of more than 7 days breakthrough bleeding - 8.2%. No significant changes were established in the length of the menstrual cycle. Emergency contraception is sought for after unprotected sexual intercourse in 69.4%, and condom failure problems in 30.6%. Only 18.4% have sufficient information about the possibilities and practical use of emergency contraception. CONCLUSION: LNG provides effective, highly tolerable contraception with a small number of side effects. Need is felt for serious popularization of the application of emergency contraception with teenagers.
Minimum effectiveness of the levonorgestrel regimen of emergency contraception.


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The standard method for estimating the effectiveness of emergency contraceptive pills (ECPs) uses external data to calculate the proportion of expected pregnancies averted by the treatment. Because these data may not be applicable to ECP study populations, this approach could result in substantial overestimation of effectiveness. We used data from two published randomized trials of the levonorgestrel and Yuzpe ECP regimens to calculate the minimum effectiveness of the levonorgestrel regimen. Conservatively assuming that the Yuzpe regimen was entirely ineffective in these trials, we estimate that the levonorgestrel regimen prevented at least 49% of expected pregnancies (95% confidence interval: 17%, 69%). Because physiologic data suggests that the Yuzpe regimen does, in fact, have some efficacy, the effectiveness of the levonorgestrel regimen is likely to be higher than our minimum estimate.
Primary care physicians of all specialties should be familiar with prescribing emergency contraception (EC). We conducted a mail survey of 282 randomly sampled physicians in general internal medicine (31%), family medicine (34%) and obstetrics-gynecology (35%). Experience with prescribing EC significantly differed by specialty (63% of general internists, 76% of family physicians, and 94% of obstetrician-gynecologists, p < 0.0001). Controlling for year of graduation, gender, religion and practice location, family physicians [adjusted odds ratio (OR): 2.5, 95% confidence interval (CI): 1.2-5.2] and obstetrician-gynecologists (adjusted OR: 11.2, 95% CI: 4.0-31.3) were still significantly more likely to have ever prescribed EC than general internists. Efforts to increase awareness and knowledge of EC should be aimed at general internists since they provide primary care for many reproductive age women.
Fact sheet on "emergency contraception" and treatment of victims of sexual assault.


U.S. Bishops' Pro-Life Committee, USA.
Clinical study of emergency contraception with low-dose mifepristone


Clinical Research Team for Collaborative Research and Development on Mifepristone to Reduce Unwanted Pregnancies and Recourse to Abortion.

OBJECTIVE: To evaluate the effectiveness of 10mg mifepristone used for emergency contraception in a large population in China. A total of 4945 women was recruited in 31 clinical centers in 18 provinces and municipalities in China in a descriptive clinical trial with one dose treatment. METHOD: A single dose of 10 mg of mifepristone was given to women who has one episode of unprotected intercourse within 120 hours. RESULTS: There were 28 cases lost to follow-up. An analysis of 4917 cases showed a pregnancy rate of 1.4% (95% CI 1.1, 1.8) and an effectiveness of prevention of pregnancy 82.2% (95% CI 77.5, 86.2). No trend of increase of pregnancies with delay of treatment was found. Increase of risk of pregnancy in women who had unprotected intercourse after treatment is about 11.1 times higher. Other factors, such as age, body mass index, menstrual phases when unprotected intercourse occur and previous live birth also affect the risk of pregnancy. Side effects were mild and in small proportion of women, such as nausea and vomiting in 9.2% and other side effects in 0.7% approximately 3.7% of women. Delay of menstruation over 7 days occurred in 6.5% of women. CONCLUSIONS: The expanded study further confirmed the high efficacy of 10 mg mifepristone for emergency contraception. It is also safe and acceptable.

Clinical Trial

Multicenter Study
Emergency contraception with levonorgestrel for teenagers—efficacy, tolerability, and level of information awareness


[Article in Bulgarian]

Kolarov G, Dimitrov A, Chernev T, Kamenov Z, Sirakov M, Nikolov A.

OBJECTIVE: Assessment of efficacy and side effects of emergency contraception for teenagers with levonorgestrel (LNG) and the level of users' informedness about possibilities and practical application. METHODS: The subjects are healthy girls (n = 49) with regular menstrual cycles at the age between 15 and 19, having had one unprotected or faultily protected sexual intercourse. All of them have administered 0.75 mg LNG within the 72nd hour, repeated after 12 hours. The data have been processed by variational analysis. RESULTS: One pregnancy was registered of a girl with firstintake at the 67th hour - pregnancy rate - 2,0%. The most frequent side effect was nausea - 26,5%, followed by breast tenderness - 22,4% and fatigue - 20,4%. An up to 7th day delay in menstrual cycle is non significantly more frequent - 14,3%, followed by a delay of more than 7 days breakthrough bleeding - 8,2%. No significant changes were established in the lenght of the menstrual cycle. Emergency contraception is sought for after unprotected sexual intercourse in 69,4%, and condom failure problems in 30,6%. Only 18,4% have sufficient information about the possibilities and practical use of emergency contraception. CONCLUSION: LNG provides effective, highly tolerable contraception with a small number of side effects. Need is felt for serious popularization of the application of emergency contraception with teenagers.
Emergency contraception OTC.

Med Lett Drugs Ther. 2004 Feb 2;46(1175):10-1.

[No authors listed]

Serfaty D.


Dobrzykowski TM. Indiana University, South Bend, USA.

Review, Tutorial
Effect of hormonal emergency contraception on bleeding patterns.

Contraception. 2004 Feb;69(2):133-5.

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Spotting following the use of emergency contraception is not unusual, nor is anxiety in women waiting to see if the treatment has worked. It is not known whether such spotting should bring worry or relief. We, therefore, wished to see if there was any correlation between bleeding pattern and treatment outcome. Using data from a large multicenter efficacy trial, we examined bleeding patterns post-emergency contraception. The earlier in the cycle the pills were taken, the more likely the next bleed was to be early and the less likely it was to be on time. There was no observable difference in spotting rates between women who got pregnant and those who did not. The occurrence of spotting did not influence whether the next period was lighter or heavier.
Access to emergency contraception.


Bright H.

Comment

Letter
AWHONN urges approval of OTC emergency contraception.


[No authors listed]
Interventions for emergency contraception.


Cheng L, Gulmezoglu AM, Oel CJ, Piaggio G, Ezcurra E, Look PF.

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BACKGROUND: In emergency contraception a drug or IUD is used to prevent pregnancy shortly after unprotected intercourse. Except for some Western-European countries and China, emergency contraception is largely under-utilised worldwide. In many developing countries lack of access to emergency contraception may subject women to unsafe abortions, which contribute significantly to maternal mortality and morbidity. Currently, several interventions (IUD, the Yuzpe regimen, levonorgestrel, mifepristone, danazol and some combination regimens) are available for emergency contraception. Information on the comparative efficacy, safety and convenience of these methods is crucial for reproductive health care providers and the women they serve. OBJECTIVES: To determine which emergency contraceptive method following unprotected intercourse is the most effective, safe and convenient to prevent pregnancy. SEARCH STRATEGY: The search included the Cochrane Controlled Trials Register, Popline, MEDLINE, Chinese biomedical databases and UNDP/UNFPA/WHO/World Bank Special Programme on Human Reproduction (HRP) emergency contraception database (July 2003). Content experts and pharmaceutical companies were contacted. SELECTION CRITERIA: Randomised controlled trials and controlled clinical trials including women attending services for emergency contraception following a single act of unprotected intercourse were eligible. DATA COLLECTION AND ANALYSIS: Data on outcomes and trial characteristics were extracted in duplicate and independently by two reviewers. Quality assessment was also done by two reviewers independently. Meta-analysis results are expressed as relative risk (RR) using a fixed-effects model was applied. MAIN RESULTS: Forty-eight trials with 33110 women were included. Most trials were conducted in China (37/48). Levonorgestrel is more effective than the Yuzpe regimen in preventing pregnancy (2 trials, RR: 0.51; 95% CI: 0.31 to 0.83). Single dose (1.5 mg) administration seems to have similar effectiveness as the standard 12 hours apart split-dose (0.75 mg twice) of levonorgestrel (2 trials, RR: 0.77, 95% CI: 0.45 to 1.30). Levonorgestrel has similar effectiveness to mid-dose (8 trials, RR: 1.64; 95% CI: 0.82 to 3.25) or low-dose (7 trials, RR: 1.38; 95% CI: 0.93 to 2.05) mifepristone. Low-dose (<= 10 mg) mifepristone is similarly effective as mid doses (25-50 mg) when only high quality trials are considered. Delay in the onset of subsequent menses is the main unwanted effect of mifepristone and seems to be dose-related. The Yuzpe regimen can be used when levonorgestrel and mifepristone are not available. Half-dose Yuzpe with single administration is associated with fewer side-effects but it is not clear whether it is as effective as the standard Yuzpe regimen (RR: 1.41; 95% CI: 0.76 to 2.61). REVIEWERS’ CONCLUSIONS: Levonorgestrel 1.5 mg (two split doses or a single dose) and low and mid-doses (25-50 mg) of mifepristone offer high efficacy with an acceptable side-effect profile. Single dose simplifies the use of levonorgestrel for emergency contraception without an increase in side-effects. However, mifepristone might delay the following menstruation, which could increase anxiety, particularly in higher doses. The Yuzpe regimen could be used if levonorgestrel or mifepristone are not available. The intrauterine device (IUD) is another effective emergency contraceptive, and can be kept for ongoing contraception.
A national study examining the effect of making emergency hormonal contraception available without prescription.


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BACKGROUND: In January 2001, emergency hormonal contraception was made available for women over the age of 16 years directly from a pharmacist without prescription. It is of interest whether this change in the UK has led to any improvements or deterioration in the service provided for the women who need it. METHODS: Self-completed, anonymous questionnaires were distributed to women requesting emergency hormonal contraception through a single group of pharmacies located throughout England, Wales and Scotland. RESULTS: A total 419 women returned completed questionnaires. A greater proportion of women were able to take emergency contraception within 24 h when they obtained their tablets directly from a pharmacy without a prescription (64% versus 46%, P = 0.029). Women who obtained their drugs directly from the pharmacist were just as well informed, just as likely to arrange regular follow-up and generally preferred this system, although they disliked having to pay. CONCLUSION: Making emergency hormonal contraception available without prescription has improved services to women who need them, but these improvements are quantitatively minimal, preventing only five additional pregnancies per 10,000 users.
Recruitment strategies. Pharmacists' participation in an evaluation project to dispense emergency contraception.


Cockerill R, Cohen M, Dunn S, Brown T. University of Toronto.

The objective of this article was to describe the effectiveness of a multifocus recruitment strategy to a pilot project allowing direct provision of emergency contraception (EC) in a community pharmacy through collaborative agreements between pharmacists and physicians. The project recruited pharmacies through direct appeals to pharmacists, pharmacy managers and/or owners, and corporate pharmacy chains. The evaluation project was successful in recruiting sufficient numbers of pharmacies to warrant proceeding with the project. The most successful component of the recruitment strategy was reference to the opportunities that participation offered to expand the pharmacist's role in patient-focused care. The importance of peer influence was also noted in terms of encouraging pharmacy involvement.
Emergency contraception: What do our patients know?


Abbott J, Feldhaus KM, Houry D, Lowenstein SR.

Study objective Unintended pregnancy is a major medical, social, and public health problem. Emergency contraceptive pills can prevent 75% to 85% of unintended pregnancies if administered within 72 hours of intercourse. We perform this study to measure knowledge, attitudes, practices, and perceived needs about emergency contraception in a sample of women seeking emergency department (ED) care. METHODS: This was a prospective survey of women presenting to an inner-city ED during an 8-week study period. Women who were aged 18 to 45 years, English speaking, and not critically ill and who presented during 56 randomly generated 4-hour time blocks were eligible. Trained research assistants administered a 20-question survey that included questions on current sexual and contraceptive practices and knowledge, acceptance, and preferences about postcoital contraception. RESULTS: Two hundred thirty-two women met eligibility criteria; 158 (68%) women agreed to participate. Participants and nonparticipants were similar in age, race, ethnicity, and insurance status. The participants' mean age was 30 years. Twenty-five percent were married, whereas 49% had never married and 25% were separated or divorced. Fifty-two percent (95% confidence interval [CI] 44% to 60%) reported at least 1 previous unintended pregnancy; 28% (95% CI 21% to 35%) had 1 or more previous elective abortions. Of women who had been sexually active in the past month, half (47%) reported unprotected intercourse during that time. Among all respondents, 122 (77%; 95% CI 71% to 84%) had heard of emergency contraception as a way of preventing pregnancy after unprotected intercourse. Of these respondents, one fourth to one half did not have enough knowledge to use emergency contraceptive pills effectively. Fifty-seven percent of women were willing to use emergency contraceptive pills in the future, and 16 women said they would consider a change in regular contraception to emergency contraceptive pills if widely available. CONCLUSION: Sexually active women seeking ED care have high rates of unintended pregnancy and abortion. There is broad acceptance of emergency contraceptive pills to prevent pregnancy, but knowledge of availability, timing, and proper use is limited. Emergency contraceptive pills are a safe, effective, and low-cost primary preventive and emergency care intervention, and information about their use should be made available to ED patients. Patients should be advised not to abandon their use of barrier or other traditional contraceptives.
Failure of family-planning referral and high interest in advanced provision emergency contraception among women contacted for STD partner notification.


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BACKGROUND: Few data are available on the risk of unintended pregnancy in women with STD or how contraceptive services can be integrated into STD control activities. OBJECTIVE: To define the risk for unintended pregnancy and assess the effectiveness of family-planning (FP) referral and interest in advanced provision emergency contraception (APEC) among women with gonorrhea or chlamydial infection. METHODS: Female participants in a randomized trial of different approaches to partner notification were interviewed, offered referral for FP services and asked if they would want APEC. RESULTS: Among participants ages 14-24, the observed past pregnancy rate and age-adjusted anticipated past pregnancy rate were, respectively, 196 and 72 per 1000 women-years. Of 474 nonpregnant participants who did not desire pregnancy, 127 (34%) were using no contraception or condoms alone, of whom 8 (6%) requested a FP appointment and 81% wanted APEC. CONCLUSIONS: Women treated for STD are at high-risk for unintended pregnancy. Although referral for FP was ineffective, interest in APEC was very high.

Clinical Trial
Randomized Controlled Trial
The role of misconceptions on Latino women's acceptance of emergency contraceptive pills.


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The goal of this study was to assess factors associated with hormonal emergency contraception (EC) awareness and acceptability among a sample of low-income Latino women receiving care in two university reproductive health clinics. A total of 297 Latino women, 18-43 years of age, completed a survey about EC awareness during a clinic visit, between January and May 2003. Those women with some degree of awareness (n = 73) also completed questions related to their acceptance of EC. Factors examined included language preference, demographic characteristics, pregnancy history, contraceptive use history and knowledge and concerns about EC usage. We found that only 41% of English-speaking and 17% of Spanish-speaking women had ever heard of EC [adjusted odds ratio (OR) = 2.9, confidence interval (CI): 1.3, 6.4]. Among those aware of EC, unwillingness to use this method was associated with low levels of knowledge about the EC mechanism of action, but not about the EC regimen (adjusted OR = 0.5; CI: 0.3, 0.9). Specific misconceptions underlying their objections included the belief that women are more likely to get pregnant in the beginning of their cycle compared to the middle (unadjusted OR = 6.3; CI: 1.8, 22.6), and a belief that EC prevents implantation rather than ovulation (unadjusted OR = 5.7; CI: 1.2, 28.1). The extent to which the women considered EC to be morally wrong depended on their misconceptions about the EC mechanism, not on their religious background. The link between expressed moral concerns and incorrect knowledge coupled with its lack of association to religiosity suggests that enhanced education can help to alleviate moral objections, thereby increasing potential usage of EC to prevent unintended pregnancy.
Emergency contraception.


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**Contraceptive risk and compensatory behaviour in young people in education post-16 years: a cross-sectional study.**


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OBJECTIVES: To describe contraceptive risk and compensatory behaviour, using condoms or emergency contraception (EC), in young people in education aged 16-24 years. DESIGN: Cross-sectional study. SUBJECTS: A total of 1135 students aged 16-24 years. SETTING: Educational establishments in and around London, UK. RESULTS: Seventy-six percent of women and 55% of men reported having experienced sex either without contraception or when a condom split or came off. Most participants (or their sexual partners) who reported such risks had compensated by using EC at least once (72% women, 55% men) but only a minority had compensated on each occasion of risk (37% women and 22% men). Of the oral contraceptives users the majority (83%) had experienced a pill 'problem' and the majority of these participants had compensated for such problems by using condoms (79%). Fewer than half of the women who experienced pill problems (45%) compensated by using condoms on each occasion. Less than a quarter (23%) of those who experienced pill problems but did not compensate by using condoms ever compensated by using EC. CONCLUSIONS: This study demonstrates high levels of primary contraceptive risk and low levels of consistent compensatory condom or EC use. The findings suggest that there would be large increases in EC use and repeated use if all primary contraceptive risks were followed by compensatory action. Interventions to increase contraceptive use should focus not only on initiation of contraception use but acknowledge that risks do happen and promote both continuing use and compensatory behaviour.
OBJECTIVE: The aim of our study was to evaluate whether the patient group direction protocol for supply of emergency hormonal contraception was being adhered to, that pharmacists were undertaking their professional duties appropriately and to evaluate how women researchers felt that the service was being delivered. METHOD: Semi covert research was used, two women researchers posed as clients seeking emergency contraception in a sample of participating community pharmacies. They used two rehearsed scenarios about unsafe sexual intercourse and missed doses of the oral contraceptive pill. All transactions were tape recorded and the recordings were used to produce the findings. The two women researchers posing as clients were also asked to record their feelings and experiences concerning the service on leaving the pharmacy. MAIN OUTCOME MEASURE: Adherence to the patient group direction protocol and women's perceptions of service provision. RESULTS: In both scenarios the protocol was largely adhered to and emergency contraception was supplied appropriately. The length of each consultation for both scenarios was between 10-15 min. The women reported that the pharmacists had been courteous, polite and non judgemental. The consultations were carried out in a private area or in the dispensary. The women had no concerns about confidentiality. CONCLUSION: Whilst there are clear limitations of this study in terms of the size of the sample, our results do highlight the fact that the PGD protocol was being utilised appropriately in most cases. In addition, neither woman reported any instances of judgmental or negative attitudes and commented favourably on the scope for discussion about emergency hormonal contraception and other important issues with the pharmacist.
The effects of advance provision of emergency contraception on adolescent women's sexual and contraceptive behaviors.


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CONTEXT: Advance provision of emergency contraception (EC) may increase timely access and improve effectiveness, but the impact on adolescent sexual and contraceptive behaviors is not known. OBJECTIVE: To determine whether adolescents given advance EC have higher sexual and contraceptive risk-taking behaviors compared to those obtaining it on an as-needed basis. DESIGN AND SETTING: Randomized trial conducted at urban, hospital-based adolescent clinic in Pittsburgh, PA, from June 1997 to June 2002. PARTICIPANTS: 301 predominantly minority, low-income, sexually active adolescent women, age 15-20 years, not using long-acting contraception. INTERVENTIONS: Advance EC vs instruction on how to get emergency contraception. OUTCOME MEASURES: Self-reported unprotected intercourse and use of condoms, EC, and hormonal contraception ascertained by monthly 10-minute telephone interviews for 6 months post-enrollment. Reported timing of EC use after unprotected intercourse. RESULTS: At both 1- and 6-month followup interviews, there were no differences between advance EC and control groups in reported unprotected intercourse within the past month or at last intercourse. At 6 months, more advance EC participants reported condom use in the past month compared to control group participants (77% vs 62%, P=0.02), but not at last intercourse (advance EC 83% vs control 78%, P=0.34). There were no significant differences by group in hormonal contraception use reported by advance EC or control groups in the past month (44% vs 53%, P=0.19) or at last intercourse (48% vs 58%, P=0.20). At the first followup, the advance group reported nearly twice as much EC use as the control group (15% vs 8%, P=0.05) but not at the final followup (8% vs 6%, P=0.54). Advance EC group participants began their EC significantly sooner (11.4 hours vs 21.8 hours, P=0.005). CONCLUSIONS: Providing advance EC to adolescents is not associated with more unprotected intercourse or less condom or hormonal contraception use. In the first month after enrollment, adolescents provided with advance EC were nearly twice as likely to use it and began EC sooner, when it is known to be more effective.
Hospital-based program for increasing the availability of emergency contraception: simulating nonprescription access.


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PURPOSE: A hospital-based program simulating nonprescription access to emergency contraception (EC) is described. METHODS: A collaborative agreement between the pharmacy and therapeutics committee and the pharmacy department was initiated at a safety-net teaching hospital to provide EC to clinic patients directly from the hospital pharmacy without the need to first see a health care provider. EC was available 24 hours per day to any woman requesting it at the hospital pharmacy, with the collaborative agreement serving as the prescription. During clinic hours, patients were directed to the outpatient pharmacy to request EC. After hours, patients went to the emergency department triage desk and were directed to the inpatient pharmacy. Patients making inquiries about EC were encouraged to see their health care provider as soon as possible for counseling about contraceptive options. No specific program was initiated for publicizing the increased availability of EC, as it was assumed that health care providers and word-of-mouth would inform patients of this option. RESULTS: The program was initiated in the fourth quarter of 2001. Total doses of EC dispensed increased nearly eightfold over the 1.5-year study period since the inception of this program. Most of this increase (81%) was attributable to the collaborative agreement. Twenty-eight percent of EC was dispensed outside of regular clinic hours. No patient complaints regarding this plan were received, and pharmacy staff did not believe that this program presented a significant additional burden to their workload. CONCLUSION: A collaborative agreement simulating nonprescription availability increased the use of EC in a hospital-based clinic setting.
We investigated side effects after the standard Yuzpe regimen or two modifications: substituting norethindrone as the progestin or eliminating the second dose. We also examined the impact of taking either dose with food. Nearly two thirds of women reported at least one side effect, the majority of which were mild or moderate. Women in our study experienced more side effects after the second dose than after the first. Taking the first dose within 1 h of a meal or snack was associated with increased nausea and vomiting; taking the second dose within 1 h of a meal or snack was associated with decreased nausea and vomiting. A targeted approach to prophylactic antiemetic use could reduce the number of women given these drugs, and the number who experience unnecessary side effects. The impact of counseling on side effects should be further evaluated.

Evaluation Studies
The role of emergency contraception.


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Emergency contraception is an underused therapeutic option for women in the event of unprotected sexual intercourse. Available postcoital contraceptives include emergency contraceptive pills (ECPs) both with and without estrogen, and copper-bearing intrauterine devices. Each method has its individual efficacy, safety, and side effect profile. Most patients will experience prevention of pregnancy, providing they follow the treatment regimen carefully. There are concerns that women who use ECPs may become lax with their regular birth control methods; however, reported evidence indicates that making ECPs more readily available would ultimately reduce the incidence of unintended pregnancies. In addition, it is typically conscientious contraceptive users who are most likely to seek emergency treatment. Patient education is paramount in the reduction of unintended pregnancies and there are numerous medical resources available to women to assist them in this endeavor. Finally, ECPs are associated with financial and psychologic advantages that benefit both the individual patient and society at large.

Review, Tutorial
Emergency contraception and morality: reflections of health care workers and clients.


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In this study, we explore the retrospective reports of 21 US Planned Parenthood clients about their use of emergency contraception pills (ECPs) and the views of ten Planned Parenthood health care workers at two clinics about providing ECPs. We elucidate the sociological phenomena that frame emergency contraception usage: cultural ideology about contraception, sexuality, unintended pregnancy, and abortion. We focus on the ways in which interactions between health care workers and clients both mediate and reinforce such cultural ideology. Our research indicates that the distinctions between fertilization and pregnancy, between contraception and abortion, between responsible and irresponsible procreative behavior, are not hard and fast boundaries upon which everyone agrees. We illuminate the dividing lines and continuities our participants invoked, affirmed, and questioned when contemplating the continuum from potential fertility to realized (and unwanted) pregnancy.
Emergency contraception in France: the user profile

Gynecol Obstet Fertil. 2004 Apr;32(4):373-4; Gynecol Obstet Fertil. 2004 Feb;32(2):186; author reply 186

Comment on Gynecol Obstet Fertil. 2003 Sep;31(9):724-9.

Goulard H, Bajos N, Job-Spira N; Equipe Cocon.

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OBJECTIVES: Emergency contraception pill (ECP) has recently become available in France without prescription since 1999. The aim of this study was to explore knowledge, attitudes toward, and use of ECP. PATIENTS AND METHODS: A national sample of 1639 women were interviewed by telephone randomly selected from the telephone directory. After sending a letter to each household to minimize the number of refusals, finally 397 eligible women aged 18-44 years accepted to answer. RESULTS: Seventy-one percent of women know ECP and 9% had ever used ECP. ECP users were younger, more often single, but no important difference was found with education level, religion and knowledge of ECP between users and non-users. Only 25% of the women knew the exact correct time for using it (within 72 h following an unprotected sex). ECP users had more sexual partners in their life (12 vs. 4, P < 0.05) and 27% vs. 8%, had a previous history of sexual transmitted disease (P < 0.01). ECP users had a different contraceptive profile than non-users; they used less effective methods but the frequency of contraception use was found to be higher. Finally, over 1 year, the percentage of potential ECP users can be estimated at 13% considering women who had reported problems with condom use, forgot their pill once or more. DISCUSSION AND CONCLUSION: ECP users are different from non-users, but all women are concerned and should receive increased education on ECP use. Making ECP more easily available in population may reduce the rate of unintended pregnancy.
Emergency department post-coital contraception in Northern Ireland.


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BACKGROUND: The granting of a licence to Levonelle as an emergency hormonal contraceptive in the Republic of Ireland may require accident and emergency (A&E) departments to formally provide such a service. This article outlines the experiences of a Northern Ireland A&E unit. AIMS: To examine the pattern of attendance of patients requesting emergency contraception at an A&E department and to assess if adequate standards of care are achieved. METHOD: Retrospective case note review of 100 patients attending the A&E department requesting emergency contraception. RESULTS: Sixty-one per cent of requests for emergency contraception were outside normal pharmacy opening hours. Seventy-seven per cent of these patients were less than 26 years old. Most (63%) attended within 24 hours of unprotected sexual intercourse. Forty-three per cent of the patients studied had used no contraception prior to this request. Recording of menstrual details and sexual behaviour as part of the consultation was variable. CONCLUSIONS: A&E departments receive requests for emergency hormonal contraception particularly from younger women (<25 years). A&E staff must have appropriate training and support to manage these consultations effectively.
Emergency contraception: who are the users?


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The objective was to describe the demographic and sexual characteristics of clients attending a Sexual Health Clinic for emergency contraception (EC). Information about women attending the Parramatta Sexual Health Clinic (PSHC) who received EC between January 1999 and July 2002 was derived from the clinic database. Age-matched controls were randomly selected. Univariate and logistic regression analysis was performed to establish which factors were associated with use of EC. Two hundred and sixty-seven women requesting EC, and an equal number of controls, were studied. Factors that were independently associated with EC use were being a student, (OR=1.7 [95% CI 1.02-2.69]) and having a regular sexual partner (OR=2.3 [95% CI 1.14-4.73]). Women requiring EC were significantly less likely to have had a sexually transmitted infection (STI) (OR=0.3 [95% CI 0.16-0.60]) or a previous pregnancy (OR=0.2 [95% CI 0.09-0.67]) than controls. We concluded that users of EC are at low-risk for STIs, but need counselling about safer sex.
Advanced provision of emergency contraception does not reduce abortion rates.


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A number of small studies have demonstrated increased use of emergency contraception (EC) when women have a supply available at home. It has been suggested that widespread use of EC could reduce abortion rates. We undertook a community intervention study designed to determine whether offering advanced supplies of EC to large numbers of women influenced abortion rates. All women aged between 16 and 29 years living in Lothian, Scotland, were offered, through health services, five courses of EC without cost to keep at home. Of a population of around 85,000 women in this age group, the study showed that an estimated 17,800 women took a supply of EC home and over 4500 of them gave at least one course to a friend. It was found that nearly half (45%) of women who had a supply used at least one course during the 28 months that the study lasted. In total, an estimated 8081 courses of EC were used. EC was used within 24 h after intercourse on 75% of occasions. Abortion rates in Lothian were compared with those from three other health board areas of Scotland. No effect on abortion rates was demonstrated with advanced provision of EC. The results of this study suggest that widespread distribution of advanced supplies of EC through health services may not be an effective way to reduce the incidence of unintended pregnancy in the UK.
Effect of emergency contraception with levonorgestrel or mifepristone on ovarian function.


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The mechanism of action of levonorgestrel (LNG) and mifepristone (MIF) in emergency contraception (EC), is still not fully known. The purpose of this study was to evaluate the effect of preovulatory treatment with LNG and MIF on luteal function in more detail. Two days prior to ovulation (day -2; assessed by ultrasound), we administered LNG (0.75 mg twice, 12 h apart) or MIF (10 mg, single dose) to seven women in different cycles. Follicle development was followed by ultrasound. Urinary estrone glucuronide (E1), pregnanediol glucuronide (P4) and luteinizing hormone (LH) were analyzed by enzyme immunoassays daily starting with day -2 for the rest of the menstrual cycle, along with urinary creatinine (C). The treatment caused either a delay or an inhibition of the LH peak in all subjects. A significant delay in P4 levels and an initial suppression of E1 levels were also noted. The development of the leading follicle was either arrested or continued without signs of rupture. This study indicates that, when used for EC, LNG or MIF administered prior to ovulation acts through an impaired ovulatory process and luteal function.
Emetine ditartrate: a possible lead for emergency contraception.


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Interception of pregnancy in its initial stage is an attractive and viable approach to contraception. A chemical agent, taken within the first few days of missed menses, intercepts the conception, which is expelled with menstrual flow. The main targets of such agents are the uterus, blastocyst and the growing trophoblasts, whose nutritional requirement is inhibited. Our previous work has identified several nonsteroidal chemical entities as pregnancy interceptives in rodents and infrahuman primates. However, none reached clinical stage due to their ineffectiveness by oral route. Nevertheless, parallel to these rationally designed synthetic compounds, a program was ongoing to identify natural product(s) that can be used as interceptives. We are reporting for the first time the detailed profile of emetine ditartrate, a compound whose pregnancy interceptive efficacy has been studied in mouse, rat, hamster, guinea pig and rabbit by oral and intravaginal routes of administration. By the oral route, the compound caused 100% resorption of the fetuses in rat, hamster and guinea pig at 6.0, 5.0 and 3.0 mg/kg, respectively, on administration during peri- and early postimplantation periods of pregnancy (depending upon the day of implantation in each species). By intravaginal route, the compound was administered once in the form of a vaginal pessary on the day of implantation in respective species; interception of pregnancy was not achieved completely in rat and hamster at doses four to five times the oral dose in multi-day schedule. However, in guinea pig and rabbit it was fully effective at 7.0 and 70.0 mg/animal, respectively. The compound was devoid of estrogenic, antiestrogenic and progestational activity but possessed mild antiprogestational activity at the high dose in vivo. In in vitro assay, however, it did not show any significant binding to estrogen and progesterone receptors. The mode of action of the compound was found to be mainly on the uterus and early embryos around implantation, possibly on the trophoblasts and endometrial cells at the attachment site. The absence of 100% efficacy in rat and hamster by intravaginal route, but not by oral route, is possibly due to poor absorption of the compound through the vagina in these species. The guinea pig and rabbit, therefore, seem the better species for evaluating the efficacy of the compound administered by the vaginal route.
Requests for emergency contraception at an accident and emergency department--assessing the impact of a change in legislation.


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The aim of this study was to examine the pattern of attendance of patients requesting Emergency Hormonal Contraception (EHC) at an accident and emergency department before and after a government driven change in legislation, which allowed EHC to be sold over-the-counter by trained pharmacists, to women aged 16 years and above. We employed retrospective comparative study using computer records of all accident and emergency attendances coded as requests for emergency contraception for the years 2000 and 2001. The number of patients requesting emergency contraception at the A&E department decreased after over-the-counter sales were introduced, from 196 in the year 2000 to 164 in 2001 (p = 0.037). Despite this, the number of teenagers requesting emergency contraception at the A&E department increased in 2001--from 63 in 2000 to 74 in 2001 (p = 0.0115). Most requests are received outside local pharmacy opening hours--63.77% in 2000 and 62.2% in 2001. This study raises concerns that the government initiative allowing emergency hormonal contraception to be sold in pharmacies is having little impact on teenagers most in need of this service. A&E departments can expect to continue to receive a significant number of requests for emergency contraception. Further measures will be required to reduce the U.K.'s high rate of unplanned pregnancies.
Emergency contraception kept as prescription only in USA.


Nelson R.
Chile agrees to emergency contraception for rape victims.


Orellana C.
Emergency contraception is not associated with reduction in contraceptive use or an increase in adverse health outcomes.


Murphy PA.
Estimating the efficacy of postcoital contraception.


Comment on:

Mikolajczyk RT, Stanford JB.
Raymond E, Trussell J.
Knowledge and attitudes towards emergency contraception of health-care providers in a region with a high birth rate.


Zeteroglu S, Sahin G, Sahin HA, Bolluk G.

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OBJECTIVE: To assess the knowledge of, attitude towards and practices of emergency contraception among health-care providers at a university hospital located in a region with a high birth rate. METHODS: The survey was conducted among 214 health-care providers working at a university hospital located in eastern Turkey. RESULTS: Two hundred participants completed the questionnaire. Of the respondents, 26.0% said that they did not know anything about emergency contraception, while the remaining 74.0% said that they knew about at least one of the methods of emergency contraception. But among these, the knowledge of 38.5% of the participants about emergency contraception was accurate and that of 61.5% was inaccurate. Thirty-four percent of the respondents stated that they had previously required personally to use emergency contraceptive methods. The most commonly used emergency contraceptive methods were oral contraceptives (69.1%) and intrauterine device (14.7%). None of the respondents knew anything about mifepristone and levonorgestrel. CONCLUSION: There is a knowledge deficit among health-care providers who play a significant role in the dissemination of the information about emergency contraception.
Post-coital administration of levonorgestrel does not interfere with post-fertilization events in the new-world monkey Cebus apella.

Ortiz ME, Ortiz RE, Fuentes MA, Parraguez VH, Croxatto HB.

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BACKGROUND: Experimental evidence to disprove the belief that emergency contraception with levonorgestrel (LNG) prevents pregnancy by interfering with post-fertilization events is lacking. Here we determined the effect of post-coital and pre-ovulatory administration of LNG on fertility and ovulation, respectively, in the Cebus monkey.

METHODS: To determine the effect on fertility, LNG 0.75 mg or vehicle were administered orally or s.c. once or twice within the first 24 h after mating occurring very close to the time of ovulation. Females that became pregnant were aborted with mifepristone and re-entered the study after a resting cycle until each of 12 females had contributed, in a randomized order, two LNG and two vehicle-treated cycles. To determine the effect on ovulation, LNG 0.75 mg or vehicle were injected twice coinciding with follicles smaller or larger than 5 mm in diameter. Six females contributed five treated cycles each. RESULTS: The pregnancy rate was identical in vehicle- and LNG-treated cycles. LNG inhibited or delayed ovulation only when treatment coincided with a follicle <5 mm diameter. CONCLUSION: In Cebus monkeys, LNG can inhibit or delay ovulation but, once fertilization has taken place, it cannot prevent the establishment of pregnancy. These findings do not support the hypothesis that emergency contraception with LNG prevents pregnancy by interfering with post-fertilization events.
Emergency contraception could lower abortion rate.


Sibbald B.
Emergency contraception: knowledge and practices of tertiary students in Durban, South Africa.


Roberts C, Moodley J, Esterhuizen T.

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The aim of this study was to assess the knowledge, use and attitude to the use of emergency contraception among tertiary students in Durban, South Africa through the use of a self-administered confidential questionnaire. A scoring system was developed to analyse the response of each student. A total of 436 students (56.5%) had heard of emergency contraception. Few knew the specific methods of emergency contraception and only 11.8% knew the correct time limit in which it must be used. Only 60 students (7.8%) knew how effective emergency contraception was in preventing pregnancy. Ninety-one students (11.8%) had used emergency contraception and 50% responded that if they had to, they would use it or recommend it to a friend. A logistic regression model showed that the predictors for a high knowledge score were: University of Natal students, having heard of emergency contraception, having used it before and having received formal sex education. Overall, knowledge and use of emergency contraception by tertiary students is limited. There is a need for carefully designed education programmes and promotion of emergency contraception on campuses.
Emergency contraception: knowledge and attitudes of family medicine providers.


Wallace JL, Wu J, Weinstein J, Gorenflo DW, Fetters MD.

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BACKGROUND AND OBJECTIVES: Emergency contraception (EC) is an underutilized method of preventing unplanned pregnancy. This study assessed family physicians' and nurse providers' knowledge, attitudes, and beliefs about EC. METHODS: A cross-sectional survey was distributed to faculty, residents, and clinic nurses in a Midwestern department of family medicine. Data were analyzed using Statistical Package for the Social Sciences. Statistical significance was tested by chi-square test, Student's t test, and Mann-Whitney U test where appropriate. RESULTS: Seventy-eight providers participated (response rate 81%). Seventy-four percent of physicians have prescribed EC in the past, with an average of 3.2 (range 0-10) times in the last year. The majority of providers reported that they were familiar with indications (96%) and protocols (78%) for prescribing EC, yet knowledge inaccuracies were identified. Overall attitudes regarding EC were positive. CONCLUSIONS: Although the majority of participating providers were willing to prescribe EC and had generally favorable attitudes toward it, rates of providing this therapy were low. There was a discrepancy between providers' perceived and actual knowledge about EC. Interventions targeting misunderstandings might help reduce missed opportunities to provide EC.
Efficacy of postcoital contraception.


Comment on:

Raymond E, Trussell J.
Emergency contraception.


French K, Ward S, McCrea J, Nash T.

South Downs Health Authority, Brighton.

The authors outline practical issues related to emergency contraception.
An audit on the management of female victims of sexual assault attending a genitourinary medicine clinic.


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The victims of sexual assault may attend GUM clinic without any referral from any other agency. The management of these cases need special care. We audited the management of females who were known to us as victims of sexual assault. In 15 months, 68 females attended our clinic. All were screened for sexually transmitted infections (STI). Emergency contraception was offered to only 38.4% at risk cases, and formal counselling support was offered to only 25% cases. Further care is necessary to improve counselling support and offering emergency contraception to the victims of sexual assault.
Emergency contraception.


Taylor B, Bacon L.
Provision of emergency contraception to adolescents.


Gold MA, Sucato GS, Conard LA, Hillard PJ; Society for Adolescent Medicine.

Division of Adolescent Medicine, University of Pittsburgh School of Medicine, Pennsylvania, USA.
Emergency contraception: why can't you give it away? Qualitative findings from an evaluation of advance provision of emergency contraception.


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The Lothian Emergency Contraception Project (LECP)--a primary care-based intervention to offer advance supplies of emergency contraception (EC) to women aged 16-29 was not associated with a reduction in abortion rates. We undertook case studies, utilizing qualitative and quantitative methods, to evaluate the intervention. In this article we present findings from qualitative interviews with 44 primary care professionals working at case study sites and 22 women who had received advance supplies to explain this failure. Professionals reported that women rarely asked for advance supplies of EC and they were reluctant to offer supplies to women because of concerns about contradictory sexual health messages implied by the offer, a perceived association of EC use with chaotic behavior by women, views about the sort of women suitable for advance supplies and practical difficulties making the offer. Women were reluctant to ask for advance supplies because of misgivings about the appropriateness of offering advance supplies to everybody and concerns about being judged by health professionals as morally inadequate. If advance provision of EC is to be successful in reducing abortion rates, professionals must address their concerns about EC and develop imaginative ways of encouraging women most at risk of unwanted pregnancy to take supplies home.
Knowledge of emergency contraception among women aged 18 to 44 in California.


Foster DG, Harper CC, Bley JJ, Mikanda JJ, Induni M, Saviano EC, Stewart FH.

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OBJECTIVE: The State of California has taken several steps to make emergency contraceptives (ECs) available to women in the state. By using data from the 1999-2001 California Women's Health Survey, we estimated the knowledge of emergency contraception among adult women of reproductive age at risk of pregnancy (n=6209). STUDY DESIGN: This study is based on 3 years of data (1999-2001) from the California Women's Health Survey (CWHS), an annual population-based survey of more than 4000 randomly selected adult women (aged 18 years and older) in California. A total of 6198 women aged 18 to 44 responded to the 2 emergency contraception questions: "To the best of your knowledge, if a woman has unprotected sex is there anything she can do in the 3 days after intercourse that will prevent pregnancy?" and "What can she do?" RESULTS: We find that 38% of California women were able to correctly identify emergency contraception. Most importantly, the women who are most likely to need emergency contraception-those who are at risk of an unintended pregnancy but not using any method of contraception-have among the lowest levels of knowledge (only 29% identified a method of ECs). CONCLUSION: Results show that family planning providers may be reaching their clients, but broader outreach to the public has not yet achieved sufficiently high information levels among women in greatest need of the method.
Mechanisms of action of mifepristone and levonorgestrel when used for emergency contraception.


Gemzell-Danielsson K, Marions L.

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An emergency contraceptive method is used after coitus but before pregnancy occurs. The use of emergency contraception is largely under-utilized worldwide. One of the main barriers to widespread use is concern about the mechanism of action. Recently, treatment with either 10 mg mifepristone or 1.5 mg of levonorgestrel has emerged as the most effective hormonal method for emergency contraception with very low side-effects. However, the knowledge of the mechanism of action of mifepristone and levonorgestrel in humans, when used for contraceptive purposes and especially for emergency contraception, remains incomplete. The objective of this review is to summarize available data on the effects of mifepristone and levonorgestrel on female reproductive functions relevant to the emergency use of the compounds. When summarized, available data from studies in humans indicate that the contraceptive effects of both levonorgestrel and mifepristone, when used in single low doses for emergency contraception, involve either blockade or delay of ovulation, due to either prevention or delay of the LH surge, rather than to inhibition of implantation.
The visit before the morning after: barriers to preprescribing emergency contraception.


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BACKGROUND: Research suggests that while advance prescription of emergency contraception (EC) increases women's access, this prescribing model is rarely used. The present study sought to explore attitudes towards EC among patients and physicians, with the goal of understanding potential barriers to advance prescription. METHODS: Qualitative, semistructured interviews were conducted with patients and clinicians in a New York City family practice clinic. RESULTS: Using qualitative interviews, we found that attitudes towards EC among patients and clinicians are complex. Both groups of participants reported favorable attitudes towards EC. There was general agreement that physicians should take a proactive role in educating patients about the method. A notable minority in each group described substantial reservations, however, especially regarding the potential for EC abuse. Such attitudes emerged mainly in the context of discussions about advance prescription. Advance prescription was viewed as greatly facilitating access to EC, but some patients and clinicians feared that ready access would encourage irresponsible sex. Some participants condoned the occasional, accidental, or emergency use of EC; however, habitual use, or the plan not to plan for sex, was viewed as morally indefensible. CONCLUSION: Findings suggest that even when attitudes towards EC are generally favorable, some physicians and patients have substantial reservations about advance prescription. Education and dialogue are needed to overcome these reservations.
Vaginal bleeding following the use of a single dose of 1.5mg levonorgestrel (LNG) for emergency contraception.


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INTRODUCTION: Recent studies have shown that a single dose of 1.5 mg levonorgestrel is an effective and safe emergency contraceptive but detailed information on its menstrual side effects is lacking. This study assessed the vaginal bleeding patterns in healthy women who used the medication for emergency contraception. STUDY DESIGN: A prospective observational study of 544 women who sought emergency contraception and volunteered to use a single dose of 1.5mg levonorgestrel. They were assessed for bleeding patterns, pregnancies and side effects. RESULTS: The pregnancy rate was 0.7% (95%CI, 0.0-1.4). Early or timely return of menses occurred in 69% of the women while in 21% menses was late by more than a week. Normal vaginal bleeding occurred in 57% of the women while others had intermenstrual bleeding/spotting, premenstrual bleeding/spotting or menorrhagia. Non-menstrual side effects include nausea, vomiting, dizziness, headache, breast tenderness and low abdominal pain. All side effects were well tolerated by the women. CONCLUSION: A single dose of 1.5mg LNG when used for emergency contraception is safe and reliable but is associated with menstrual disturbances that may be of concern to a small number of users.

Missed opportunities: emergency contraception utilisation by young south African women.

Although contraceptives, including emergency contraceptives, are widely available free at public health facilities in South Africa, rates of teenage and unintended pregnancy are high. This paper analyses awareness and utilisation of emergency contraception amongst 193 young women (aged 15-24 years) attending public sector health facilities. Structured interviews were held at 17 and 14 primary health clinics in an urban and a rural area respectively. Respondents were asked about their knowledge of contraceptive methods and use, and specifically about emergency contraceptive utilisation. More sexually active young urban women (76%) were currently using a method of contraception, compared to the young rural women (53%). Only 17% had ever heard of emergency contraception, although significantly more in the urban area (p = 0.005) had heard of it. Only one woman from each site had ever used emergency contraception, although 39% had had unprotected intercourse in the previous year when they did not wish to conceive. Young South African women should be the focus of interventions aimed at improving awareness of the availability of emergency contraception and knowledge about its correct utilisation.
Pseudotumor cerebri after hormonal emergency contraception.


Ivancic R, Pfadenhauer K.

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Comment on:


Emergency contraception: an ongoing debate.
Wellbery C.
Emergency contraception.

Weismiller DG.

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Women can use emergency contraception to prevent pregnancy after known or suspected failure of birth control or after unprotected intercourse. Many patients do not ask for emergency contraception because they do not know of its availability. Emergency contraception has been an off-label use of oral contraceptive pills since the 1960s. Dedicated products, the Yuzpe regimen (Preven) and levonorgestrel (Plan B), were marketed in the United States after 1998 but had been available in Europe for years before that. A third approved method of emergency contraception is the insertion of an intrauterine device. Emergency contraception is about 75 to 85 percent effective. It is most effective when initiated within 72 hours after unprotected intercourse. The mechanism of action may vary, depending on the day of the menstrual cycle on which treatment is started. Despite the large number of women who have received emergency contraception, there have been no reports of major adverse outcomes. If a woman becomes pregnant after using emergency contraception, she may be reassured about the lack of negative effects emergency contraception has on fetal development. It may be beneficial for physicians to offer an advance prescription for emergency contraception at a patient's regular gynecologic visit to help reduce unwanted pregnancies. Advance provision of emergency contraception can increase its use significantly without adversely affecting the use of routine contraception.
Comment in:

on:

Access to emergency contraception.

Murphy S.
Will emergency contraception increase sexually transmitted infections?


Penn A.
Patient autonomy versus religious freedom: should state legislatures require Catholic hospitals to provide emergency contraception to rape victims?


Skeeles HR.

Washington and Lee University School of Law, USA.
Postcoital intervention--from fear of pregnancy to rape crisis.


Tonti-Filippini N, Walsh M.

John Paul II Institute for Study of Marriage and Family, Melbourne, Victoria, Australia.
A critique of Hamel and Panicola.


Comment on: Health Prog. 2002 Sep-Oct;83(5):12-9, 51; discussion 14-5, 18.

Diamond EF.

Linacre Institute, Catholic Medical Association, Palos Park, Illinois, USA.
Comment on:


Emergency contraception revisited: a response to Eugene Diamond.

Hamel R, Panicola MR.

Catholic Health Association, St. Louis, Missouri, USA.
Feedback from community pharmacy users on the contribution of community pharmacy to improving the public's health: a systematic review of the peer reviewed and non-peer reviewed literature 1990-2002.


Anderson C, Blenkinsopp A, Armstrong M.

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OBJECTIVE: To systematically review feedback from pharmacy users on their perceptions and experiences of health-related advice and services provided from community pharmacies. METHODS: The focus of the review was community pharmacy activities in relation to promoting health and well-being, preventing ill-health and maintaining health. Searches were conducted for peer-reviewed (international) and non-peer-reviewed (UK) research. Electronic databases searched included MEDLINE, EMBASE, Cochrane Library and International Pharmaceutical Abstracts; hand searches of key journals and conference abstracts, key informants. Key informants in the UK were contacted to identify unpublished studies. The inclusion period was 1990 onwards. Data extraction and synthesis Data were abstracted into a matrix by one author with a sample checked by a second. The Health Development Agency's Evidence Base 2000 standards and the evidence categories used by the Department of Health in the National Service Frameworks were applied to each item. MAIN RESULTS: Seven peer reviewed papers and 13 non-peer reviewed reports were identified for inclusion in the review. Consumer usage of pharmacies is almost universal with prescription supplies and purchase of over the counter medicines predominating. Evidence shows that not only is usage low for general health advice, but that pharmacists are perceived as 'drugs experts' rather than experts on health and illness. Emergency hormonal contraception and head lice management schemes have been well received. There is a need to consider privacy and confidentiality surrounding advice giving. CONCLUSIONS: Users of community pharmacy-based health development initiatives express a high level of satisfaction. If community pharmacies are to be used to their full extent, then actions to extending the public's awareness and acceptance of the pharmacist's role in giving advice will be crucial. Further research will be needed to measure any change in premises development on the public's perception of the level of privacy in pharmacies.
Bioequivalence study of postcoital emergency contraceptions containing levonorgestrel.


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Department of Pharmacology, Faculty of Medicine, Chulalongkorn University, Bangkok 10330, Thailand.

OBJECTIVE: The progestogen-only method of emergency contraception, levonorgestrel, is one of the effectiveness in preventing expected pregnancies. The comparative bioavailability was carried out on levonorgestrel tablets (0.75 mg) from two different sources (Hungarian and Thai made). METHOD: Eighteen healthy female volunteers were given a single oral dose of 0.75 mg tablets in a crossover design. Serum levonorgestrel concentration was determined by radio-immunoassay. The pharmacokinetic analysis of serum levonorgestrel concentration from each treatment was established. The comparative bioavailability of the two products was determined by the analysis of variance (ANOVA) for two way crossover design. RESULTS: The results found that the mean peak (X +/- SD) serum concentration (Cmax) of the Thai-made pill and Hungarian-pill were 1.18 +/- 0.12 and 1.14 +/- 0.10 ng/ml, respectively. The 90% confidence interval for the difference of log Cmax mean was 99.54-120.78%. The time to peak serum concentration (Tmax) of the Thai-made pill and Hungarian-pill were 1.56 +/- 0.73 and 1.58 +/- 0.67 hrs, respectively. The different time of peak serum levonorgestrel concentration was 1.27%. The mean area under the curve (AUC) of Thai-made pill and Hungarian-pill were 2.14 +/- 0.21 and 2.09 +/- 0.16 ng.h/ml, respectively. The 90% confidence interval for the difference of log AUC mean was 103.27 - 121.89%. CONCLUSION: The present study revealed that the 90% confidence interval for the difference of log Cmax mean and log AUC mean were in the criteria of acceptance, which should be within 80-125%. So, the authors can conclude that the Thai-made pill was bioequivalent to the Hungarian-pill.
Hospital-based emergency contraception.

Am J Health Syst Pharm. 2004 Sep 1;61(17):1771-2; author reply 1772, 1774.

Wagner BK.

Contraception. 2004 Sep;70(3):199-201.

Checa MA, Pascual J, Robles A, Carreras R.

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We conducted a retrospective review of the medical records of women requesting emergency contraception (EC) at our emergency department over a 9-year period (1994-2002). EC accounted for 5.9% of all visits (n = 95,288) and increased from 1.26% in 1994 to 9.82% in 2002 (p < 0.001). Reasons for EC were condom problems in 79.5% of cases. EC was used only once by 93% of women. The mean daily number of visits was significantly higher in August (2.46), July (2.01) and September (2.02) than in other months (p < 0.05), and was more frequent on Sunday (3.26), Saturday (2.92) and Monday (2.05) compared to other week days (p < 0.001). New Year's Day and the St. John's Night registered the highest number of visits (mean of 17.2 and 11.7, respectively), with significant differences compared to the remaining days of the year (p < 0.001).
Discussing emergency contraception.


Winkelaar PG.

Canadian Medical Protective Association in Ottawa, Ont.
Comment in:


Waiting for plan B--the FDA and nonprescription use of emergency contraception.

Steinbrook R.
Comment on:


Plan B--the FDA and emergency contraception.

Schwarz EB.
Emergency contraception: do we have the political will to increase access?


Richman AR.
Emergency contraception—current trends, possibilities and limitations


[Article in Serbian]

Bjelica A, Kapamadzija A, Pavlov-Mirkovic M.

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INTRODUCTION: Emergency contraception has been used for over three decades. Indications for emergency contraception are intercourse without contraceptive protection or inadequate application of other contraceptive means. Also, this method is the only way out in situations when sexual intercourse has proceeded not only without protection, but also without voluntary agreement of both partners. CONTRACEPTION MEANS: Despite of their proven efficiency, it is thought that application of contraception means, even in countries with highly developed systems of health care, is far below optimal. Contemporary studies have pointed out some new possibilities and novel, modified methods of emergency contraception have been proposed. Basic methods of emergency contraception include use of hormonal preparations and postcoital insertion of intrauterine copper devices. Hormonal preparations that are used in emergency contraception are: combined hormonal contraceptive pills, levonorgestrel and antiprogestin mifepristone. In 1998, the method with levonogestrel only, was indicated by World Health Organization as a "golden standard" in hormonal emergency contraception. The article gives a survey of new trends, possibilities and limitations of modern emergency contraception, with the aim of popularization of this form of contraception in our country.
Emergency contraceptive pills: a review of the recent literature.


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PURPOSE OF REVIEW: The purpose of this review is to inform the reader of new information published since early 2003 about emergency contraception, with a particular focus on issues of access. RECENT FINDINGS: Research continues to document low but increasing levels of knowledge about emergency contraception, increasing use, and more positive attitudes towards emergency contraception by both patients and healthcare providers. Additional information is available about efficacy and mechanisms of action. More reports of side-effects have been published, as have studies relating to the impact of emergency contraception on sexual and contracepting behaviors. Advance provision, provision by pharmacists, and over-the-counter status have been studied as ways to improve access to emergency contraception. SUMMARY: Knowledge about the efficacy, safety, types and use of emergency contraception continues to increase. Although patients have greater awareness of and more access to emergency contraception, there are still numerous barriers to its use even in countries where it is available over the counter. Healthcare providers must continue to educate themselves and their patients about emergency contraception even when it becomes available over the counter. In countries where emergency contraception is only available by prescription, providers should offer an advance prescription or supply (where available), and use newer dosing regimens for levonorgestrel-only emergency contraception to increase adherence and efficacy. Developing collaborative practice agreements with pharmacists to increase access is also recommended. Patients should be counseled to seek follow-up if no menses occurs within 3 weeks of taking emergency contraception or if symptoms such as lower abdominal pain occur after the use of emergency contraception.
Effect of advanced provision of emergency contraception on women's contraceptive behaviour: a randomized controlled trial.


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BACKGROUND: Emergency contraception (EC) can prevent pregnancy but is under-used. Advanced provision increases use but the effect on contraceptive behaviour varies.

METHODS: Women aged 18-45 years, using less effective contraceptives, were randomized to either advanced provision of three courses of EC (intervention) or to obtaining each course from clinic (control). EC use and contraceptive behaviour were monitored for 1 year.

RESULTS: In all, 1030 women were recruited in 6 months. The meanSD number of courses of EC used in intervention versus control group was 0.561.2 versus 0.200.6 (P<0.001). In the intervention group, 47% women aged <26 years used at least one course of EC compared with 23% of older women (P<0.001). The majority of women used condoms before (intervention 89%, control 91%) and during the study (89% for both groups). Consistency of contraceptive use was higher during the study (65 versus 60% of women in both groups) (P<0.001). There were 17 unplanned pregnancies, eight in the intervention group, six of whom did not use EC in the conception cycle. CONCLUSIONS: Advanced provision increases EC use especially among young women in Hong Kong. Contraceptive choice and consistency of use remains the same even among young women.
Comment in:
Obstet Gynecol. 2004 Nov;104(5 Pt 1):1103-4; author reply 1104.


Emergency contraception: politics trumps science at the U.S. Food and Drug Administration.

Grimes DA.
Emergency contraception: users profile in primary care emergency services


Vergara Cano JC, Lopez-Guerrero Almansa A, Lopez Lopez F.


OBJECTIVES: To establish the emergency contraception (EC) users profile and whether she perceives this type of contraception as an emergency. Design. Cross sectorial study (over one year period: March 2002-March 2003). SETTING: Emergency Services in Primary Care. Usera and Carabanchel; 11th Area; Madrid. PARTICIPANTS: Women requesting EC in these centres. MAIN OUTCOME MEASURES: A questionary was filled out for all participants with their age, how many hours had spent since sexual intercourse took place (within 24 h), usual method of contraception used, previous use of EC, level of education, and reason for this request. RESULTS: 89 women. Drops out: 0. Average age: 23.748 years (range: 16-40 years). 79.8% of them came to medical emergency services in less than 24 h after sexual intercourse. Usual anticonceptive method was the condom (88.8%), 2.2% used hormones, 9% no contraceptive method at all and none of them had used the intrauterine device. 34.8% were previous users of EC. Education levels: 2.2% of women only could read and write, elementary school (37.1%), secondary school (34.8%) and high school (25.8%). Reasons for requesting EC: 91% condom failure, 7.9% not to have used any contraceptive method, and 1.1% wrong use of natural birth control methods. Among the women who had went to the emergency services within the 24 h of the sexual intercourse the 77.4% of all of them had requested EC previously and the 93% of those had requested EC for the first time (P=.032). Likewise all of them with high school level and who could write and read, the 93.9% with elementary school level, and the 71% with secondary studies went to the emergency services within the 24 h of the non protected sexual intercourse (P=.05). CONCLUSIONS: Most of the women were young, they perceived the unprotected sexual intercourses as an emergency, the condom was the most frequently used anticonceptive method, they requested EC due to condom breakage. In 1/3 of the cases the EC had been requested previously and this group and the young women with secondary studies one were who requested it later.
Commentary: emergency contraception: will we ever be able to standardize the prescription?


Sanchez Beiza L.
Emergency contraception use is correlated with increased condom use among adolescents: results from Mexico.


Walker DM, Torres P, Gutierrez JP, Flemming K, Bertozzi SM.

Division of Reproductive Health, Instituto Nacional de Salud Publica, Cuernavaca, Morelos, Mexico.

PURPOSE: To evaluate the association between knowledge about, or experience with, emergency contraception (EC), and condom use among school-attending adolescents in the state of Morelos, Mexico. METHODS: We analyzed data from anonymously self-administered questionnaires (n = 10,918), from a cluster-randomized controlled trial among first year students from 40 (75%) public high schools in Morelos, Mexico. The survey included specific questions about EC knowledge and experience as well as questions about perceived ability to negotiate and condition sexual relations on condom use; and condom use at first and last sexual intercourse. RESULTS: Overall, 61% (6384) of students had heard of EC, and 36% (1964) of girls and 39% (1997) of boys had correct knowledge about EC. Correct knowledge was based upon knowing that EC is pills taken up to 3 days after unprotected sex to prevent pregnancy. Of 1695 (15.6%) reporting lifetime sexual activity, 16.4 % (275) reported they had tried to obtain EC and almost all of them (263) reported having used EC. The probability of a student reporting he/she is capable of interrupting sexual intercourse to use a condom was significantly higher for those who had correct EC knowledge, and a history of EC use was strongly correlated with condom use at last sexual intercourse. CONCLUSIONS: Experience with emergency contraception has no adverse effects on condom use, but rather is associated with an increased probability of condom use and an increased perceived capacity to negotiate condom use. Despite concern that information about, and access to EC may encourage sexual risk taking, our results suggest the reverse is true. These data support the position that there is no justification to withhold EC information or access from adolescents.
Emergency contraception for adolescents: the time to act is now.


Irwin CE Jr.
Emergency contraception: the right to full disclosure.


Calis KA, Pucino F Jr.
Effects of mifepristone on vascular endothelial growth factor and thrombospondin-1 mRNA in Ishikawa cells: implication for the endometrial effects of mifepristone.


Mirkin S, Archer DF.

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Mifepristone has been used for both medical termination of pregnancy and emergency contraception. Mifepristone may have both an antiovulatory activity and an antiproliferative effect on the endometrium. We have evaluated the effect of mifepristone on vascular endothelial growth factor (VEGF) and thrombospondin-1 (TSP-1) using Ishikawa cells in vitro. Mifepristone, progesterone and 17beta-estradiol at concentrations of 1.0, 0.1 and 0.01 microM, were added to confluent cells and further cultured for additional 24 h. Total RNA was extracted from control and treated cells. After reverse transcription, VEGF, TSP-1 and beta-actin cDNAs were amplified with polymerase chain reaction spiked with 33p-dCTP. The relative abundance of VEGF 121 and 165 isoforms and TSP-1 mRNA were measured by scintillation spectroscopy. Mifepristone and progesterone did not stimulate VEGF mRNA 121 and 165 isoforms, while 17beta-estradiol increased both VEGF isoforms. Mifepristone did not stimulate TSP-1 mRNA at any concentration, but progesterone increased TSP-1 mRNA, and this effect was inhibited with mifepristone. 17beta-Estradiol did not increase TSP-1 expression. We hypothesized, based on these data, that the clinical finding of endometrial antiproliferative effect and low vaginal bleeding rate observed in women using mifepristone may be related to lack of stimulation of these angiogenic factors.
Tolerability of levonorgestrel emergency contraception in adolescents.


Harper CC, Rocca CH, Darney PD, von Hertzen H, Raine TR.

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OBJECTIVE: We evaluated the tolerability of emergency contraception in adolescents. Study design In this descriptive study, 1 0.75 mg levonorgestrel tablet was administered to 52 females aged 13-16 with instructions to take the second tablet 12 hours later (unprotected intercourse was not an entry requirement). Participants kept diaries of side effects and menstrual patterns. We assessed correct use, side effects caused by treatment, and impact on menstrual cycle. RESULTS: Virtually all participants used the drug correctly, with no serious adverse events. Minor expected side effects occurred, including nausea, fatigue, and vomiting. There was no difference in reporting of side effects by age. Adolescents' mean duration of menses was comparable pre- and post-treatment (5.3 vs 5.0 days; P=.146), and onset of menses was within the expected range. Ninety percent of participants reported they would recommend emergency contraception to a friend or relative if needed. CONCLUSION: Adolescents tolerated the medication well, experiencing transient side effects.
Emergency contraception in practice.


Brechin S.

University of Aberdeen, Department of Obstetrics and Gynaecology.

Comment on:

Emergency contraception: latest changes.

Mirosh M, Olatunbosun O.
From anti-natalist to ultra-conservative: restricting reproductive choice in Peru.


Coe AB.

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This article examines Peru's population policy since the 1994 International Conference on Population and Development and assesses to what extent its policies and programmes have affected reproductive health and rights. It is drawn from data collected during ongoing monitoring of sexual and reproductive health policies and programmes in Peru since 1998 for the Center for Health and Gender Equity (CHANGE). Accomplishments since 1994 in Peru demonstrate good faith on the part of the government and foreign donors to make progress towards fulfilling the ICPD agenda by addressing key reproductive health concerns and promoting women's rights. Unfortunately, this progress has not been consistent. It has been overshadowed by two periods of anti-choice policies and interventions. The first, in 1996--97 under the Fujimori government, was a demographic approach that used numerical targets and undue pressure on women to accept sterilisation as the government's main poverty reduction strategy, which led to documented abuses. The second, in 2001--03 under the Toledo government, was a far-right approach that worked to limit access to essential services, including emergency contraception, condoms and post-abortion care. In spite of their contradictory nature, these two policy approaches have been the greatest obstacles to making long-lasting improvements to reproductive health and rights in Peru.
Mifepristone versus the Yuzpe regimen (PC4) for emergency contraception.


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OBJECTIVE: To compare side effects, women's acceptance and satisfaction with mifepristone (100 mg) versus the Yuzpe regimen for emergency contraception (EC).

METHODS: A total of 1000 women requesting EC within 72 h of unprotected intercourse were randomized to receive mifepristone 100 mg or the standard Yuzpe regimen. Outcome measures included patient acceptability and satisfaction. RESULTS: A total of 620 (62%) questionnaires were returned, 64% in the mifepristone group and 60% in the Yuzpe group. Mifepristone was better tolerated than the Yuzpe regimen. The rates of nausea (P<0.0001), abdominal pain (P=0.001), tiredness (P<0.0001), lethargy (P=0.001), hot flushes (P<0.0001) and dizziness (P<0.0001) were all significantly higher in women given the Yuzpe regimen compared to those who received mifepristone. Of these 94% and 80% in the mifepristone and Yuzpe groups, respectively, were satisfied with treatment (P<0.0001). Of women in the mifepristone group, 56% (181/321) had used the Yuzpe regimen of EC in the past and of these, 93.6% (161/172) indicated they would use mifepristone in the future. A total of four women in the Yuzpe group had mifepristone in the past and all four said they would use mifepristone in the future. CONCLUSION: Mifepristone has high patient acceptability and few side effects compared to the standard Yuzpe regimen for EC.
Emergency contraception: politics trumps science at the U.S. Food and Drug Administration.

Obstet Gynecol. 2004 Nov;104(5 Pt 1):1103-4; author reply 1104.

Comment on:

Iffy L.
Grimes DA.
The limits of conscientious objection--may pharmacists refuse to fill prescriptions for emergency contraception?


Cantor J, Baum K.

Yale University School of Medicine, New Haven, Conn, USA.
Under-use of emergency contraception for victims of sexual assault.


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BACKGROUND: Approximately 700,000 women in the reproductive age group are victims of sexual assault in the United States per year. Between 1% and 5% of sexual assaults result in pregnancy, for a total of 32,000 pregnancies per year. Of these, 14,000 are aborted because of incest or rape. OBJECTIVE: To determine the percent of emergency departments in the state of Pennsylvania offering routine counseling and provision of emergency contraception to victims of sexual assault. Secondary objectives were to compare provision practices for Catholic versus non-Catholic hospitals, and to compare these practices with other services, such as sexually transmitted disease prophylaxis and sexual assault counseling. METHODS: A 15-item survey instrument was designed to determine the volume of sexual assault patients seen per year, routinely offered services, and emergency contraception protocols. Three telephone callers administered surveys, using a pre-designed script for each call. RESULTS: Of the 165 eligible hospitals, 125 (76%) replied. Less than half (42%) of all hospitals routinely offer emergency contraception counseling, and 16% of the hospitals did not offer any counseling regarding emergency contraception. CONCLUSION: Provision of emergency contraception to victims of sexual assault is inconsistent and insufficient. It is important that sexual assault patients not be further victimized by a system that fails to meet their needs.
Pituitary-ovarian function following the standard levonorgestrel emergency contraceptive dose or a single 0.75-mg dose given on the days preceding ovulation.


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We assessed to what extent the standard dose of levonorgestrel (LNG), used for emergency contraception, or a single dose (half dose), given in the follicular phase, affects the ovulatory process during the ensuing 5-day period. Fifty-eight women were divided into three groups according to timing of treatment. Each woman contributed with three treatment cycles separated by resting cycles. All received placebo in one cycle, and standard or single dose in two other cycles, in a randomized order. The diameter of the dominant follicle determined the time of treatment. Each woman had the same diameter assigned for all her treatments. Diameters were grouped into 33 categories: 12-14, 15-17 or 18-20 mm. Follicular rupture failed to occur during the 5-day period in 44%, 50% and 36% of cycles with the standard, half dose and placebo, respectively. Ovulatory dysfunction, characterized by follicular rupture associated with absent, blunted or mistimed gonadotropin surge, occurred in 35%, 36% and 5% of standard, single dose or placebo cycles, respectively. In conclusion, LNG can disrupt the ovulatory process in 93% of cycles treated when the diameter of the dominant follicle is between 12 and 17 mm. It is highly probable that this mode of action fully accounts for the contraceptive efficacy as well as the failure rate of this method. The present data suggest that half the dose may be as effective as the standard dose.
A randomized trial of mifepristone (10 mg) and levonorgestrel for emergency contraception.


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**OBJECTIVE:** To compare the efficacy, patient acceptability and adverse effects of low-dose mifepristone (10 mg) with the levonorgestrel regimen (2 doses of 750 microg given 12 hours apart) for emergency contraception.  

**METHODS:** This randomized controlled trial compared mifepristone (10 mg) to levonorgestrel (2 doses of 750 microg given 12 hours apart) in the context of emergency contraception within 120 hours of unprotected intercourse. The primary outcome measure was unintended pregnancy. Secondary outcomes included adverse effects experienced by women, acceptability of the method of emergency contraception used, and the timing of the first menstrual cycle after treatment.  

**RESULTS:** The total number of women recruited was 2,065. The crude pregnancy rates were 1.3% and 2.0% for mifepristone and levonorgestrel (P = .46), with 77% and 64% of expected pregnancies prevented, respectively. Women receiving mifepristone were more likely to have a delayed onset of the subsequent menstrual cycle after treatment (P < .001), whereas those having levonorgestrel were more likely to have an early onset of the subsequent menstrual cycle (P < .001). Acceptability levels were high for both methods, with 94% of women receiving mifepristone and 91% receiving levonorgestrel expressing satisfaction. There was no difference in adverse effects (nausea, vomiting, breast tenderness, abdominal pain, lethargy, headache, hot flushes, and dizziness) experienced by women in the 2 groups.  

**CONCLUSION:** This study suggests that a small dose of mifepristone is not less effective than levonorgestrel for emergency contraception. Both regimens were highly acceptable to women.
Introducing the post-coital birth control method in the family-planning services of Latin American countries has not been an easy task. Catholic and other conservative groups with great influence in the political arena have time and again stopped it from being adopted as an alternative method and have even succeeded in having it removed from official directives after formal acceptance by health authorities. The main objections are triggered by the erroneous supposition that "emergency contraception" pills are abortifacients. However, a large dose of cultural discrimination against women seems also to be involved. It has been extremely difficult to register dedicated products and make them available in drug-stores and even more difficult to distribute them without charge at public health centers. They are hard to find, expensive, and unavailable to adolescents at risk for unwanted pregnancies and to most low-income women, especially in rural areas. Dissemination of appropriate information has been scarce and slow and there are still great numbers of people that do not understand how or why the method works. Brazil has been the only exception, as its open society has readily accepted this method of contraception. The Latin American Consortium on Emergency Contraception founded in the year 2000 and its regional conference two years later had an important impact on the situation, as they encouraged the coordination of efforts by governmental and nongovernmental entities with those of women's groups to fight for sexual and reproductive rights. A number of studies have shown that the more people learn about emergency contraception, the more they find it acceptable and necessary, and radio spots and other media techniques have begun to educate the public about this matter. In spite of the many difficulties encountered, in the last few years several countries have made strides to include this method in their public health guidelines. However, because of the powerful forces against it, accessibility and distribution of the emergency pills are not always implemented as planned and there are still many areas that require work. Details are given on the situation in Argentina, Bolivia, Chile, Colombia, Ecuador, Honduras, Mexico, Paraguay, and Peru.
Emergency contraception with levonorgestrel in adolescents


[Article in Bulgarian]

Tanchev S, Shentov B.

OBJECTIVE: The aim of the study was to assess effectiveness and adverse reactions in adolescent girls received Postinor (0.75 mg Levonorgestrel) for emergency contraception. METHOD: Forty-two teenage girls with established regular menstrual cycles for 24 months period and 128 intercourses are included. Excluding criteria are: clinical data for gynecological endocrine diseases, other contraceptive methods used and contraindication for using gestagens. The girls received tablets Postinor containing 0.75 mg levonorgestrel in dosage 1 or 2 pills after non-protected sexual contact. Before the study the girls are examined for their knowledge about fertile period of the menstrual cycle, opportunities of hormonal contraception and about their ability to make adequate decisions in unpredicted situations and complications of the unprotected or inadequate protected intercourse. RESULTS: No one pregnancy occurred during the study period. Main first adverse reactions after receiving Postinor were nausea (12.4%) and intermenstrual bleeding (30.9%), persisting up to three days. Systemic adverse reactions reported from the women were breast tenderness (11.2%), dizziness (6.5%) and headache (5.6%). These side effects were mild and did not require treatment. CONCLUSION: Emergency contraception with Levonorgestrel is effective, with less contraindications compared with other emergency contraception methods. Postinor is available and reliable contraceptive medication.
Emergency contraception: a qualitative study of young women's experiences.


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Emergency contraception has the potential to greatly reduce the number of unintended pregnancies. Experiences in the use of emergency contraception have rarely been reported in the literature. Thirteen young women (a subset of a larger study cohort), were individually interviewed in a variety of settings about their personal experiences in relation to the use of emergency contraception. A thematic analysis of the transcribed data was undertaken. Barriers and facilitators to its use are explicated using excerpts from individual interviews with participants. Some young women had positive experiences, however many experiences were negative and reflected difficulties with access and availability of emergency contraception, as well as poor provider attitudes. Positive experiences generally occurred where services were responsive to the needs of young people or when a provider was well known to the young woman. Their experiences underscore the need to understand the situational stress and sometimes difficult arrangements needed to obtain this method of contraception. To optimise young women's experiences of emergency contraceptive use, a number of strategies need to be implemented. These include improvement of information about emergency contraception for young women and their partners; for health professionals; and for the broader community. Of critical importance is the need to include strategies to improve access to emergency contraception. A number of recommendations to achieve this within current health care delivery sectors in Australia, as well as suggestion for future access are provided.
Placing emergency contraception in the hands of women.


Litt IF.

Comment on:

Comment
Editorial
Justice department fails to mention emergency contraception after rape.

**BMJ. 2005 Jan 15;330(7483):112.**

Hopkins Tanne J.

News
Primary care services for an emergency department population: a novel location for contraception.


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OBJECTIVE: To assess contraceptive provision site preferences in female urban Baltimore emergency department patients. METHODS: This cross-sectional questionnaire study was completed by 790 women, a population sufficient to detect a 10% intersite difference. The results were analyzed with chi-square, univariate and multivariate logistic regression analyses. RESULTS: Obtaining contraception other than from a physician's office was acceptable to 57.2% of the subjects, particularly those uninsured (p=.006) and without primary care providers (p<.001). Contraceptive provision in the emergency department (ED) was acceptable to 44.0%, particularly those who are frequent ED users (p=.003) and those at risk for unintended pregnancy (p=.024; pooled, p<.001). Care in nontraditional settings may preclude pelvic examination; 34.0% of the subjects felt safe obtaining contraception without this examination, significantly for those desiring contraceptive provision in the ED. CONCLUSION: Contraceptive services are acceptable in nontraditional settings, including the ED, particularly to women of limited resources. This service is acceptable without pelvic examination for a sizable proportion of the women using the ED.


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BACKGROUND: Media portrayals of emergency contraception (EC) may influence public health policy and the public's acceptance of this reproductive health option. OBJECTIVES: We investigated the accuracy of newspaper coverage of EC, 1992-2002. METHODS: We conducted a content analysis of a sample of 1077 articles in 113 newspapers discussing both EC and abortion and determined the frequency of confusion between the two. RESULTS: Of all articles, 44.5% (n = 479) included at least one instance of confusion between EC and medical abortion. Inaccurate portrayal of the mode of action of EC as medical abortion occurred in 31.8% (n = 343) of articles; 13.1% (n = 141) inappropriately applied terms such as "abortifacient postcoital contraceptives" for EC. CONCLUSIONS: Errors were prevalent, persisted over time and may have contributed to incorrect beliefs about a form of contraception that is used infrequently, despite its potential to deter unintended pregnancy and abortion.
A randomized trial to compare 24 h versus 12 h double dose regimen of levonorgestrel for emergency contraception.


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BACKGROUND: Levonorgestrel (0.75 mg given for two doses 12 h apart) has been proven to be an effective regimen for emergency contraception when the first dose is given within 72 h of unprotected coitus. However, the dosing interval is inconvenient for those taking the first dose in the afternoon. We conducted a randomized study to evaluate two levonorgestrel dosing regimens for emergency contraception. Two doses of levonorgestrel 0.75 mg were administered with the first dose given up to 120 h after unprotected intercourse. The second dose was given 12 h later in the first regimen and 24 h later in the second regimen.

METHODS: We conducted a double-blind, randomized trial between 1997 and 2003 at five centres in China. A total of 2071 women requesting emergency contraception within 120 h of unprotected intercourse were recruited. They were randomized to receive two doses of 0.75 mg of levonorgestrel, given either 24 h apart or 12 h apart. RESULTS: Outcome was unknown for 53 women (24 in the 24 h group and 29 in the 12 h group). Among the remaining 2018 women, the crude pregnancy rate was 1.9% in the 24 h group [95% confidence interval (CI) 1.17-2.94] and 2.0% in the 12 h group (95% CI 1.19-2.99). The proportion of pregnancies prevented was estimated to be 72% in the 24 h group and 75% in the 12 h group. Side-effects were mild in both groups. The efficacy of the 12 h regimen declined significantly when there were further acts of intercourse after treatment (5.0 versus 1.0%, P<0.01). This was not observed in the 24 h group. CONCLUSIONS: Two doses of 0.75 mg levonorgestrel given either 24 or 12 h apart are effective for emergency contraception up to 120 h after unprotected intercourse. Further research to investigate more effective methods of emergency contraception is warranted.
Emergency care for women following sexual assault: characteristics of women and six-month post-aggression follow-up


Oshikata CT, Bedone AJ, Faundes A.

[Article in Portuguese]

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This study evaluated the process and results of treatment for women at a university hospital after sexual violence. A prospective study of 166 women (> or = 12 years of age) treated from October 1999 to February 2002 included six months follow-up after aggression. Half of the women were under 20 years of age, two were illiterate, 70.0% unmarried, 20.0% used contraceptives, and 80.0% received treatment within the first 24 hours post-aggression. Nearly 80.0% of aggressors were unknown to victims and 95.0% of the cases involved vaginal penetration. Emergency contraception was administered to 76.0%, antibiotics to 98.0%, hepatitis B immunoglobulin to 95.0%, and HIV anti-retroviral prophylaxis to 90.0%. The first follow-up consultation (at 14 days) was attended by 137 women, whereas 37.0% dropped out before the 45-day visit and only 29.0% complied with the six-month follow-up. During follow-up, hepatitis B and HPV were identified in 2.6%, pelvic inflammatory disease and Trichomonas vaginalis in 2.1%, and syphilis in 1.3%. Three pregnancies were observed among 127 women who received emergency contraception (2.6%). No cases of HIV seroconversion were observed. Emergency care for victims of sexual assault is effective in reducing unwanted pregnancies and infections.
Changes in young women's awareness, attitudes, and perceived barriers to using emergency contraception.


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BACKGROUND: In a 1996 survey, most young women ages 13-20 years from an urban, hospital-based clinic and a drug treatment center had inadequate awareness of emergency contraception (EC), and perceived several barriers to its use. Since that time, the FDA has approved two products for EC, media coverage has increased, and physicians have provided more counseling about EC. PURPOSE: The purpose of this study is to compare the awareness, attitudes, and perceived barriers to using EC among a sample of young women from 1996 with a different sample of women from 2002. METHODS: We recruited 139 young women (mean age 16.7 +/- 1.8 yrs) from the same adolescent clinic and drug treatment center as the 1996 sample. They had similar demographic characteristics, with the majority (63%) being African-American or multi-ethnic; 85% had ever been sexually active. They were interviewed using a questionnaire about their sexual and contraceptive history as well as their knowledge of and experience with EC. They then watched a 4(1/2) minute video and received a 5-minute didactic review of EC. Following the educational intervention, participants' knowledge, attitudes, and perceived barriers to using EC were assessed. The questionnaire used to guide the interviews was nearly identical to that used in 1996. RESULTS: Between 1996 and 2002, the percentage of participants reporting that they had ever heard of EC grew (44% vs. 73%, P < 0.001), as well as the percentage reporting that they had ever used EC (4% vs. 13%, P = 0.02). Of those participants who had ever heard of EC, fewer 1996 participants knew where to obtain it compared to 2002 participants (78% vs. 95%, P = 0.002) and fewer 1996 participants knew the correct time limits for use (20% vs. 51%, P < 0.001). The above data were collected prior to a didactic review session about EC. After receiving information about EC, the percentage of participants reporting a positive attitude toward EC grew between 1996 and 2002 (72% vs. 96%, P < 0.001). Young women also had fewer concerns about safety and side effects in 2002. The 1996 participants were more likely to report barriers to using EC compared to the 2002 participants. In 1996, EC side effects and impact on fertility were the most commonly perceived barriers to EC use. However, in 2002 the frequency of all reported barriers decreased and cost had become the number one perceived barrier. CONCLUSION: Since 1996, young women at an urban hospital-based adolescent clinic and drug treatment center increased their awareness, use, and positive attitudes towards EC, as well as decreased their perceived barriers to using EC. Educational interventions that focus on improving knowledge among younger adolescents, specifically about correct time limits and identifying ways to find affordable EC, will address the most common knowledge deficits and perceived barriers to EC use among adolescents.
Emergency contraception knowledge among women in a Boston community.


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This study assesses the baseline knowledge of emergency contraception (EC) in a Boston neighborhood. A written survey was distributed to women aged 18-44 years in the Boston neighborhood of Jamaica Plain. Of the 188 participants, 82% have heard of EC. Knowledge disparities by race/ethnicity groups were seen, with only 51% of Latina women and 75% of Black women having heard of EC compared with 99% of White women (p < .0001 and p = .002, respectively). Of the entire cohort, 39% knew that EC works by preventing pregnancy, 48% knew that it should be taken within 72-120 h of unprotected intercourse and 44% knew that it is only available by prescription in Massachusetts. Only 25% of women have ever discussed EC with a health care provider, and only 12% have ever received an advance prescription. A community education campaign aimed at reproductive-age women, health care providers and pharmacists has been tailored to address these knowledge deficits.
Over-the-counter availability of Plan B emergency contraception: further discussion and commentary.


Fincham JE, Harris CE, Fassett WE, Richards W.

Editorial
Clinical, ethical, and medical legal considerations on emergency contraception.


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PURPOSE OF INVESTIGATION: To evaluate how many women required the so-called "emergency contraception" at our outpatient service and what the actual role is of this kind of pharmacological administration in interfering with ovulation and pregnancy, paying particular attention to the ethical and medico-legal aspects of this subject. METHODS: During the period from 1 December 1998 to 30 November 2003, emergency contraception was prescribed to a total of 1,160 women. With regard to the contraceptives used, in most cases (1,132, 97.6%) a combined oral estrogen-progestogen pill (ethinyloestradiol 0.05 mg plus levonorgestrel 0.25 mg) was prescribed; in some cases (20 patients, 1.8%) danazol (400 mg), in four women (0.3%) a progestin-only pill (levonorgestrel 0.75 mg), and in four other women (0.3%) an intrauterine device. RESULTS: It does not come out that there were any pregnancies in our study patients since none of them, who were told to come back for follow-up, were seen at our termination of pregnancy service or delivery room. CONCLUSION: The "Yuzpe regimen" of a combined oral estrogen-progestogen pill has been the most commonly used method for emergency contraception. A new method recently proposed, a progestin-only pill with levonorgestrel 0.75 mg, is having better results than the previous one, with a lower incidence of side-effects and higher efficacy. Moreover, the treatment with this method does not interfere in case of a pregnancy already being carried and cannot interrupt it.
Providers' knowledge of, attitude to and practice of emergency contraception.


Uzuner A, Unalan P, Akman M, Cifcili S, Tuncer I, Coban E, Yikilkan H, Akgun T.

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OBJECTIVES: Barriers to widespread use of hormonal emergency contraceptives (EC), such as lack of knowledge and prejudices held by health-care providers, still exist today. This study was initiated to evaluate the knowledge, attitudes and prejudices of family-planning (FP) providers. METHODS: This survey was conducted in FP units of primary-health-care centers in Istanbul. A total of 180 providers were interviewed in 80 units to whom a questionnaire was administered by face-to-face technique. RESULTS: One-hundred and fifty-two of the providers stated that they had heard of EC. The correct timing and dose interval of EC were known by 50% of them. The participants held the belief that EC caused abortion (39.4%), and that it was harmful for the fetus (31.1%). Other prejudices were the possibility of increased unprotected sexual intercourse (78.9%) and a tendency for men to give up condom use (75%); female providers were more prejudiced concerning these statements. The providers' tendency towards the provision of counseling was significantly related to their prejudices (p = 0.011, p = 0.033) and to the application rate (p = 0.000). Conclusion Providers need more detailed information about EC. During FP training courses, the providers should be encouraged towards counseling EC which would increase the application rate of the users and decrease their own prejudices.
Emergency contraception use by Irish teenagers.


Jones S.

Irish Family Planning Association, Dublin, Ireland.

OBJECTIVE: To audit teenagers attending a family planning clinic requesting emergency contraception. METHODS: A non-judgemental, relaxed, confidential interview was carried out. RESULTS: Many young Irish women become sexually active at a young age. Many teenagers appear to have problems using condoms correctly while others are taking chances by not using any method of contraception. CONCLUSIONS: These findings have important implications for those drawing up a sexual health strategy for young people.
Emergency contraceptive pills: dispensing practices, knowledge and attitudes of South Dakota pharmacists.


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CONTEXT: Despite a decision by the Food and Drug Administration to deny over-the-counter status to emergency contraceptive pills, pharmacists play a crucial role in a woman's access to this medication, especially in areas with large rural populations. Pharmacists' knowledge about and attitudes toward emergency contraceptive pills may affect whether pharmacies carry the medication and whether individual pharmacists dispense it. METHODS: In October 2003, all registered pharmacists living and working in South Dakota were mailed a survey to assess their dispensing practices for, knowledge about, and attitudes toward emergency contraceptive pills. Data for 501 respondents were analyzed through chi-square testing and multivariate logistic regression. RESULTS: Fifty-four percent of respondents worked in pharmacies that carried emergency contraceptive pills. Of these, 67% had dispensed the medication in 2003, and 24% were not comfortable providing customer counseling about the method. Thirty-seven percent of all pharmacists did not understand its mechanism of action; 43% and 21%, respectively, incorrectly answered questions about the medication's link to birth defects and health risks. Only 5% correctly answered all three questions. Eighty-four percent of surveyed pharmacists believed that the medication should not be made available over the counter. Multivariate analysis showed that knowledge of emergency contraception and support for over-the-counter status were relatively low among pharmacists working in small communities. CONCLUSIONS: The education of pharmacists about emergency contraceptive pills must be strengthened to ensure that women receive accurate medical information and access to all contraceptive services.
Emergency oral contraceptives do not interrupt pregnancy. Women are withheld the treatment which is erroneously placed on a par with abortion.


Marions L, Gemzell Danielsson K.

[Article in Swedish]

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Emergency contraception (EC), which prevents pregnancy after unprotected sexual intercourse, has the potential to significantly reduce the incidence of unintended pregnancy and thus the need for abortion. EC is, however, frequently confused with induced abortion, making the method unavailable for millions of women for religious and/or political reasons. In this paper we discuss available data on the mechanism of action and efficacy of the current accessible methods. The main mechanism of action, of emergency contraceptive pills, is to postpone or inhibit ovulation, while the insertion of a copper IUD prevents implantation.

Review
Review, Tutorial
Nonprescription status for emergency contraception.


Sibbald B.

Comment in:
   CMAJ. 2005 Mar 29;172(7):845, 847.

News
Emergency contraception moves behind the counter.

CMAJ. 2005 Mar 29;172(7):845, 847.

Comment on:

Article in English, French

[No authors listed]

Comment
Editorial
Do Indonesian medical practitioners approve the availability of emergency contraception over-the-counter? A survey of general practitioners and obstetricians in Jakarta.


Syahlul DE, Amir LH.

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BACKGROUND: Few studies have examined the attitude of medical practitioners towards the availability of emergency contraception (EC) without prescription. In Indonesia, EC (either Yuzpe regimen or Postinor-2) is available by prescription only. We aimed to examine the level of knowledge, attitudes and practices of medical practitioners in Indonesia about EC, in particular their attitudes to the availability of EC over-the-counter (OTC), using a questionnaire. METHODS: Data were collected by an anonymous structured questionnaire. Questionnaires were distributed to general practitioners in 36 Community Health Centres and 25 private clinics using stratified random sampling according to area in Jakarta, and to obstetricians practising in 24 government and private hospitals and eight private clinics in Jakarta. Two hundred and five general practitioners and 142 obstetricians and gynaecologists participated; overall response rate was 75%. RESULTS: Although most participants were familiar with EC, only 22% received a very good knowledge score (4 or 5/5 answers correct), while 52% received a poor score (0-2/5 correct). Most participants did not support the OTC availability of EC (70%). Logistic regression identified that participants who prescribed EC had an Odds of 3.8 (95% CI 1.90, 7.73) of approving OTC EC, after adjustment for age and speciality. CONCLUSION: Although many organisations are working towards OTC availability of EC, it needs to be recognized and addressed that doctors who do not prescribe EC are unlikely to support the increased availability of EC.
Late follicular phase administration of mifepristone suppresses circulating leptin and FSH - mechanism(s) of action in emergency contraception?


Leminen R, Raivio T, Ranta S, Oehler J, von Hertzen H, Janne OA, Heikinheimo O.

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OBJECTIVE: Low dose mifepristone (RU486) is highly effective in emergency post-coital contraception (EC), although the mechanism(s) of action remains unclear. We studied the endocrine actions of 10 mg mifepristone administered orally as a single dose to eight healthy volunteers (aged 20-45 years) during the late follicular phase. METHODS: Serum levels of LH, FSH, oestradiol, progesterone, leptin, mifepristone, cortisol, and gluco-corticoid bioactivity (GBA) were measured before and 1, 2, 4 and 8 h after ingestion of mifepristone on cycle day 10 or 11 (study day 1), and follow-up was continued for 10 days. Ovarian ultrasonography was performed on study days 1 and 7. Similar measurements were carried out during a control cycle. RESULTS: Mifepristone postponed ovulation, as evidenced by a 3.4+-1.1 day (means+-s.d.) delay (P < 0.005) in the LH surge and 3.6+-4.0 day prolongation of the treatment cycle (P = 0.08). During the mifepristone cycle, an LH surge was displayed by five subjects when serum mifepristone levels had declined to 9.5+-7.1 nmol/l. During the day of mifepristone administration, circulating GBA (P < 0.001) and leptin (P < 0.001) levels declined. On the day after mifepristone administration, mean serum FSH and leptin levels were lower than pretreatment values (3.8+-1.8 IU/l vs 5.2+-1.1 IU/l, n = 7, P < 0.05; 28.9+-6.7 microg/l vs 33.2+-9.0 microg/l, n = 7, P < 0.05 respectively), and the corresponding difference in the mean serum oestradiol concentration was borderline (452+-252 pmol/l vs 647+-406 pmol/l, n = 7, P = 0.056). In contrast to the control cycle, individual leptin levels declined during the follow-up after ingestion of mifepristone (n = 8, P < 0.01). CONCLUSIONS: These data showed that the commonly employed dose of mifepristone for EC delays ovulation and prolongs the menstrual cycle, when given during the late follicular phase. The mechanism of action of mifepristone may include a reduction of FSH secretion via a decrease in circulating leptin.
Pharmacists and emergency contraception.


Manasse HR Jr.

Comment on:
Pharmacists and emergency contraception.


Calis KA, Pucino F Jr, Restrepo ML.

Comment on:
Pharmacists and emergency contraception.


Waxman J, Laser R.

Comment on:

Comment
Letter
The remaining barriers to the use of emergency contraception: perception of pregnancy risk by women undergoing induced abortions.


Moreau C, Bouyer J, Goulard H, Bajos N.

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Although access to and knowledge of emergency contraception (EC) have improved, numerous unplanned pregnancies occur each year. We thus assessed the remaining barriers to EC use in a population of women seeking an abortion in four abortion centers in France in 2002. A self-administered questionnaire was completed by 1365 women. Most women have heard of EC (89%), but access to information remained limited in socially disadvantaged populations. Nevertheless, the unperceived risk of pregnancy appeared to be the most limiting factor to EC use. Only 38.5% of women were aware of pregnancy risk at the time of the intercourse that made them pregnant. Of these women, 48% minimized the risk later, resulting in the decision not to use EC. As the perception of risk is commonly reevaluated by women over time, which probably affects EC use, it could be important to promote advance supply of EC so that women could use it immediately after a recognized unprotected intercourse.
Bioavailability of the Yuzpe and levonorgestrel regimens of emergency contraception: vaginal vs. oral administration.


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Separate crossover studies compared the bioavailability of oral vs. vaginal routes of administration for the Yuzpe (n=5) and levonorgestrel regimens (n=4) of emergency contraception. Twice the standard dose of the Yuzpe regimen (200 microg of ethinyl estradiol, 1000 microg of levonorgestrel) or the levonorgestrel regimen (1500 microg of levonorgestrel) was self-administered vaginally. One week later, each subject received orally the standard dose of the assigned medication. Serial blood samples were collected over 24 h and assayed for levonorgestrel and ethinyl estradiol (for the Yuzpe regimen only). Paired t tests were used to compare oral vs. vaginal administration for maximum concentration (Cmax), time to maximum concentration (Tmax) and area under the curve over 24 h (AUC0-24). Relative bioavailability (vaginal/oral) was derived from AUC0-24. Vaginal administration of double the standard dose of the Yuzpe regimen resulted in a lower Cmax (vaginal=5.4 vs. oral=14.6 ng/mL, p=.038) and a later Tmax (5.9 vs. 2.0 h, p=.066) for levonorgestrel, compared to oral administration. Corresponding ethinyl estradiol concentrations were higher (786 vs. 391 pg/mL, p=.039) and peaked later (4.0 vs. 1.9 hr, p=.154) with vaginal administration. Relative bioavailabilities for levonorgestrel and ethinyl estradiol were 58% and 175%, respectively. Similarly, vaginal administration of the levonorgestrel regimen resulted in a lower Cmax (vaginal=5.4 vs. oral=15.2 ng/mL, p=.006) and a later Tmax (7.4 vs. 1.3 h, p=.037) for levonorgestrel, compared to oral administration. The relative bioavailability was 62%. Our preliminary data suggest that vaginal administration of these emergency contraception regimens appears to require at least three times the standard oral dose to achieve equivalent systemic levonorgestrel concentrations.
Awareness of emergency contraception.


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OBJECTIVE: To study the level of awareness and use of emergency contraception (EC) in women attending a pregnancy termination clinic. METHOD: A questionnaire was handed to all women attending the clinic for termination of pregnancy and related advice during the month of February 2003. Completed questionnaires were collected before the women left the clinic and the data analysed. RESULTS: A total of 78 women received the questionnaire and all except two were returned. Fifty-nine (78%) women were familiar with EC. Sixty percent of women felt that EC was easily accessible, but only 37% of them had ever used it. However, 90% of the women questioned would consider using EC in the future. CONCLUSION: Despite the level of awareness of EC in Fife being quite good, EC is underused for many reasons.
Contraceptive practices and awareness of emergency contraception in educated working women.


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BACKGROUND: Regular contraceptive use and emergency contraception are tools to prevent pregnancies. AIMS: This study was designed to investigate knowledge and use of contraceptive methods and awareness of emergency contraception among women working in the hospital. SETTINGS: Educated workingwomen in a medical college hospital. DESIGN: Cross-sectional study. MATERIALS AND METHODS: The study was carried out among women belonging to three categories: staff nurses, ministerial staff and others. Married as well as unmarried employees in the reproductive age group were interviewed. A pretested mixed questionnaire containing open as well as closed ended questions was administered. The women were asked questions concerning knowledge and use of contraceptive methods and awareness of emergency or postcoital contraception. RESULTS: Of the 284 employees 258 women consented for the interview. All the subjects were literate and majority (97.2%) had an urban background. Of the 190 married women, 154 (81.1%) practiced contraception, among them (73.3%) were regular users. Eighty respondents underwent abortions of which 46 had spontaneous and 34 had induced abortions. Among the available contraceptive methods, condom was the most popular method in 89 (57.8%) followed by Copper T in 38 women (24.7%). The use of hormonal contraception was very low 2.6%. Print and electronic media were the common source of public awareness in 149 subjects (57.7%). Twenty-nine women (11.2%) were aware and only three women used emergency contraception. CONCLUSIONS: A high percentage of females in this literate workingwomen population used contraception; however, the awareness of emergency contraception was low.
Emergency contraception is under attack by US pharmacists.

**BMJ. 2005 Apr 30;330(7498):983.**

Tanne JH.

News
Direct access to emergency contraception.

JAMA. 2005 Apr 20;293(15):1856; author reply 1856-7.

Last AR, Wilson SA.

Comment on:

Comment
Letter
Direct access to emergency contraception.

*JAMA.* 2005 Apr 20;293(15):1856; author reply 1856-7.

Martinez-Gonzalez MA, de Irala J, Uroz V.

Comment on:
  *JAMA.* 2005 Jan 5;293(1):54-62.
Target-oriented anti-implantation approaches for pregnancy interception: experiences in the rhesus monkey model.


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Blastocyst implantation is a critical process in the establishment of pregnancy in eutherian mammals and requires a harmonious symbiosis between the developing conceptus and the differentiating maternal uterus. A better understanding of this symbiotic relationship will provide novel approaches and interventions for realizing anti-implantation strategies for effective fertility regulation and reproductive health care management. We have been using the rhesus monkey (Macaca mulatta) as a nonhuman primate model to this end. In the present study, the process of progesterone-mediated regulation of endometrial receptivity for blastocyst implantation has been targeted by the use of mifepristone as an emergency contraceptive agent. Furthermore, based on cell-specific, temporal and spatial distribution of vasotrophic cytokines and mediators in the "receptive" and periimplantation periods, the pregnancy interceptive potentials of (a) monoclonal antibody (MAb) to leukemia inhibitory factor (LIF); (b) inhibitors of nitric oxide synthase [e.g., N6-nitro-l-arginine (l-NAME) and aminoguanidine]; and (c) MAb to vascular endothelial growth factor (VEGF) were examined. LIF is a progesterone-responsive pleiotropic cytokine that functions as a proinflammatory cytokine, together with interleukins 1 and 6, during the process of implantation-placentation in primates, and its immunoneutralization with MAb resulted in inhibition (p<.04) of pregnancy establishment in the rhesus monkey. However, timed administration of l-NAME or aminoguanidine failed to inhibit blastocyst implantation in a significant manner. Also, no synergistic antinidatory action of antiprogestin combined with l-NAME was detected in the rhesus monkey. The application of MAb to VEGF during the perimplantation period, on the other hand, led to significant (p<.04) prevention of pregnancy without influencing steroid hormone levels in the circulation. Our data lend support to the hypothesis that VEGF is essential for pregnancy establishment and that trophoblast-derived VEGF, acting via its specific receptors Flt-1 and KDR, is necessary for blastocyst implantation. The use of cDNA-based expression arrays followed by differential display analysis has provided preliminary understanding of the nature of gene cluster networks operative in the receptive endometrium of potential conception cycles in the rhesus monkey. This knowledge may, in the future, lead to further innovative anti-implantation strategies for targeted pregnancy interception.
Emergency contraception for teens and young women: researchers find that it doesn’t inhibit contraceptive use or increase rates of sexually transmitted infections.


Brandt D.

News
Single dose of 1.5 mg Levonorgestrel for emergency contraception.


Okewole IA, Arowojolu AO.

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The potential of mifepristone (RU-486) as an emergency contraceptive drug.


Sarkar NN.

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The potential of mifepristone to be an emergency contraceptive is reviewed. Mifepristone prevents 92-100% of pregnancies with an acceptable side-effect profile on oral intake of a 10-600-mg dose within 72 h of unprotected intercourse. A single dose of 10 mg mifepristone resulted in a pregnancy rate of 1.5%, similar to a 1.5-mg single dose or two doses of 0.75 mg levonorgestrel 12 h apart, administered within 120 h (current standard) of unprotected sexual intercourse. Mifepristone and levonorgestrel do not differ in efficacy as emergency contraceptives. The mode of action of emergency contraception (EC) with mifepristone or levonorgestrel is primarily associated with inhibition of ovulation rather than prevention of implantation. Different doses of mifepristone appear to have similar effects. However, delay in the onset of subsequent menstruation caused by mifepristone is dose dependent and is reduced with a lower dose without affecting its efficacy. Patient acceptability of mifepristone as EC is high. However, the optimum standard dose of mifepristone is yet to be established for its application as an effective and acceptable emergency contraceptive drug for ordinary clinical use or practice.
What happened when Scottish women were given advance supplies of emergency contraception? A survey and qualitative study of women's views and experiences.


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The Lothian Emergency Contraception Project in Scotland was a radical intervention in which women aged 16-29 were given 5 packs of emergency contraception (EC) to keep at home. We use survey and qualitative interview data to describe how women used the project packs and their views of advance supplies. The women's accounts suggest that concerns that eased access to emergency contraception will lead to repeated use and risky sex appear to be largely unfounded. Women were pleased to be offered the packs, which were reported as having practical advantages and also sparing them the difficulty of negotiating a sometimes awkward consultation. Respondents explained how they used their packs of EC and in their accounts used justifications, repetition and distancing to emphasise that they would not take risks with contraception or sexually transmitted infections. We interpret the data in the light of the observation that EC has an anomalous role in contraception and the work of applied linguists Candlin and Lucas who have demonstrated the difficulties inherent in the family planning consultation.
Direct access to emergency contraception through pharmacies and effect on unintended pregnancy and STIs: a randomized controlled trial.


Raine TR, Harper CC, Rocca CH, Fischer R, Padian N, Klausner JD, Darney PD.

Comment in:
   JAMA. 2005 Apr 20;293(15):1856; author reply 1856-7.
   JAMA. 2005 Apr 20;293(15):1856; author reply 1856-7.

Center for Reproductive Health Research and Policy, Department of Obstetrics, Gynecology, and Reproductive Sciences, University of California, San Francisco, CA 94110, USA.
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CONTEXT: It is estimated that half of unintended pregnancies could be averted if emergency contraception (EC) were easily accessible and used. OBJECTIVE: To evaluate the effect of direct access to EC through pharmacies and advance provision on reproductive health outcomes. DESIGN, SETTING, AND PARTICIPANTS: A randomized, single-blind, controlled trial (July 2001-June 2003) of 2117 women, ages 15 to 24 years, attending 4 California clinics providing family planning services, who were not desiring pregnancy, using long-term hormonal contraception or requesting EC. INTERVENTION: Participants were assigned to 1 of the following groups: (1) pharmacy access to EC; (2) advance provision of 3 packs of levonorgestrel EC; or (3) clinic access (control). MAIN OUTCOME MEASURES: Primary outcomes were use of EC, pregnancies, and sexually transmitted infections (STIs) assessed at 6 months; secondary outcomes were changes in contraceptive and condom use and sexual behavior. RESULTS: Women in the pharmacy access group were no more likely to use EC (24.2%) than controls (21.0%) (P = .25). Women in the advance provision group (37.4%) were almost twice as likely to use EC than controls (21.0%) (P<.001) even though the frequency of unprotected intercourse was similar (39.8% vs 41.0%, respectively, P = .46). Only half (46.7%) of study participants who had unprotected intercourse used EC over the study period. Eight percent of participants became pregnant and 12% acquired an STI; compared with controls, women in the pharmacy access and advance provision groups did not experience a significant reduction in pregnancy rate (pharmacy access group: adjusted odds ratio [OR], 0.98; 95% confidence interval [CI], 0.58-1.64; P = .93; advance provision group: OR, 1.10; 95% CI, 0.66-1.84, P = .71) or increase in STIs (pharmacy access group: adjusted OR, 1.08, 95% CI, 0.71-1.63, P = .73; advance provision group: OR, 0.94, 95% CI, 0.62-1.44, P = .79). There were no differences in patterns of contraceptive or condom use or sexual behaviors by study group. CONCLUSIONS: While removing the requirement to go through pharmacists or clinics to obtain EC increases use, the public health impact may be negligible because of high rates of unprotected intercourse and relative underutilization of the method. Given that there is clear evidence that neither pharmacy access nor advance provision compromises contraceptive or sexual behavior, it seems unreasonable to restrict access to EC to clinics. Clinical Trial, Randomized Controlled Trial.
Effects of making emergency contraception available without a physician's prescription: a population-based study.

CMAJ. 2005 Mar 29;172(7):878-83.

Soon JA, Levine M, Osmond BL, Ensom MH, Fielding DW.

Erratum in: CMAJ. 2005 Apr 26;172(9):1164.

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BACKGROUND: Timely access to emergency contraception has the potential to reduce the number of unwanted pregnancies and subsequent abortions. A public health policy initiative in British Columbia beginning in December 2000 allowed pharmacists to provide emergency contraceptives (ECs) without a prescription. We sought to determine changes in EC use after the policy was introduced and to analyze EC use with data generated by the policy.

METHODS: All Ovral, Preven and Plan B EC prescriptions from Jan. 1, 1996, to Dec. 31, 2003, were identified through the BC PharmaNet and Medical Services Plan administrative databases and the data analyzed to determine changes between 1996 and 2002. Changes over time were determined in the frequency of EC provision, choice of EC agent, frequency of EC use by age group, repeat use and geographic distribution of EC prescription for the pre- and post-policy periods. Anonymized patient-specific data from treatment consent forms were used to describe the reason for EC use, interval between unprotected intercourse and EC prescription, proportion prescribed for immediate or future use, referrals for regular birth control and STD screening and concomitant antiemetic use. Consent data also provided the time in the menstrual cycle that the EC was requested.

RESULTS: The number of EC prescriptions increased from a pre-policy mean of 8805 (99% confidence interval 7823-9787) in the years 1996 to 2000 to a post-policy total in 2002 of 17 794. Physicians prescribed the levonorgestrel regimen (Plan B) less frequently than did pharmacists. The frequency of EC use was highest among women aged 20-24 years across all study years, and all age groups demonstrated a post-policy increase in use. On average, 2.1% of the women received an EC 3 or more times a year over the period of the study. More women in urban regions received ECs than women in more rural areas of the province. Analysis of pharmacist treatment consent forms used in 2001 and 2002 showed that 56.2% of women receiving an EC reported using a method of birth control that had failed, 55.7% of pharmacist-provided ECs were obtained within 24 hours after unprotected intercourse, 1.1% of ECs were obtained for future use, antiemetics were provided to 57.7% of women receiving the Yuzpe regimen (Ovral, Preven) and to 20.5% of women receiving levonorgestrel, and women tended to seek ECs when unprotected intercourse occurred at the time of highest risk of pregnancy in their menstrual cycle. Women in greatest financial need obtained ECs more frequently from physicians than from pharmacists.

INTERPRETATION: The policy change that granted pharmacists authority to provide ECs to women without a physician's prescription did not simply expand EC availability but was associated with an overall increase in EC use in the province.
A strategic assessment of the reproductive health and responsible parenthood programme of Buenos Aires, Argentina.


Petracci M, Ramos S, Szulik D.

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Since 1991, Argentina has had provincial reproductive health laws, a far-reaching national programme and strong public consensus in support of reproductive health policies. Nevertheless, the challenges of strengthening public services, increasing the number of programme sites and resisting conservative attacks remain. This article describes an assessment of the reproductive health programme of the city of Buenos Aires, passed in 2000, whose objectives are to prevent unwanted pregnancies and sexually transmitted diseases/HIV and to train health personnel. The programme operates in every public hospital and primary health care centre in the city. The assessment was conducted jointly by the Ombudsperson's Office of Buenos Aires and the Centre for the Study of State and Society (CEDES). Hormonal contraceptives, IUDs and male condoms were mostly available, but emergency contraception, female condoms and other barrier methods were not. Some health professionals and service users were knowledgeable about the new laws and the reproductive rights recognized under the law. Over 90% were satisfied with quality of care in service delivery but many professionals described excessive workloads, deficient infrastructure, and shortages of supplies and staff. Wanting help to obtain a tubal ligation was the most frequent reason for the claims lodged with the Ombudsperson's Office, followed by HIV, quality of care, and abortion. Information and training for both health care providers and women's and human rights NGOs was carried out.

Evaluation Studies
Emergency contraception, Levonorgestrel and ectopic pregnancy


Valenzuela CY.

[Article in Spanish]

Publication Types:  
Letter

PMID: 15970990 [PubMed - in process]
Emergency contraception use and non-use in young women: the application of a contextual and dynamic model.


Free C, Ogden J.

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There have been many approaches to understanding contraception use including social cognition models which have been criticised for their individualistic approach and their static nature. The present quantitative study developed and refined a contextual and dynamic model of contraception use that was derived using qualitative research. This model conceptualizes the predictors of contraception use in terms of the meaning and importance of a range of social goals, perceptions of vulnerability, and constraints on or facilitators of contraception use each of which changes over time. The present study operationalized this model in relation to emergency contraception and explored differences between users and non-users and between episodes of use and non-use. In terms of users and non-users, the results showed that the users of emergency contraception showed a more positive view of an emergency contraception user, perceived greater support from their partner for emergency contraception use, rated themselves more at risk of pregnancy, and felt more confident about asking for emergency contraception. In terms of use and non-use, use was related to an increased belief about the risk of pregnancy, increased partner support, increased concern about health care professionals and the side-effects of the drug, and a more positive identity of an emergency contraception. The study has helped to develop and refine the model and has identified some key factors that are specifically relevant to emergency contraception use in a sample of women in education in and around London.
Male doctors receive fewer requests for emergency contraception than their women colleagues do


Gonzalez Hernandez A, Engel Gomez JL.

[Article in Spanish]

Letter
Approval of FDA commissioner held up by emergency contraception issue.


Tanne JH.

Publication Types:
  News
Availability of services for emergency contraceptive pills at high school-based health centers.


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CONTEXT: School-based health centers have the potential to increase adolescents' awareness of, access to and use of emergency contraceptive pills, which can prevent unintended pregnancy following unprotected sex. METHODS: In 2001, 250 high school-based health centers responded to a nationwide mail survey that assessed the provision of education, referral and prescription services for emergency contraceptive pills, as well as the perceived benefits and barriers related to offering these services. Frequencies, cross-tabulations and logistic regression models were used to analyze the data. RESULTS: Fifty-nine percent of the centers provided education and referrals for emergency contraceptive pills, while 30% provided prescriptions. Staff generally identified the same benefits of and barriers to services, although centers that provided services were more likely than nonproviders to report benefits and less likely to report barriers. Predictors of offering education were providing reproductive health services (odds ratio, 4.6) and citing the increased likelihood that students would use the method (3.5) and have the opportunity to discuss contraception (2.6). Reporting the benefit of pregnancy prevention was a predictor of offering referrals (2.9), while providing reproductive health services (30.4) and citing pregnancy prevention (6.3) were predictors of offering prescriptions. Predictors of the decreased likelihood of offering services were also identified. CONCLUSIONS: School centers that provide all three services have the greatest potential to ensure the successful use of emergency contraceptive pills by adolescents. While the number of centers offering services appears to be increasing, greater efforts are needed to improve students' awareness of and access to the method so they can make informed decisions regarding their reproductive health.
A new method for estimating the effectiveness of emergency contraception that accounts for variation in timing of ovulation and previous cycle length.


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OBJECTIVE: To develop a new method for estimating the effectiveness of emergency contraception (EC) by using information about previous menstrual cycle length, accounting for the variation in the day of ovulation within the menstrual cycle, and comparing the validity of the new and previous methods. METHOD(S): Secondary analysis of a data set with a biological marker of ovulation and its distribution in the cycle. Based on a sample of cycles with known length and a known biological marker of ovulation, we simulated trials of predetermined EC effectiveness and then calculated estimates of EC effectiveness based on old and new methods. RESULT(S): Under some conditions, all methods produced biased estimates of effectiveness with simulated trials, especially when the actual effectiveness was low. The systematic bias was minimized with the new method. The new method was robust with regard to the distribution of the day of intercourse in women presenting for EC. CONCLUSION(S): Future studies of EC effectiveness should consider both the uncertainty in predicting the day of ovulation and previous cycle length. Our estimates of daily fecundity should be replicated with other data sets.
A prospective study of the provision of emergency contraception in French family planning centers


Gainer E, Prudhomme M, Perriot Y, Leroux MC, Bouyer J.

[Article in French]

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OBJECTIVES: To describe emergency contraception provision, including the efficacy of the method, in family planning centers in suburban Paris two years after the method became available without a prescription. PATIENTS AND METHODS: A prospective study involving two questionnaires was conducted between September 2001 and July 2002 in 27 family planning centers in the Val-de-Marne region. The first questionnaire was completed at the time emergency contraception was dispensed and the second one upon a follow-up visit. Efficacy was calculated for both perfect use (only one act of unprotected intercourse in the current menstrual cycle, emergency contraception treatment initiated within 72 hours) and typical use (including multiple acts of unprotected intercourse in the cycle and/or treatment initiated after 72 hours). RESULTS: A total of 519 requests for emergency contraception was recorded, resulting in the provision of 518 treatments. The women requesting emergency contraception were young (96% under the age of 25) and cited unprotected intercourse and problems with condom use as the main reasons for the request. Information regarding the outcome of emergency contraception treatment was available in 77% of the cases, and a failure rate of 1.9% was observed with perfect use and 2.7% with typical use. DISCUSSION AND CONCLUSIONS: This prospective study of emergency contraception prescription in family planning centers confirms data on the efficacy and safety of the method observed in similar environments. The failure rate associated with typical use is higher than that observed with perfect use.
Late follicular phase administration of levonorgestrel as an emergency contraceptive changes the secretory pattern of glycodelin in serum and endometrium during the luteal phase of the menstrual cycle.


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This study examined serum glycodelin concentrations and endometrial expression during the luteal phase following oral administration of levonorgestrel (LNG) at different stages of the ovarian cycle. Thirty women were recruited and allocated into three groups. All groups were studied during two consecutive cycles, a control cycle and the treatment cycle. In the treatment cycle, each woman received two doses of 0.75 mg LNG taken 12 h apart on days 3-4 before the luteinizing hormone (LH) surge (Group 1), at the time of LH rise (Group 2) and 48 h after the rise in LH was detected (Group 3). Serum progesterone (P) and glycodelin were measured daily during the luteal phase, and an endometrial biopsy was taken at day LH +9 for immunohistochemical glycodelin-A staining. In Group 1, serum P levels were significantly lower, serum glycodelin levels rose earlier and endometrial glycodelin-A expression was weaker than in Groups 2 and 3, in which no differences were found between control and treatment cycles. Levonorgestrel taken for emergency contraception (EC) prior to the LH surge alters the luteal phase secretory pattern of glycodelin in serum and endometrium. Based on the potent gamete adhesion inhibitory activity of glycodelin-A, the results may account for the action of LNG in EC in those women who take LNG before the LH surge.
Are women ready for more liberal delivery of emergency contraceptive pills?


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OBJECTIVE: To investigate the knowledge, use and attitudes towards emergency contraception (EC) among women attending family planning clinics. DESIGN: Self-administered questionnaire survey. SETTINGS: Eight birth control clinics and three youth health care centers of The Family Planning Association of Hong Kong. SUBJECTS: A total of 2454 women aged 15 to 53 attending the clinics between 1 November 2003 and 13 December 2003 were recruited. RESULTS: A total of 1405 completed questionnaires were analyzed. 63.7% of women had heard of EC and 51.8% knew that they had to take it within 72 h. 15.7% had used EC before. More advertising on EC was considered desirable by 46.3% of subjects. 48.7% of subjects supported advanced provision of emergency contraceptive pills (ECPs) and 25.7% supported over-the-counter sales. CONCLUSION: The awareness and use of EC were low in our study population. They were not ready for more liberal delivery of ECPs as less than 50% of women supported these new delivery modes and their knowledge on ECPs use was inadequate.
"Not that sort of practice": the views and behaviour of primary care practitioners in a study of advance provision of emergency contraception.


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BACKGROUND: Advance supplies of emergency contraception (EC) were made available to women aged 16-29 through general practice and family planning services in Lothian, Scotland. Although this intervention was not associated with an overall reduction in abortion rates in Lothian, it was hypothesized that some general practices may have been more successful than others in promoting and delivering the intervention. OBJECTIVE: To investigate, using comparative case studies, whether, and why, some general practices were more successful in promoting and delivering advance supplies of EC than others. METHODS: Eleven purposively sampled general practices from the 97 participating in the intervention were studied. The number of packs of advance supplies distributed was recorded and distribution rates per 100 eligible women per practice calculated. 44 semi-structured interviews with staff were used to describe the mechanisms through which advance supplies were distributed and health professionals' views of the intervention. RESULTS: Distribution rates varied from 0.9 to 32.0 per 100 eligible women. Respondents described three mechanisms through which advance supplies were distributed: passive, reactive and proactive. Views about EC, and the suitability of their patient population for advance supplies, varied and configured specific practice contexts that facilitated or hindered the delivery of advance supplies. Favourable views and pro-active mechanisms were associated with higher distribution rates, less favourable or ambivalent views and passive delivery mechanisms with lower distribution rates. CONCLUSION: If primary care professionals are to actively engage with a sexual health promotion agenda they need to develop appropriate interpersonal skills and address their values, attitudes and cultural competences.
Emergency contraception: nurses can empower women.


Lever KA.

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Review
Review, Tutorial
Knowledge, attitude and use of emergency contraception among female undergraduates in Eastern Nigeria.


Ikeme AC, Ezegwui HU, Uzodimma AC.

Summary Our objective was to investigate the knowledge, use and attitude towards emergency contraceptive pills among female undergraduates. This was done using a randomly selected sample of female undergraduate students at three tertiary institutions in Enugu, Nigeria. The majority of the respondents (95%) were aware of contraception. However, 61% of the female undergraduates had heard of emergency contraception but only 31% had actually used it. The most common source of information about emergency contraceptive pills was from friends and teachers. Most respondents (19%) used Postinor(R) rather than other types. While using emergency contraception, 16% got pregnant, of whom 9% carried the pregnancy to term and delivered the baby while (10%) procured an illegal abortion. Increased utilization of emergency contraception is plagued with fear of infertility, anovulation, ill health and sexually transmitted infection. Though 40% of the female undergraduates accepted it when informed and would recommend it to other female students, more information dissemination is required to further create awareness and enhance wider acceptance. Awareness programmes should address the barriers to effective use of ECP preferably using peer educators and the media.
Emergency contraception for women aged over 40 years.


Bhathena RK.

Comment on:

Comment
Letter
The use of contraception outside the terms of the product licence.

**J Fam Plann Reprod Health Care. 2005 Jul;31(3):225-41; quiz 242.**

**FFPRHC Guidance (July 2005):**

Penney G, Brechin S, Allerton L; The Clinical Effectiveness Unit (CEU) of the Faculty of Family Planning and Reproductive Health Care (FFPRHC), Royal College of Obstetricians & Gynaecologists.

This Guidance provides information for clinicians and women considering the use of contraception outside the terms of the product licence. A key to the grades of recommendations, based on levels of evidence, is given at the end of this document. Details of the methods used by the Clinical Effectiveness Unit (CEU) in developing this Guidance and evidence tables summarising the research basis of the recommendations are available on the Faculty website ([www.ffprhc.org.uk](http://www.ffprhc.org.uk)). Abbreviations (in alphabetical order) used include: CEU, Clinical Effectiveness Unit; COC, combined oral contraception/contraceptive; DMPA, depot medroxyprogesterone acetate; ENG, etonogestrel; IUD, copper-bearing intrauterine contraceptive device; LNG-IUS, levonorgestrel-releasing intrauterine system; NET-EN, norethisterone enantate; PGD, Patient Group Direction; PIL, Patient Information Leaflet; POC, progestogen-only contraception/contraceptive; POEC, progestogen-only emergency contraception; POP, progestogen-only pill; RCT, randomised controlled trial; SPC, Summary of Product Characteristics; UPSI, unprotected sexual intercourse; WHO, World Health Organization; WHOMEC, WHO Medical Eligibility Criteria for Contraceptive Use; WHOSPR, WHO Selected Practice Recommendations for Contraceptive Use.

**Guideline**
**Practice Guideline**
**Review**
Impact on contraceptive practice of making emergency hormonal contraception available over the counter in Great Britain: repeated cross sectional surveys.


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OBJECTIVE: To examine the impact on contraceptive practice of making emergency hormonal contraception available over the counter. DESIGN: Analysis of data on contraceptive practice for women aged 16-49 years in the period 2000-2 from the Omnibus Survey, a multipurpose survey in which around 7600 adults living in private households are interviewed each year. SETTING: Private households in Great Britain. MAIN OUTCOME MEASURES: Use of different types of contraception and rates of unprotected sex. RESULTS: After emergency hormonal contraception was made available over the counter, levels of use of different types of contraception by women aged 16-49 remained similar. No significant change occurred in the proportion of women using emergency hormonal contraception (8.4% in 2000, 7.9% in 2001, 7.2% in 2002) or having unprotected sex. A change did, however, occur in where women obtained emergency hormonal contraception; a smaller proportion of women obtained emergency hormonal contraception from physicians and a greater proportion bought it over the counter. No significant change occurred in the proportion of women using more reliable methods of contraception, such as the oral contraceptive pill, or in the proportion of women using emergency hormonal contraception more than once during a year. CONCLUSIONS: Making emergency hormonal contraception available over the counter does not seem to have led to an increase in its use, to an increase in unprotected sex, or to a decrease in the use of more reliable methods of contraception.
Pharmacokinetics and endometrial tissue levels of levonorgestrel after administration of a single 1.5-mg dose by the oral and vaginal route.


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OBJECTIVE: To determine the pharmacokinetics and endometrial tissue levels of levonorgestrel when taken as a single dose of 1.5 mg either orally or vaginally by healthy women in the periovulatory phase of their menstrual cycle. DESIGN: Prospective randomized study. SETTING: Academic research institution. PATIENT(S): Thirty women with regular cycles allocated to control (n = 5), oral (n = 13), and vaginal (n = 12) groups. INTERVENTION(S): Blood samples were drawn before (0 time) and at 0.5, 1, 2, 4, 6, 8, 24, 48, and 168 hours after levonorgestrel administration. Endometrial samples were collected 24 and 168 hours after levonorgestrel administration. MAIN OUTCOME MEASURE(S): Plasma and endometrial tissue levels of levonorgestrel. RESULT(S): Plasma concentrations of levonorgestrel were significantly greater during the first 48 hours after oral administration. However, 7 days after levonorgestrel administration, the plasma levels were similar for both treatments (3-5 nmol/L). Compared with vaginal administration, oral administration resulted in higher peak plasma concentrations (Cmax 64 vs. 10.7 nmol/L), with a shorter time to reach the maximal concentrations (Tmax 1.4 vs. 6.6 hours) and with a greater AUC (509 vs. 175 nmol/L). Interestingly, the half-life of levonorgestrel was shorter after oral administration (25 hours vs. 32.6 hours). Levonorgestrel tissue concentrations were not related to the plasma levels. Levonorgestrel values tended to be higher in endometrial tissue after vaginal administration. The ratio between plasma and endometrial concentrations of levonorgestrel differed significantly between the groups. CONCLUSION(S): These data indicate that orally administered levonorgestrel achieves higher plasma levels sooner than vaginally administered levonorgestrel. However, plasma levels after vaginal administration are more sustained and were likely to be sufficient for ovarian suppression. Therefore, the vaginally administered levonorgestrel could be considered as an alternative option for emergency contraception.
Comparison of vaginal and oral administration of emergency contraception.


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Department of Obstetrics and Gynecology, University of Southern California Keck School of Medicine, Los Angeles, California, USA. eliranmor@hotmail.com

OBJECTIVE: To compare the physiologic effects of vaginally and orally administered emergency contraception. DESIGN: Prospective, open-label, crossover study. SETTING: University research center. PATIENT(S): Nine regularly menstruating volunteers. INTERVENTION(S): Five subjects received 1,000 microg of levonorgestrel with 200 microg of ethinyl E2 (twice the standard Yuzpe regimen dose) vaginally, and the standard Yuzpe regimen dose orally 1 week later. Four subjects received 1,500 microg of levonorgestrel (twice the standard Plan B regimen dose) vaginally and received the standard Plan B dose orally 1 week later. Serum samples were obtained at baseline and at frequent intervals after each dose. MAIN OUTCOME MEASURE(S): Serum gonadotropin, hepatic globulin, and androgen levels measured at baseline, at the time of peak levonorgestrel, and 24 hours later. RESULT(S): Gonadotropin, hepatic globulin, and androgen levels were suppressed to a similar degree among the four regimens, with a return to baseline levels after 24 hours. CONCLUSION(S): We conclude that high doses of levonorgestrel found in emergency contraception regimens lead to a transient direct suppression of gonadotropin, hepatic globulin, and androgen levels. This effect is similar after vaginal and oral administration of emergency contraception. Therefore, the vaginal route of administration of emergency contraception regimens may be as efficacious as the oral route.
Emergency contraception: prudes and prejudice.


[No authors listed]

Editorial
Emergency contraception for women at risk of unintended and preventable pregnancy.


American College of Emergency Physicians.
The morning after on the internet: usage of and questions to the emergency contraception website.


Wynn L, Trussell J.

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**OBJECTIVE:** The objective of this study is to understand the concerns of users of a medical information website on emergency contraception (EC). **METHODS:** This study analyzes e-mails sent to the EC website over a 5-year period. It also reports on the website’s most frequently viewed pages using Microsoft Site Server Analysis. **RESULTS:** Of the 7022 e-mails received, 29% did not contain questions about EC. The remaining e-mails reveal that EC users are concerned with how to use EC (23%), side effects (21%), pregnancy (17%), whether EC is needed in a given situation (14%), EC access (8%), EC effectiveness (4%) and how EC works (3%). Analysis of website page visits shows that visitors were chiefly interested in how to use EC and how to interpret bleeding after EC use. **CONCLUSION:** The e-mails point to the need for further research on EC-related questions that cannot be answered with the extant medical literature but are of concern to patients - questions such as bleeding after EC use and sexual intercourse that occurs shortly after taking EC pills. The language that writers use to express themselves reveals how users conceptualize their contraceptive and sexual health experiences. Many writers referred to sex with a hormonal contraceptive but not a barrier contraceptive as "unprotected sex," suggesting that patients may be using terms that do not mean what medical professionals might expect. E-mails sent to the site also demonstrate the importance of alternative resources that provide accurate medical information for patients who are unable to access health care or to discuss certain subjects with their providers.
Emergency contraception.


Comment on:

Baiden F.

Comment
Letter
Enhanced access to emergency contraception.

Comment in:


Bissell P, Anderson C.

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Bioethical issues involved in the prescription of levonorgestrel

Comision de Etica de la Facultad de Medicina de la Universidad de Chile.


[Article in Spanish]

The use of levonorgestrel for emergency post coital contraception after rape, has raised strong and recurring discussions during 2004 and 2005 in Chile. The debate has been centered in its presumed post fertilization or anti implantation effect, that some consider an abortive action. There are no scientific evidences supporting this effect, with divergences about the ontological status of the embryo. Therefore, the use of levonorgestrel implies bioethical decisions that, in a democratic and pluralistic society, should be solved considering individual and collective responsibilities, conditions of equity and the informed autonomy of the affected women. Their moral values and their capacity to assume the consequences of an assault on their dignity, honor and self-esteem, in addition to physical and mental injuries, should also be considered.
Emergency contraception is used to prevent pregnancy in the event of unprotected sexual intercourse. The most common methods of emergency contraception are combination and progestin-only oral contraceptive pills. They are effective, safe, and have few side effects. Most physicians are aware of emergency contraception, yet it is not widely prescribed or used. The American Medical Association and the American College of Obstetricians and Gynecologists recommend providing information and access to emergency contraceptive pills at routine gynecologic visits. Evidence has shown that women provided with advance supplies of emergency contraceptive pills were more likely to use them. There is no evidence of increased sexual risk-taking behavior or reduction in use of regular birth control methods. It is estimated that with wider use of emergency contraceptive, nearly half of unplanned pregnancies and abortions could be prevented. Access and knowledge of emergency contraception are the biggest barriers to use. Many emergency departments in Wisconsin do not prescribe emergency contraception, making access for women in rural areas difficult. By increasing use of emergency contraceptive pills by improving access and improving patient knowledge, unplanned pregnancies and abortions may be reduced.
Issues in ethics. Pharmacists refuse to fill emergency contraception prescriptions.


Fielder JH.
BACKGROUND: Access to emergency contraception (EC) is an important option for women wanting to prevent an unintended pregnancy. In California, emergency rooms (ERs) are required to provide survivors of sexual assault with information about and access to EC. This study assessed the likelihood that a woman calling a Catholic hospital in California to inquire about EC could access the medication. METHODS: During September 2003, we contacted an ER staff member in each of California's Catholic hospitals (n = 45) using a mystery caller approach. Following a written script, trained female researchers asked ER staff whether they dispense EC at their facility and under what circumstances. If respondents initially stated that their facility would not dispense EC, the caller asked whether EC was available to women who had been raped. If staff confirmed that their facility would not provide EC under any circumstances including rape, callers requested a referral to another facility that would provide the medication. RESULTS: Sixty-six percent of staff contacted stated that their hospital would not provide EC under any circumstances, including rape. Of those that would not dispense EC, fewer than half of respondents (48%) provided a referral. Of the 14 referrals given, only about one third (n = 5) led to a facility that provides EC. CONCLUSIONS: Our findings suggest that access to EC in California's Catholic hospitals is minimal, even for victims of sexual assault. As many as two-thirds of these hospitals may be violating state legislation requiring hospitals to provide EC to sexual assault survivors upon request.
Emergency contraception: what should our patients expect?


Comment on:

Abbott J.

Comment
    Editorial
STUDY OBJECTIVE: I investigate accessibility of emergency contraception pills at hospital emergency departments and survey staff at Catholic and non-Catholic hospitals across the United States. More specifically, I sought to report the likelihood that a woman calling a hospital and seeking emergency contraception could access the medication; (2) if emergency contraception is not provided, whether hospital staff would provide a referral to another facility; and (3) the outcome of the referral process. METHODS: Using a "mystery client" approach, I telephoned staff at all 597 Catholic hospitals in the United States and at 17% of non-Catholic hospitals (n=615). I used this interviewing method to reflect the experience of a laywoman calling to inquire about the availability of emergency contraception. RESULTS: I found that staff at 42% of non-Catholic hospitals and 55% of Catholic hospitals said that they do not dispense emergency contraception, even in cases of sexual assault. Overall, more respondents at Catholic hospitals (23%) reported that they provide emergency contraception only to victims of sexual assault compared with staff at non-Catholic hospitals (17%). Among staff who said that their hospital does not provide emergency contraception under any circumstances, only about half gave callers a valid referral, and most referrals were ineffective. CONCLUSION: To improve women's access to emergency contraception, hospitals can (1) use collaborative drug-therapy agreements to enable hospital pharmacies to dispense emergency contraception without a prescription, (2) develop and communicate written policies that support provision of emergency contraception, and (3) encourage health care providers who observe religious or ethical guidelines to provide effective referrals for women seeking emergency contraception.
Cost savings from use of emergency contraceptive pills in Australia.


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BACKGROUND: Emergency contraception, which prevents pregnancy after unprotected sexual intercourse, has the potential to reduce significantly the incidence of unintended pregnancy and the consequent need for abortion and to reduce medical care costs. AIM: To determine the savings generated by use of Postinor-2, the levonorgestrel regimen of emergency hormonal contraception, in Australia. METHODS: We modelled the cost savings when women obtain Postinor-2 directly from a pharmacist where cost savings are measured as the cost of pregnancies averted by use of Postinor-2 per dollar spent on Postinor-2. RESULTS: Each dollar spent on a single treatment with Postinor-2 saves A$2.27-A$3.81 in direct medical care expenditures on unintended pregnancy depending on assumptions about savings from costs avoided by preventing mistimed births. Postinor-2 is cost-saving even under the least favourable assumption that mistimed births when prevented today occur 2 years later. Results are robust even to large changes in model input parameters. CONCLUSION: Emergency contraception is cost saving. More extensive use of emergency contraception could save considerable medical and social costs by reducing unintended pregnancies, which are expensive.
Reproductive health, the Arab world and the internet: usage patterns of an Arabic-language emergency contraception web site.


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Emergency contraception (EC) has the potential to reduce significantly the incidence of unintended pregnancy worldwide. In May 2003, the first Arabic-language web site dedicated to disseminating information about and increasing awareness of EC was launched. This paper examines patterns of web site use and user profiles over a 19-month period. Analysis of use shows that the Arabic web site users are interested in different aspects of EC than the English web site users, suggesting the importance of creating culturally specific content when adapting and translating health education materials. Arabic web site users demonstrate significant interest in general reproductive health issues not specific to EC, suggesting a need for greater availability of Arabic-language health education resources through the Internet.
Advanced provision of emergency contraception to postnatal women in China makes no difference in abortion rates: a randomized controlled trial.


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Emergency contraception (EC) prevents pregnancy, and it has been suggested that widespread use could reduce abortion rates; however, the use is limited. Providing EC in advance of need increases use, but there is no direct evidence that it reduces unintended pregnancy. In a randomized controlled trial of 2000 women after childbirth in Shanghai, all women not wishing to use hormonal contraception or an intrauterine device (IUD) were given a supply of condoms. Those in the intervention group also received three courses of mifepristone 10 mg with instructions for use as EC. Follow-up was by telephone at 16, 32 and 52 weeks. Over 88% of women in both groups completed 1 year of follow-up. Women with a supply of EC were more than twice as likely to use it, and to use it more than once (p<.001 for both) than women without a supply. There was no difference in pregnancy rates at 1 year (38/832 vs. 32/817). EC was not used in 89% of conception cycles, as women did not recognize the need for it. Increased use of EC may not reduce abortion rates.


Rosenberg KD, Demunter JK, Liu J.

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OBJECTIVES: We sought to learn about access to emergency contraception (EC) in Oregon emergency departments, both for women who are rape patients and for women who have had consensual unprotected sexual intercourse ("nonrape patients"). METHODS: We interviewed emergency department staff in 54 of Oregon's 57 licensed emergency departments in February-March 2003 (response rate = 94.7%). RESULTS: Only 61.1% of Oregon emergency departments routinely offered EC to rape patients. Catholic hospitals were as likely as non-Catholic hospitals to routinely offer EC to rape patients. The hospitals most likely to routinely offer EC to rape patients had a written protocol for the care of rape patients that included offering EC (P = .02) and access to staff with specialized sexual assault training (P=.002). For nonrape patients, 46.3% of emergency departments discouraged the prescribing of EC. Catholic hospitals were significantly less likely than non-Catholic hospitals to provide access to EC for nonrape patients (P=.05). CONCLUSIONS: Oregon emergency departments do not routinely offer EC to women who have been raped or to women who have had consensual unprotected sexual intercourse.
Emergency contraception.

CMAJ. 2005 Sep 13;173(6):578.

Cantin L.

Comment
Letter
Emergency contraception.

CMAJ. 2005 Sep 13;173(6):575.

McCutcheon G.

Comment
Letter
Emergency contraception.

CMAJ. 2005 Sep 13;173(6):575.

Farnham J.

Comment
Letter
Community pharmacy supply of emergency hormonal contraception: a structured literature review of international evidence.

Hum Reprod. 2005 Sep 2; [Epub ahead of print]

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BACKGROUND: We could find no previous published review of the evidence relating to pharmacy supply of emergency hormonal contraception (EHC). Our objectives were to review, summarize and evaluate the peer-reviewed evidence relating to community pharmacy supply of EHC both in the UK and internationally. METHODS: Systematic searches were conducted for peer-reviewed international research from January 1990 to January 2005. The UK Health Development Agency's Evidence Base 2000 standards and the evidence categories used by the UK Department of Health were applied to each paper. RESULTS: We included 24 peer-reviewed papers. There was one randomized controlled trial (RCT); the remainder of the studies were qualitative or observational studies. Pharmacy supply of EHC enables most women to receive it within 24 h of unprotected sexual intercourse. Services were highly rated by women. One RCT showed that improving access to EHC did not reduce the use of other contraceptives, lead to an increase in risky sexual behaviour or increase the incidence of sexually transmitted infections (STIs). Users expressed some concerns about the appropriateness of receiving additional pharmacist advice regarding future contraception use and STIs. One study found pharmacy supply had led to a decrease in attendances at accident and emergency departments. CONCLUSION: There is good evidence that community pharmacy EHC services provide timely access to treatment and are highly rated by women.
OBJECTIVES: The United States Food and Drug Administration cited an absence of data on young adolescents as the reason the emergency contraceptive, Plan B, could not be moved over-the-counter. This study analyzed data on young adolescents with increased access to emergency contraception. METHODS: We conducted an age-stratified analysis with previously published data from a randomized, controlled trial of Plan B with a sample size of 2,117, including 964 adolescents, 90 of whom were aged younger than 16 years. Participants were randomly assigned to nonprescription pharmacy access, advance provision of 3 packs, or clinic access (control). We measured contraceptive and sexual risk behaviors at baseline and 6-month follow-up and tested for pregnancy and sexually transmitted infections. We used contingency table and logistic regression analysis to measure the effect of the intervention on risk behaviors in young adolescents (<16 years), compared with middle adolescents (16-17 years), older adolescents (18-19 years), and adults (20-24 years). RESULTS: Adolescents aged younger than 16 years behaved no differently in response to increased access to emergency contraception (EC) from the other age groups. As with adults, EC use was greater among adolescents in advance provision than in clinic access (44% compared with 29%; \( P \leq .001 \)), and other behaviors were unchanged by study arm, including unprotected intercourse, condom use, sexually transmitted infection acquisition, or pregnancy. Additionally, adolescents with increased access to EC did not become more vulnerable to unwanted sexual activity. CONCLUSION: Young adolescents with improved access to EC used the method more frequently when needed, but did not compromise their use of routine contraception nor increase their sexual risk behavior. LEVEL OF EVIDENCE: I.
The in vitro effect of emergency contraception doses of levonorgestrel on the acrosome reaction of human spermatozoa.


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INTRODUCTION: The aim of this study was to evaluate the effect of three concentrations of levonorgestrel (LNG) comparable to the levels found in serum following ingestion of LNG as emergency contraception (EC) on the acrosome reaction (AR) of capacitated and non-capacitated spermatozoa of fertile men. MATERIALS AND METHODS: A total of 24 semen samples from three fertile men were evaluated. The spermatozoa were selected by Percoll gradient. Twelve samples were subsequently incubated with human tubal fluid medium supplemented with bovine serum albumin (HTF/BSA) for 20 h under capacitating conditions. The capacitated spermatozoa and the spermatozoa from the remaining 12 samples were exposed to LNG at 1, 10 and 100 ng/mL, to follicular fluid (FF) (20% v/v) and to HTF medium. The ratio of live to dead spermatozoa was assessed after 1, 2 and 3 h of incubation at 37 degrees C and 5% CO(2). After 30 min of exposure to the different LNG concentrations, aliquots were divided into two parts. In the first part, spermatozoa were immediately stained with Hoescht 33258 and fluorescein isothiocyanate-pisum sativum agglutinin (FITC-PSA) in order to assess AR rate and to repeat evaluation of the live-to-dead ratio. After 3 h of incubation, the remaining part of the aliquots were submitted to the same procedures. Each concentration of LNG was then compared with FF and HTF medium as positive and negative controls, respectively. RESULTS: The results showed that in vitro exposure to the three different LNG concentrations did not induce AR. CONCLUSION: This study failed to show any in vitro effect on AR of LNG concentrations similar to those found in serum following intake of LNG as EC. If this effect exists or if there is any other that influences sperm fertilizing capacity, in vitro experiments are probably not an appropriate way of testing it.
Emergency contraception: an intervention on primary care providers.


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OBJECTIVE: We studied whether a single educational intervention can change provider knowledge, attitudes and practice patterns with respect to emergency contraception (EC). MATERIALS AND METHODS: Primary care providers completed a preintervention survey prior to attending a lecture on EC, and again 6 months later. There were 50 physicians, 4 advanced practice nurses and 2 physician assistants in the final sample (internal medicine 48%, family medicine 34%, obstetrics-gynecology 9%, and pediatrics/adolescent medicine 9%). RESULTS: Following the intervention, providers were more likely to agree that advance prescriptions should be given, disagree that the number of times EC is dispensed should be restricted and disagree that repeated EC use poses health risks. The proportion of providers who had ever given an advance prescription increased from 18% to 41% (p=.007), and there was a trend toward a greater proportion of providers initiating counseling about EC from 36% to 54% (p=.057). CONCLUSIONS: A simple educational intervention was associated with a change in primary care provider attitudes and practice patterns regarding EC.
Reasons for requesting emergency contraception: a survey of 506 Italian women.


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OBJECTIVE: To evaluate the reason for requesting emergency contraception (EC), previous use of contraceptive methods and provision route in a Family Planning Clinic in Italy.

METHODS: Women requesting EC were interviewed, through a questionnaire containing questions on demographic characteristics, about their reasons for requesting EC, their prior contraceptive use, their reasons for not using an effective contraceptive method (or possible reasons for its failure) and specifically about the so-called 'provision route' (i.e. whether and where they had previously requested EC receiving a negative response). RESULTS: Almost 70% of all women requesting EC were aged between 18 and 25 years. Some 80% of all women were in a stable relationship with their partner, with fewer than 20% having had an occasional intercourse. The vast majority of women (83%) reported prior use of a modern contraceptive method, i.e. 64% with a condom, 27% for combined oral contraceptives and 1.1% for the intrauterine device (IUD). In addition, 15% of the women had used more than one method (oral pills and condoms). Concerning the reasons for requesting EC, condom breakage or slipping was the most frequently cited (64%), followed by totally unprotected intercourse (28%), failed withdrawal (5%) and forgetting one or more pill (only 1.1%).

CONCLUSIONS: More than one-third of the women interviewed had previously used an emergency contraceptive modality; although no one did so more than four times. Therefore, it can be inferred that at least in the present series-EC had not been used as a routine contraceptive method. Finally, it seems clear that in Italy, even in large cities, information about the availability, proper usage and mechanism of action is lacking. This seems due to information being spread by word of mouth between peers and friends, with more formal communication channels lagging behind.
Knowledge, attitudes and practices regarding emergency contraception among family-planning providers in Turkey.


Bildircin M, Sahin NH.

Koc Allianz Life and Pension Insurance Company, Istanbul, Turkey.

OBJECTIVE: The research was planned descriptively to define the knowledge, attitudes and practices of family-planning providers regarding emergency contraception. METHODS: The sample included 21 Maternal-Child Health/Family Planning Centers located in the European region of Istanbul, and the research was conducted with 41 family-planning providers employed in these facilities. RESULTS: All of the family-planning providers were aware of emergency contraception, 82.9% accurately defined emergency contraception, 61% stated that emergency contraception was legal, and 53.7% expressed that it could be employed in rape indications. All the family-planning providers (100%) cited combined oral contraceptives, 73.2% cited intrauterine devices, and 9.8% cited other methods (mifepristone, high-dose estrogen, menstrual regulation). Seventy-eight per cent of the family-planning providers stated that they had applied emergency contraception previously, while 53.7% gave limited support to emergency contraception. Two sample cases were given to family-planning providers to define their attitudes, to the first of which most of them were positive. All of them were positive towards the second sample. CONCLUSION: Family-planning providers, whose duty is to support women in critical family-planning and reproductive decisions using their experiences and skills, are supposed to have broad knowledge on the matter of emergency contraception.

J R Army Med Corps. 2005 Sep;151(3):192, 194.

Hunt PA, Smith JE.

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Publication Types:
Case Reports
The debate about over-the-counter emergency contraceptive pills.


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Many prescription drugs have been converted to over-the-counter (OTC) status in recent years. Another drug that has been proposed for OTC status is a levonorgestrel-only emergency contraceptive pill. The debate surrounding OTC access to emergency contraceptive pills echoes issues encountered in previous reclassification processes and raises new challenges. This article discusses the emergency contraceptive pill, the evolution of its access options, and the context and implications of changing its status from a prescription to an OTC medication.
The clinical outcome of 137 rape victims in Hong Kong.


Chu LC, Tung WK.

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From 1 August 2001 to 31 July 2004, 137 patients were referred from the Association Concerning Sexual Violence Against Women to the Accident and Emergency Department at the Kwong Wah Hospital for alleged rape. Approximately half of the patients presented within 3 days of the alleged assault. Fifty-one patients were prescribed emergency contraception: one patient remained pregnant despite treatment and was referred with a further six patients to the Gynaecology Department for termination of pregnancy. Thirty-two patients received hepatitis B immunoglobulin injection. One patient had a positive result for rapid plasma reagin 3 months following the assault and was referred to the Social Hygiene Clinic. All tests for antibody to human immunodeficiency virus were negative. Antimicrobial therapy was prescribed for women who had an endocervical and/or high vaginal swab positive for Chlamydia trachomatis (n=9), Trichomonas vaginalis (n=1), and gonococcus (n=1).
Understanding Emergency Contraception: Does it prevent a pregnancy or terminate it?


[No authors listed]
Availability of emergency contraception in Massachusetts emergency departments.


Temin E, Coles T, Feldman JA, Mehta SD.

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OBJECTIVES: To determine the availability of emergency contraception (EC) in Massachusetts emergency departments (EDs) and to identify patient, hospital, and system factors that could affect access to EC. METHODS: This was a prospective, cross-sectional study of all Massachusetts EDs using two structured scenarios: one, a patient asking for EC for condom failure (patient scenario); and the other, a social worker asking about EC for a client who was sexually assaulted the night before (social worker scenario). Calls were made during day and night shifts requesting information from a nurse or doctor. The data collected included EC availability, whether pills or prescription would be given, cost, services available to rape victims, and other institutions where EC could be obtained. Descriptive statistics and chi-square were used for comparisons. RESULTS: Responses were made by 248 of 288 nurses, ten of 288 physicians, and 30 of 288 clerks. Overall, EC was reported to be available in 80% of calls, not available in 15%, and up to the physician in 5%. In the patient scenario day shift, 53 of 72 (73%) responded that EC was available, 15 of 72 (20%) stated it was not available, and four of 72 (5%) said it was up to the prescribing physician. In the social worker scenario day shift, 62 of 72 (86%) reported that EC was available, six of 72 (8%) reported it was not available, and four of 72 (5%) stated it was up to the prescribing physician. Availability did not vary comparing day vs. night shift for either scenario. Of the nine Catholic hospitals, for the patient scenario, one of nine (11%) reported that EC was available, seven of nine (78%) reported that EC was not available, and in one of nine (11%), it was up to the physician. In the social worker scenario, five of nine (56%) reported EC was available, three of nine (33%) reported it was not available, and in one of nine (11%), it was up to the physician. CONCLUSIONS: There was significant variability in access to EC in Massachusetts EDs and in services for sexual assault survivors. Hospital type and provider preference affected availability. This study suggests that access to EC is limited, and that there are not consistent services for women seeking EC, including for victims of sexual assault.
Advance supply of emergency contraception: a randomized trial in adolescent mothers.


Belzer M, Sanchez K, Olson J, Jacobs AM, Tucker D.

Children's Hospital Los Angeles, Los Angeles, California, USA.

OBJECTIVE: To examine whether the advanced provision of emergency contraception (AEC) to parenting youth would increase emergency contraception (EC) utilization, and whether AEC would impact the rates of unprotected sex and contraception use.

DESIGN: Subjects were randomized to receive either information about EC or information and an actual supply of AEC. Subjects were interviewed at baseline, 6 and 12-month follow-up.

SETTING: Urban non-medical case management office.

PARTICIPANTS: 160 adolescent mothers (ages 13 to 20) who were receiving case management services.

INTERVENTION: Advance supply of emergency contraception.

MAIN OUTCOME MEASURES: Emergency contraception use, sexual activity, unprotected intercourse, contraceptive methods and use.

RESULTS: Parenting teens who received AEC were much more likely to have used it than the control group at the 6-month interview (83% vs. 11%) and the 12-month interview (64% vs. 17%). Teens in the AEC treatment group were more likely to have unprotected sex at the 12-month follow-up interview (69% vs. 45%). There was no difference in condom use between the groups at either the 6-month, or the 12-month follow-up interviews.

CONCLUSION: Advance provision of emergency contraception in parenting teens increases the likelihood of its use, and does not affect the use of condoms, or hormonal methods of birth control. Parenting teens who receive AEC may be more likely to have unprotected sex.
Emergency contraception.


Conard LA, Gold MA.

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Emergency contraception is increasing in use and has become a universal standard of care in the United States. This article reviews available forms of emergency contraception, their indications, contraindications, adverse effects and efficacy at preventing pregnancy. This article describes the mechanism of action of different forms of emergency contraception and provides recommendations on when to start or restart an ongoing method of contraceptive after emergency contraception use. Literature on the impact of the advance provision of emergency contraception on contracepting behaviors is reviewed, and behavior change counseling related to emergency contraception is described.
Emergency contraception


American Academy of Pediatrics Committee on Adolescence.

Teen birth rates in the United States have declined during the last decade but remain much higher than rates in other developed countries. Reduction of unintended pregnancy during adolescence and the associated negative consequences of early pregnancy and early childbearing remain public health concerns. Emergency contraception has the potential to significantly reduce teen-pregnancy rates. This policy statement provides pediatricians with a review of emergency contraception, including a definition of emergency contraception, formulations and potential adverse effects, efficacy and mechanisms of action, typical use, and safety issues, including contraindications. This review includes teens' and young adults' reported knowledge and attitudes about hormonal emergency contraception and issues of access and availability. The American Academy of Pediatrics, as well as other professional organizations, supports over-the-counter availability of emergency contraception. In previous publications, the American Academy of Pediatrics has addressed the issues of adolescent pregnancy and other methods of contraception.
A qualitative study of women's use of emergency contraception.


Keogh LA.

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BACKGROUND: While the use of emergency contraception (EC) is becoming more widespread in Australia, little is known about the reasons for, and the social context of, this use. METHODS: In order to explore the use of EC from the perspective of users, a qualitative study was conducted with women presenting to one of three health care settings in Melbourne, Australia for EC. RESULTS: Thirty-two women ranging in age from 18 to 45 years were interviewed. While a number of themes were discussed with the women, this paper reports on four 'types of users' of EC identified from the data. 'Controllers' experienced failure of their contraceptive method and were very uncomfortable needing EC. They changed their contraceptive strategy in an attempt to avoid needing EC in the future. 'Thwarted controllers' were similar to controllers except that they could not improve their contraceptive strategy due to medical or social limitations. 'Risk takers' saw the use of EC as a component of their overall contraceptive strategy. They did not rely on EC regularly, but were comfortable to use it occasionally when the need arose. A final group of women were 'caught short' by a sexual experience that was unplanned and therefore they did not manage to use their chosen contraceptive strategy. CONCLUSIONS: The findings from this study challenge the assumptions that are often made about the users of EC and highlight the need to acknowledge the different ways that women make sense of, and make decisions about, contraception.
Emergency contraception and prevention of induced abortion in India.


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OBJECTIVE: Induced abortion is associated with high morbidity and mortality in India. Use of regular contraception with emergency contraception (EC) as backup can reduce the incidence of induced abortion. The study aimed to assess women's knowledge, practice, preference and acceptance of different contraceptive methods with special reference to the causes of induced abortion, and their willingness to use hormonal EC. METHODS: The study comprised a structured questionnaire survey conducted in the family planning clinic of a tertiary teaching hospital in New Delhi, India. A total of 623 women and three men seeking contraceptive advice and/or termination of pregnancy were interviewed. The main outcome measures were knowledge of different contraceptive methods including EC and the reasons for unintended pregnancy. RESULTS: More than 99% of the respondents knew about most of the modern methods of contraception whereas only 37 (5.9%; 95% CI 4.0-7.8) of the respondents knew about EC and none of them had ever used it. Contraceptive method failure led to unintended pregnancy in 39.1% (95% CI 33.7-44.5) of abortion seekers. Correct use of EC could have prevented nearly 65.5% (95% CI 57.0-74.0) of induced abortions due to contraceptive method failure and 25.6% (95% CI 20.7-30.5) of all induced abortions. CONCLUSIONS: More efforts are required to generate awareness about the safety, efficacy and availability of EC, regular use of effective contraception and the health hazards of induced abortion.
Provision of emergency hormonal contraception through community pharmacies in a rural area.


Lloyd K, Gale E.

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OBJECTIVES: The provision of emergency hormonal contraception (EHC) through community pharmacies was introduced in Hambleton and Richmondshire, North Yorkshire, UK in December 2001 to contribute to the Teenage Pregnancy Strategy. The study aimed to establish how well the service is used, whether it is reaching the original target group, why people use the service and where it is accessed. METHODS: This was a descriptive study conducted in a rural primary care trust. RESULTS: From 1 January 2001 to 31 December 2003, there were 1412 pharmacy consultations for EHC and 1260 courses of EHC provided. General practitioner (GP) prescribing of EHC decreased but there was an overall increase in provision of EHC from pharmacies, GPs, family planning clinics, and accident and emergency departments. By December 2003, community pharmacies had become the largest provider of EHC. CONCLUSIONS: The supply of EHC through community pharmacies provided clients with wider choice and improved access to services, which resulted in increased overall provision of EC in this rural area.
Description of emergency contraception in the media.


Stanford JB, Larimore WL.

Publication Types:
  Comment
  Letter
Emergency contraception—a different interpretation.


Spinnato JA 2nd, Mikolajczyk R.

Publication Types:
  Comment
  Letter


Pruitt SL, Mullen PD.

Center for Health Promotion and Prevention Research, UT-Houston School of Public Health, Houston, TX 77030, USA.

Publication Types:
Letter
Emergency contraception for sexual assault victims: an advocacy coalition framework.


Schorn MN.

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A bill was introduced into the Tennessee legislature in the 2005 session that would require emergency departments to offer and dispense emergency contraception to sexual assault survivors who are at risk of pregnancy. Several advocacy groups collaborated to form the Women's Health Safety Network for the purpose of communicating as one voice. The advocacy coalition framework of policy development is applied to the political system and is used as a model to discuss issues impacting policy development for this particular bill. Key actors, proponents, and opponents to this bill are presented along with constraints to policy acceptance. The challenge for emergency contraception advocates on a state and national level is to keep the focus on public health science, the health and well-being of women, and out of the abortion debate.

Publication Types:
Review
A prospective study of the provision of emergency contraception in family planning centers in Val-de-Marne


Cesbron P.

Comment on:

[Article in French]

Publication Types:
Comment
Letter
A prospective study of the provision of emergency contraception in family planning centers in Val-de-Marne

[Article in French]


Faucher P.

Comment on:

Publication Types:
   Comment
   Letter
Emergency contraception and ectopic pregnancy: report of 2 cases.


Pereira PP, Cabar FR, Raiza LC, Roncaglia MT, Zugaib M.

Publication Types:
  Case Reports
  Letter
Dispensing with liberty: conscientious refusal and the "morning-after pill".


Fenton E, Lomasky L.

Department of Philosophy, University of Virginia, Charlottesville, Virginia 22904, USA. emf7u@virginia.edu

Citing grounds of conscience, pharmacists are increasingly refusing to fill prescriptions for emergency contraception, or the "morning-after pill." Whether correctly or not, these pharmacists believe that emergency contraception either constitutes the destruction of post-conception human life, or poses a significant risk of such destruction. We argue that the liberty of conscientious refusal grounds a strong moral claim, one that cannot be defeated solely by consideration of the interests of those seeking medication. We examine, and find lacking, five arguments for requiring pharmacists to fill prescriptions. However, we argue that in their professional context, pharmacists benefit from liberty restrictions on those seeking medication. What would otherwise amount to very strong claims can be defeated if they rest on some prior restriction of the liberty of others. We conclude that the issue of what policy should require pharmacists to do must be settled by way of a theory of second best. Asking "What is second best?" rather than "What is best?" offers a way to navigate the liberty restrictions that may be fixed obstacles to optimality.
Comparison of three single doses of mifepristone as emergency contraception: a randomised controlled trial.


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BACKGROUND: This is an analysis of the Australian component of a large World Health Organization multicentre dose-finding study of mifepristone for emergency contraception and the first clinical study of this controversial drug in Australia. AIMS: To compare the effectiveness and side-effects of three single doses of mifepristone taken within 120 h after unprotected coitus as emergency contraception. DESIGN: Double-blind, randomised controlled trial. SUBJECTS AND METHODS: One hundred fifty healthy women with regular menstrual cycles who requested emergency contraception. Participants were allocated randomly to one of the three doses (10, 50 and 600 mg). The primary outcome was confirmed pregnancy, and secondary outcome measures included side-effects and delay in the onset of the next menses. RESULTS: Pregnancy rates for mifepristone 10, 50 and 600 mg were 2.0, 2.1 and 2.1%, respectively, with no significant difference between groups. No major side-effects occurred, except an unpredictable delay in the onset of the next menses. Mifepristone 600 mg caused a significantly longer delay in the onset of the next menses than either the 10 or the 50 mg dose. CONCLUSION: Lowering the dose of mifepristone from 600 to 10 mg did not significantly impair its effectiveness as an emergency contraceptive, and caused less delay in the onset of the next menses. Therefore, a dose as low as 10 mg may be preferable to 600 mg for emergency contraception. This is very much lower than the dose required to terminate a pregnancy.

Publication Types:
Randomized Controlled Trial
Feasibility study of Nestorone-ethinylestradiol vaginal contraceptive ring for emergency contraception.


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OBJECTIVE: The Nestorone/ethinylestradiol (NES/EE) vaginal ring is being developed as a regular contraceptive method by the Population Council. This ring is designed to release NES 150 microg/day and EE 15 microg/day during 1 year. Here, we report a Phase I clinical trial to determine the usefulness of this ring for emergency contraception. To that end, we tested the ability of this ring to interfere with ovulation when it is inserted during the follicular phase. METHOD: Forty-eight women protected from the risk of pregnancy by nonhormonal methods were divided into three groups, which differed by the size of the dominant follicle at the time of ring insertion: 12-14 mm (n = 16), 15-17 mm (n = 18) and >or=18 mm (n = 14) diameter. The NES/EE ring was left in the vagina for 7 consecutive days, after which it was removed. The growth of the leading follicle and plasma levels of estradiol, progesterone (P), luteinizing hormone (LH) and follicle stimulating hormone (FSH) in the ensuing 5 days after ring insertion were determined. Afterwards, steroid hormones were measured twice a week, until menses took place. All women had a control cycle before the ring cycle, and the range of maximum follicular diameter assigned to each volunteer was the same for the control and the ring cycle at the time when placebo was ingested or the ring inserted. RESULTS: During the 5-day period after ring insertion with follicles 12-17 mm, ovulation was absent in 25 of 34 cycles (p <.01 vs. control), and ovulatory dysfunction (absent, blunted or mistimed LH peak) occurred in 8 of the 9 remaining cycles (33/34 ovulatory processes altered; p < .005 vs. control). After ring insertion with follicles >or=18 mm in diameter, ovulation did not occur in 2 of 14 cycles or was dysfunctional in 7 of the 12 remaining cycles (9/14 ovulatory processes altered; p<.025 vs. control). Altogether, 87.5% of ring cycles (42/48) had either no ovulation or ovulatory dysfunction in the 5-day study period, in contrast to 39.6% (19/48 cycles) in control cycles (p < .001). Among follicles that failed to rupture within the 5-day study period, none ruptured later on in the ring-treated cycles, while 9 of 16 did so in control cycles. Sixty-two percent of ring-treated cycles were shorter than 24 days. Nausea, vaginal discharge and abdominal pain were the most frequently reported adverse events during ring use. CONCLUSION: Interference with 87.5% of ovulatory processes, without ovulation occurring later in the cycle and shortening of cycle length, suggests the NES/EE ring may be used as an emergency contraceptive method, with the potential advantage of providing continuing contraception after it has performed its emergency function.

Publication Types:
Clinical Trial, Phase I Randomized Controlled Trial
Emergency contraception and liver enzyme-inducing drugs.

**J Fam Plann Reprod Health Care. 2006 Jan;32(1):52; author reply 52-3.**

Al-Hassan N.

Comment on:

**J Fam Plann Reprod Health Care. 2005 Apr;31(2):139-51.**

Publication Types:

Comment
Young women described the benefits of having advance supplies of emergency contraception but emphasised its use as a "last resort" rather than an alternative form of contraception.


Marston C.

Comment on:

London School of Hygiene & Tropical Medicine, London, UK.

Publication Types:
  Comment
New Mexico pharmacists' knowledge, attitudes, and beliefs toward prescribing oral emergency contraception.


Borrego ME, Short J, House N, Gupchup G, Naik R, Cuellar D.

Comment in:  

University of New Mexico Health Sciences Center, College of Pharmacy, Albuquerque 87131-1066, USA. mborrego@salud.unm.edu

OBJECTIVE: To describe New Mexico pharmacists' knowledge, attitudes, and beliefs toward the prescribing of oral emergency contraception (EC) in their practices. DESIGN: Cross-sectional study. SETTING: New Mexico in January through March 2004. POTENTIAL PARTICIPANTS: New Mexico pharmacists. INTERVENTIONS: Questionnaire containing 74 items. MAIN OUTCOME MEASURE(S): Mean scores were calculated for individual knowledge items, overall knowledge scores, and attitude/belief items. Knowledge and attitude/belief scores were compared across demographic variables using t tests, ANOVA, and chi-square analyses. RESULTS: Of 1392 deliverable questionnaires, 555 (40%) were returned and 523 (38%) were usable; 136 contained written comments. Pharmacists had overall knowledge scores of 71.2% +/- 11.3%. Pharmacists who had participated in a state-approved EC prescribing training program and had time in their practice setting to prescribe EC had significantly higher knowledge scores. Mean scores indicated that pharmacists have positive attitudes and beliefs toward prescribing EC. Overall, 40% of respondents indicated that they would like to become certified to prescribe EC. Pharmacists who agreed that they would like to be certified to prescribe EC were significantly more likely to be male, non-Hispanic, non-Christian, to have liberal or moderate political views, and to indicate that they had employer/manager approval, time, and privacy in their practice setting to prescribe EC. CONCLUSION: New Mexico pharmacists have positive attitudes/beliefs toward EC prescribing; however, their knowledge in this area is average. Although religious, moral, and political views influence pharmacists' willingness to prescribe EC, factors such as education and practice environment must be addressed if more pharmacists are to accept this EC prescriptive authority.
Future of emergency contraception lies in pharmacists' hands.

**J Am Pharm Assoc (Wash DC). 2006 Jan-Feb;46(1):84-8.**

Monastersky N, Landau SC.

Comment in: **J Am Pharm Assoc (Wash DC). 2006 Jan-Feb;46(1):12-3.**

Pharmacy Access Partnership, Public Health Institute, Oakland, CA, USA.

nmonastersky@phi.org

**OBJECTIVE:** To increase community pharmacists' awareness about issues related to the provision of emergency contraception (EC) to women by describing pharmacist outreach and training programs and discussing pharmacy access and stocking issues, California's EC Pharmacy Program, methods for raising pharmacists' awareness, and professional development opportunities. **SUMMARY:** EC is both safe and effective in reducing the risk of unintended pregnancy after unprotected intercourse, yet awareness of and demand for the medication has not been high, and it often is not stocked in pharmacies. Various advocacy organizations have engaged in educating the public and physicians about EC, but relatively little attention and few resources have been targeted to ensure that the pharmacy community is aware of and educated about EC. Increased visibility and access to EC in the several states that allow pharmacists to provide EC directly to women have resulted from the active participation and leadership of pharmacists. In these states, women are showing interest in and receptivity to reproductive health services provided by pharmacists. In California, some 3000 pharmacists statewide have completed training, and in 2004 they provided EC directly to approximately 175,000 women. Pharmacists who provide EC overwhelmingly (91%) report that they do so because they see it as an important community service, and many (57%) recognize the opportunity for professional development. **CONCLUSION:** Pharmacists are uniquely positioned to improve access to EC, and leadership within the pharmacy community can facilitate efforts to improve access. Increased education and training of pharmacists about EC--such as continuing education programs available online at [www.pharmacyaccess.learnsomething.com](http://www.pharmacyaccess.learnsomething.com)--are critical to ensure not only that EC is available in pharmacies but also that pharmacists are engaged in meeting the reproductive health needs of women. Increased access to EC can expand pharmacists' role in health care provision. State-specific information about EC pharmacy access initiatives is available on the Web at [www.GO2EC.org](http://www.GO2EC.org).
Emergency contraception: science and religion collide.

Ackerman T.


Publication Types:
   News
How does oral emergency contraception work?


Schorn MN.

Nurse-Midwifery Faculty Practice, Vanderbilt University Medical Center, Nashville, TN, USA.
A prospective study of the provision of emergency contraception in family planning and education centers in Val-de-Marne, France.


C. Aubeny E.

Comment on:

Gynecol Obstet Fertil
2005;33:403-408]

[Article in French]
Publication Types:
Comment
Letter
Characteristics of women seeking emergency contraception in general practice.


Loughrey F, Matthews A, Bedford D, Howell F.

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The aim of this study was to profile the users of emergency contraception (EC) attending general practices and a general practice out-of-hours co-operative service using a pre-piloted questionnaire. Questionnaires were offered to 171 women and completed by 144 (84.2%). Mean age was 24.4 years (Standard Deviation = 6.7, range 14 to 51). Most were single, 116 (80.6%). Those who had no regular partner at the time of seeking EC were more likely to have > or =6 lifetime sexual partners than those in stable relationships (OR: 3.5; CI: 1.14-10.86, p < 0.03). At the time of seeking EC 121 (84.0%) were using some method of contraception. Ninety-three (64.6%) presented within 24 hours of sexual intercourse. Concerns about condoms were the commonest reason for seeking EC. For 55 (38.2%) this was their first time to use EC. Thirty-three (22.9%) were drunk at the time of intercourse.
Knowledge and practice of emergency contraception among female undergraduates in the University of Lagos, Nigeria.


Ebuehi OM, Ekanem EE, Ebuehi OA.

Institute of Child Health and Primary Care, University of Lagos, Lagos, Nigeria.

OBJECTIVES: To assess the level of knowledge and practice of emergency contraception among female undergraduates in University of Lagos and to determine the factors that influence knowledge and practice of emergency contraception among female undergraduates. DESIGN: Cross-sectional descriptive study. SETTING: The University of Lagos, Lagos, South-West, Nigeria between August 2003 and March 2004. SUBJECTS: Four hundred and eighty randomly selected female undergraduate students. RESULTS: The findings revealed that 67.8% of the respondents reported knowing about emergency contraception. More than half (56.1%) were sexually active and of this group, 96.8% had ever practiced contraception with only 33.9% having ever practiced emergency contraception. However, only 37.8% and 36.3% of respondents who had reported knowing about emergency contraception knew the correct time frame for effective use, and correctly identified emergency contraceptives respectively. Among those who were aware of, and had used emergency contraception, 34.1% obtained their information from health care providers, while the larger majority obtained from friends. Knowledge and practice of emergency contraception was found to be directly related to age, level of study, medical education, marital status, sexual activity, previous history of use of contraceptives and previous history of induced abortion. CONCLUSION: Education efforts that focus on the training of health care providers and young adults on emergency contraception with regards to available methods and correct timing of use would greatly improve women's access to and effective use of this method in Nigeria.
Awareness of and attitude toward hormonal emergency contraception among married women in Kuwait.


Ball DE, Marafie N, Abahussain E.

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OBJECTIVE: To describe the awareness of and attitudes toward hormonal emergency contraception among women in Kuwait. METHODS: A cross-sectional survey was conducted among married women at obstetrics/gynecology outpatient clinics at the government Maternity Hospital in Kuwait. A pretested Arabic self-administered questionnaire was distributed to the women in March 2005. The questionnaire provided a short explanation as to what was meant by hormonal emergency contraception and then elicited whether the respondent was aware of it, what concerns she had, and whether she thought it should be made available in Kuwait. RESULTS: One hundred three questionnaires were completed. Respondents were mostly Kuwaiti (78%) and non-Bedouin (78%) with postsecondary school education (74%) and a mean (SD) age of 33.1 (7.8) years and a mean (SD) number of children of 2.8 (1.9). About half of the women were not currently using contraceptive methods; 40% of contraceptive users were taking oral contraceptive pills. Bedouin women were more likely than non-Bedouins to use breastfeeding as a contraceptive measure (p = 0.012). Ten women (9.7%, 95% CI 4.8-17.1) reported having heard of hormonal emergency contraception, mostly from informal sources, 1 had used it, and 7 knew of other women who had used it. Only 8 (7.8%) respondents were willing to use or inform a friend about hormonal emergency contraception, but 89.3% thought it should be available in the health system. CONCLUSIONS: Awareness of hormonal emergency contraception is low among women in Kuwait. Despite concerns and apparent negative attitudes, women believe it should be made available in the health system.
A qualitative study of pharmacists' perspectives on the supply of emergency hormonal contraception via patient group direction in the UK.


Bissell P, Savage I, Anderson C.

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AIM: To investigate pharmacists' views and experiences of supplying emergency hormonal contraception (EHC) via a group prescribing protocol in community pharmacies in the UK. DESIGN: Qualitative study using depth interviews. SETTING: Community pharmacists in Manchester, Salford and Trafford (Greater Manchester), and Lambeth, Southwark and Lewisham (London) Health Action Zones in the UK. PARTICIPANTS: Forty-four community pharmacists supplying EHC in Manchester, Salford and Trafford, and Lambeth, Southwark and Lewisham (London). RESULTS: Pharmacists were broadly very positive about their experiences supplying EHC via the group prescribing protocol. Pharmacists identified many benefits of the EHC schemes for clients, in particular, improved access to EHC at no cost to clients. The confidential nature of the scheme was also seen as an advantage as was the scope for referral to other service providers. Pharmacists also believed that the scheme had benefits for the profession in terms of enhanced professional standing. However, their concerns included the extent of repeated use of EHC, the possible impact on contraceptive behaviors and sexually transmitted infections and its impact on male coercive sexual behavior. CONCLUSIONS: Although pharmacy supply of EHC may improve access for some clients and is perceived as a popular service, research into the implications of the schemes as identified in this study need to be conducted.
A survey of knowledge, attitudes and practices relating to emergency contraception among health workers in Manisa, Turkey.


Sevil U, Yanikkerem E, Hatipoglu S.

Gynecology and Obstetrics Nursing Department, University of Ege, School of Nursing, Izmir, Turkey.

OBJECTIVE: to determine knowledge, attitudes and practices relating to emergency contraception among health-care providers (general practitioners, nurses and midwives).

DESIGN: a cross-sectional design using face-to-face interview methods plus questionnaire in the work setting. Researchers were able to maintain privacy by using priority strategies.

SETTING: 18 primary health-care units in Manisa, western Turkey. SAMPLE: 182 health-care providers (general practitioners [n = 72]; nurses and midwives [n = 110] were invited to participate in the study, but 26 of them declined. PARTICIPANTS: 156 health-care providers. As 16 participants had not heard of emergency contraception, 140 health-care providers (general practitioners [n = 51] and nurses and midwives [n = 89]) were included. FINDINGS: of the health-care providers, almost one in 10 was unfamiliar with the term 'emergency contraception'. Only a few health-care providers knew how to use the intra-uterine contraceptive device (IUCD) for emergency contraception and the doses of emergency contraceptive pills. Some health-care providers included emergency contraception in routine consultations, but many did not support the use of emergency contraception in Turkey. Many of the providers thought that young people should not know about emergency contraception.

KEY CONCLUSIONS AND IMPLICATIONS FOR PRACTICE: knowledge among health-care providers about emergency contraception is inadequate. All health-care providers should know about emergency contraception and include it in routine contraceptive consultations. Thus, continuing education information programmes are required. Further research into the knowledge, practices and attitudes of health-care providers is needed to understand the underlying reasons for the hesitant attitudes among health professionals.
Using the theory of reasoned action to explain physician intention to prescribe emergency contraception.


Sable MR, Schwartz LR, Kelly PJ, Lisbon E, Hall MA.

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CONTEXT: Although research has examined providers' knowledge, attitudes and prescribing behaviors with regard to emergency contraception, none has used a theory-based approach to understanding the interplay of these factors. METHODS: A cross-sectional survey of 96 faculty physicians from one Southern and three Midwestern universities was conducted in 2004 to assess factors associated with intention to prescribe emergency contraception. The theory of reasoned action guided the study hypotheses and survey design. Correlation and regression analyses were used to examine the data. RESULTS: Only 42% of respondents strongly intended to prescribe emergency contraception for teenagers, but 65-77% intended to do so for all other specified groups (women who ask for the method, who have had a method problem, who have experienced rape or incest, and who have had unprotected sex). Consistent with the theory of reasoned action, high intention to prescribe emergency contraception was associated with positive attitudes toward doing so and with the perception that specific colleagues or professional groups support prescribing it; however, the perception of support by colleagues or professional groups in general did not predict intention. Also consistent with the theory, physicians' knowledge about emergency contraception and their demographic characteristics were not significant. CONCLUSIONS: Interventions to encourage physicians to provide emergency contraception should take into account their attitudes toward the method and the components of those attitudes.
Pharmacy access to emergency contraception in California.


Bixby Center for Reproductive Health Research and Policy, University of California, San Francisco, USA.

CONTEXT: California is one of eight states that allow a woman to obtain emergency contraceptives from a pharmacy without a physician prescription. Because many women do not know about emergency contraception or direct pharmacy access, it is important to understand barriers to getting the method and women's reasons for choosing the pharmacy option. METHODS: In a 2004 survey at 25 predominantly independent pharmacies across California that offered pharmacy access, 426 women completed questionnaires after obtaining emergency contraceptives. They were asked about their reasons for seeking the method, the time of unprotected intercourse, barriers to access, how they learned about pharmacy access and their reasons for choosing it. Chi-square tests and analysis of variance were used to assess differences between subgroups. RESULTS: Eighty-six percent of women wanted emergency contraceptives for immediate use, and women obtained the method an average of 36 hours after unprotected intercourse. Those younger than 16, those who had had unprotected sex on the weekend and those who were embarrassed to ask for the method or who did not know about it all took a longer time to get the medication than did their respective comparison groups. Women who chose pharmacy access did so because they thought it was faster (54%) and more convenient (47%) than seeking a physician prescription. The majority reported that talking to a pharmacist was very helpful (84%) and that it was very important to be able to get the method directly from a pharmacy (81%). CONCLUSIONS: Increasing women's knowledge about emergency contraception and its availability directly from pharmacies has the potential to improve the effectiveness of this contraceptive method by reducing the time interval between unprotected intercourse and initiation of treatment.
"The emperor has no clothes": emergency contraception should be available over-the-counter.

Comment on:


Fennell R.

Publication Types:
  Comment
  Editorial
Emergency contraception: a primer for pediatric providers.


Clements AL, Daley AM.

Yale University School of Nursing, Master's Program, Pediatric Nurse Practitioner Specialty, New Haven, CT, USA.

Emergency contraception (EC) is a contraceptive method used safely and successfully by women for more than 30 years to prevent pregnancy. Nurses at all levels are often the first point of contact for a woman who is requesting EC, thus it is particularly important for them to stay abreast of both the facts regarding the use of this product and the current political controversies. It is particularly important for Nurse Practitioners (NPs) working in primary care with adolescents to remain cognizant of the significant barriers that remain for many women of all ages trying to access this important contraceptive tool.

Publication Types: Review
Bleeding patterns after use of levonorgestrel emergency contraceptive pills.


Raymond EG, Goldberg A, Trussell J, Hays M, Roach E, Taylor D.

Family Health International, PO Box 13950, Research Triangle Park, NC 27709, USA. eraymond@fhi.org

OBJECTIVE: The objective of this study was to describe bleeding after use of an emergency contraceptive pill (ECP) regimen consisting of 1.5 mg of levonorgestrel in a single dose.

METHODS: We asked 120 women who had been treated with the regimen to keep daily bleeding diaries for 9 weeks. We compared bleeding patterns observed after treatment with usual patterns reported by the participants and with patterns observed in a prior study on women who had not taken ECPs.

RESULTS: Treatment in the first 3 weeks of the menstrual cycle significantly shortened that cycle as compared both with the usual cycle length and with the cycle duration in a comparison group. The magnitude of this effect was greater the earlier the pills were taken. In contrast, the duration of the first menstrual period after treatment increased significantly with cycle week of treatment and was longer in women who used the treatment than in those who did not. Intermenstrual bleeding occurred in only 5% of women in the first cycle after treatment.

CONCLUSIONS: The effect of the single-dose levonorgestrel ECP regimen on the timing and duration of the next menstrual period depends on when during the cycle the pills are taken. Intermenstrual bleeding following treatment is uncommon.

Faculty of Family Planning and Reproductive Health Care Clinical Effectiveness Unit.

Availability of emergency contraception at rural and urban pharmacies in Pennsylvania.


Chuang CH, Shank LD.

Division of General Internal Medicine, Department of Medicine, Pennsylvania State College of Medicine, Hershey, 17033, USA. cchuang@psu.edu

OBJECTIVE: Pharmacy availability of emergency contraception (EC) is necessary for timely access to this important contraceptive method. This is especially important in rural areas where pharmacies are fewer and further apart. STUDY DESIGN: This study was conducted using a telephone survey of 186 pharmacies located in the northeast region of Pennsylvania. RESULTS: Only 32% of the pharmacies had EC in stock, which did not differ by rural or urban location. Pharmacies that stocked EC in rural counties were less likely to have evening store hours compared with urban counties (p=.01). Pharmacies that did not stock EC most frequently cited lack of perceived need as the reason (61%). CONCLUSION: Emergency contraception availability in pharmacies is uniformly low in this region of Pennsylvania, creating a significant access barrier. Although there were no significant differences in EC availability between rural and urban pharmacies, additional barriers in rural settings could impede timely access to EC for rural women.
Questions for emergency contraception.

[No authors listed]

Emergency contraception: knowledge and perceptions in a university population.


Corbett PO, Mitchell CP, Taylor JS, Kemppainen J.

University of North Carolina Wilmington, Surf City, North Carolina, USA.

PURPOSE: The purpose of this study was to examine knowledge, attitudes, and behaviors regarding emergency contraception (EC) in university men and women aged 18-21. DATA SOURCES: Data sources included responses to a 25-item questionnaire and an 8-item demographic survey completed anonymously at a public site on campus. Ninety-seven university students participated in the study. Participants were asked to respond to questions relating to knowledge, attitudes, and behaviors regarding EC, perceived worthiness, objections, sources of information about EC, preferred birth-control method and usage, and perceptions of their personal risk of unintended pregnancy. CONCLUSIONS: Many respondents considered unintended pregnancy to be a major problem and considered EC a worthy option in the event of method failure or unprotected intercourse. While most participants were aware that there was a postcoital method of contraception, confusion existed between EC and RU-486 (the abortion pill). Almost half (49.5%) believed that EC was the same as RU-486. There was an association between advanced prescription for EC and its likelihood of use. Most women would be significantly more likely to use EC if they had a prescription on hand. Of the women who were less likely to choose EC, 100% indicated they would feel embarrassed or judged when asking for it. Only 34% of those women who have had a gynecological exam in the past 12 months had discussed EC with their provider. IMPLICATIONS FOR PRACTICE: Advanced practice nurses need to incorporate EC into preventive health counseling for both men and women. Providing women with an advanced prescription increases the likelihood that women will use EC.
Emergency contraception.

Stanford JB, Mikolajczyk RT.


Comment on:

Publication Types:
   Comment
   Letter
Emergency contraception: to the editor.


Comment on:

Gold MA.

Publication Types:
Comment
Letter
Access to emergency hormonal contraception from community pharmacies and family planning clinics.


Lewington G, Marshall K.

South-west Kent PCT, Tonbridge and School of Pharmacy, University of Bradford, Bradford, UK.

AIMS: To evaluate differences in the time taken to access progestogen-only emergency hormonal contraception (EHC) by young women from family planning (FP) or community pharmacy settings. METHODS: An observational study of 203 women requesting EHC from FP clinics and community pharmacies in South-west Kent Primary Care Trust (PCT) from December 2002 to October 2003. RESULTS: Access to EHC from community pharmacy was significantly faster than from FP clinics (16 h vs. 41 h, P<0.001). Older teenagers tended to seek EHC more quickly and were more likely to have had a contraceptive failure rather than have used no contraception at all. CONCLUSION: The results provide further support for pharmacist involvement in the supply of EHC.
Nonprescription availability of emergency contraception in the United States: current status, controversies, and impact on emergency medicine practice.


Ranney ML, Gee EM, Merchant RC.

Department of Emergency Medicine, Brown Medical School, Providence, RI, USA.

In October 2004, the American College of Emergency Physicians Council joined more than 60 other health professional organizations in supporting the nonprescription availability of emergency contraception. This article reviews the history, efficacy, and safety of emergency contraception; the efforts toward making emergency contraception available without a prescription in the United States; the arguments for and against nonprescription availability of emergency contraception; and the potential impact nonprescription availability could have on the practice of emergency medicine in the United States.

Publication Types:
  Review
Refusals by pharmacists to dispense emergency contraception: a critique.


Wall LL, Brown D.

Department of Obstetrics-Gynecology, Washington University, St. Louis, Missouri 63110, USA. WALLL@wustl.edu

Over the past several months, numerous instances have been reported in the United States media of pharmacists refusing to fill prescriptions written for emergency postcoital contraceptives. These pharmacists have asserted a "professional right of conscience" not to participate in what they interpret as an immoral act. In this commentary, we examine this assertion and conclude that it is not justifiable, for the following reasons: 1) postcoital contraception does not interfere with an implanted pregnancy and, therefore, does not cause an abortion; 2) because pharmacists do not control the therapeutic decision to prescribe medication but only exercise supervisory control over its dispensation, they do not possess the "professional right" to refuse to fill a legitimate prescription; 3) even if one were to grant pharmacists the "professional right" not to dispense prescriptions based on their own personal values and opinions, pharmacists "at the counter" lack the fundamental prerequisites necessary for making clinically sound ethical decisions, that is, they do not have access to the patient's complete medical background or the patient's own ethical preferences, have not discussed relevant quality-of-life issues with the patient, and do not understand the context in which the patient's clinical problem is occurring. We conclude that a policy that allows pharmacists to dispense or not dispense medications to patients on the basis of their personal values and opinions is inimical to the public welfare and should not be permitted.

Publication Types: Case Reports
Emergency contraception, abortion and evidence-based law.


Cook RJ, Dickens BM, Erdman JN.

Faculty of Law, Faculty of Medicine and Joint Centre for Bioethics, University of Toronto, Toronto, Ontario, Canada.

Courts and legal tribunals increasingly decline to serve as religious or moral guardians, and require social evidence to support litigants' claims. Recent cases on emergency contraception and abortion are examined to show how judicial interpretations can take account of evidence of the impact that different understandings of the law will have for how ordinary people can plan their lives and reproductive choices. In an emergency contraception case, an interpretation was rejected that would have criminalized choices that millions of decent, law-abiding physicians, pharmacists and women routinely make. In an abortion case, three judges unanimously rejected a government ministry's defence of compliance with the law because the ministry had failed to investigate the needs within its jurisdiction for legal clarity, lawful services, and its responsibility to women returning from having lawful procedures elsewhere. In both cases, litigants prevailed who showed factual evidence that their claims better promoted reproductive health and choice.
Group backs emergency contraception.


Kuehn BM.

Publication Types:
  News
Health care providers' knowledge of, attitudes toward and provision of emergency contraceptives in Lagos, Nigeria.


Ebuehi OM, Ebuehi OA, Inem V.

Lecturer, Institute of Child Health and Primary Care, College of Medicine, University of Lagos, Lagos, Nigeria. funkebuehi@yahoo.co.uk.

CONTEXT: Emergency contraception can play an important role in reducing the rate of unintended pregnancies in Nigeria. Although it is included in the national family planning guidelines, there is limited awareness of this method among clients. METHODS: In 2003-2004, a sample of 256 health care providers within Lagos State were surveyed about their knowledge of, attitudes toward and provision of emergency contraceptives, using a 25-item, self-administered questionnaire. Frequencies were calculated for the various measures, and chi-square tests were used to determine significant differences. RESULTS: Nine in 10 providers had heard of emergency contraception, but many lacked specific knowledge about the method. Only half of them knew the correct time frame for effective use of emergency contraceptive pills, and three-fourths knew that the pills prevent pregnancy; more than a third incorrectly believed that they may act as an abortifacient. Fewer than a third of respondents who had heard of the pills knew that they are legal in Nigeria. Of those who had heard about emergency contraception, 58% had provided clients with emergency contraceptive pills, yet only 10% of these providers could correctly identify the drug, dose and timing of the first pill in the regimen. Furthermore, fewer than one in 10 of those who knew of emergency contraception said they always provided information to clients, whereas a fourth said they never did so. CONCLUSIONS: Nigerian health care providers urgently need education about emergency contraception; training programs should target the types of providers who are less knowledgeable about the method.
Effects of levonorgestrel on ovarian function when used for emergency contraception.


Gemzell-Danielsson K.

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Recently postcoital treatment with levonorgestrel (LNG) and the antiprogestin mifepristone has emerged as the most effective hormonal methods available for emergency contraception and LNG in a single dose of 1.5 mg has become the recommended emergency contraceptive pill. However, the mechanism(s) of action of these methods when used for emergency contraception in humans remains largely unknown. Taken together available data suggest that emergency contraception with 0.75 mg of LNG twice 12 h apart or a single dose of 1.5 mg of LNG acts mainly to inhibit or delay ovulation. If the effect of emergency contraception is mainly to block the luteinizing hormone surge or to interfere with other processes involved in ovulation is not clear and needs to be further studied. Increased knowledge on mechanism of action could hopefully increase the acceptability, and thus availability of these methods, to offer women a chance to prevent an unwanted pregnancy and thus reduce the numbers of induced abortions.
Emergency contraception.


Bastianelli C, Farris M, Di Miscia A.

Dipartimento di Scienze Ginecologiche, Perinatologia e Puercultura, Universita degli Studi di Roma La Sapienza, Roma, Italy.

A specific formulation has been approved for use in Italy for emergency contraception (EC) in 2000. As expected, marketing of this levonorgestrel (LNG) only formulation has been accompanied by an increased interest and, often, controversies leading to even strong opposition on the part of those ethically opposed to the use of any method that may act after fertilization. At present, several trials on the exact mechanism of action and safety have been conducted, giving good reason for simplifying access, providing it free or over the counter, in several European countries. EC, also known as "the morning after pill" or postcoital contraception, is a modality of preventing the establishment of an unwanted pregnancy after unprotected intercourse and thus, probably, of reducing the number of voluntary pregnancy terminations. Two different forms are available: the hormonal and the intrauterine. Hormonal estrogen only EC was first proposed in the 60s and in 1974 Yuzpe following his studies proposed for the first time his combined regimen, that showed better efficacy and lower side effects. More recently, a new regimen, consisting of LNG, administered alone at the dose of 1.5 mg, was introduced and found in clinical trials to be more effective than the Yuzpe regimen, if taken as early as possible, within 72 h, thereby replacing the latter in common use. Mechanism of action of both hormonal preparations used for EC is inhibiting or delaying ovulation, therefore a prefertilization action. No effect has been reported on the process of implantation nor on an ongoing pregnancy. The WHO have developed a third regimen based on the use of the selective progesterone receptor modulator (antiprogestin) Mifepristone and conducted trials with different dosages, reporting similar efficacy and safety compared to LNG. Intrauterine EC was first proposed by Lippes in 1976. It has the advantage of being effective if inserted within 5 days after unprotected intercourse and the disadvantage of a greater complexity. In addition, this modality is truly interceptive, acting by preventing implantation. Pregnancy rates reported following EC using a device >300 mm2 of copper are consistently low (0.1-0.2%).
What is the seminal exposition among women requiring emergency contraception? A prospective, observational comparative study.


Department of Obstetrics and Gynecology, Hospital de la Santa Creu i Sant Pau, Sant Antoni M. Claret 167, E-08025 Barcelona Spain.

OBJECTIVE(S): The aim of this study is to determine the number of sperm present in the vagina of women presenting for EC after unprotected intercourse or a condom accident.

STUDY DESIGN: A total of 69 women requesting EC were included in a prospective, observational and comparative study. The absence or presence and number of spermatozoa present were examined under light microscopy in endocervical and vaginal smears. An ethinylestradiol-levonorgestrel combination (100mcg/500mg for two doses, 12h apart) was then prescribed. Twenty couples were taken as controls.

RESULTS: In 25 (36.2%) of the 69 women, spermatozoa were not observed. In the women in whom sperm could be identified, there were no significant differences in the mean (range) sperm count in relation to the reason for requesting EC, i.e., 11.0 (0.03-149.8) for condom slippage or breakage, and 8.1 (3.9-55) for unprotected intercourse. In the group of controls the median (range) number of spermatozoa (32.5 (2.5-304) was significantly higher (p=0.04) than the observed in the study group. CONCLUSION(S): In one-third of the women presenting for EC, no sperm were identified in the vagina. When sperm were present, the number was much lower than that after intercourse among women wishing to conceive. The risk of an unwanted pregnancy is probably, therefore, lower for women who present for EC compared with that for women who truly have unprotected intercourse.
The impact of pharmacy access to emergency contraceptive pills in France.


Moreau C, Bajos N, Trussell J.

Office of Population Research, Princeton University, Wallace Hall, Princeton, NJ 08544, USA. cmoreau@princeton.edu

OBJECTIVE: The objective of this study is to determine the impact of pharmacy access to emergency contraceptive pills (ECPs) on ECP use, risky sexual behavior and contraceptive use patterns in France. METHODS: We analyzed the responses of women to health surveys conducted in 1999 and 2004. RESULTS: We found that increasing access to ECPs in France by introducing a dedicated product and by eliminating prescription requirement resulted in increased ECP use, with the vast majority of ECP users in 2004 having obtained ECPs directly from a pharmacy without a prescription. This increase in ECP access and use did not result in increased proportions of women who had ever had intercourse, or in a decrease in the age at first intercourse, or in an increase in the proportion of women at risk for unintended pregnancy. Among women at risk for unintended pregnancy, there was no decrease in the use of contraception and no decrease in the use of the most effective methods. CONCLUSION: Introducing a dedicated product and allowing direct pharmacy access to ECPs in France have resulted in greater ECP use, with no negative impact on sexual behavior or use of contraception.
Emergency contraception - a human rights issue.


Croxatto HB, Fernandez SD.

Chilean Institute for Reproductive Medicine (ICMER), Jose Ramon Gutierrez 295, Santiago, Chile.

Emergency contraception is the only resource that women can use to avoid becoming pregnant after having sexual intercourse without contraceptive protection. It could be a powerful means to prevent unwanted pregnancies and their devastating consequences for women's health, social wellbeing and life project, and for the unwanted child, if all people had ample access to good quality information, education and services for sexual and reproductive health. In spite of the preventive medicine value of emergency contraception, conservative sectors oppose its availability, appealing to moral values that are not universally shared in pluralistic societies. Excluding the only contraceptive that can be used after intercourse because some consider the mechanism of action to be unacceptable would mean restricting the right of choice of others, and imposing one particular belief or set of values on all members of the community, thus violating the freedom of conscience. Authorities have a moral obligation to protect human rights.
Recent use of condoms and emergency contraception by women who selected condoms as their contraceptive method.


Nelson AL.

Division of Gynecology, Department of Obstetrics and Gynecology, Los Angeles Biomedical Research Institute at Harbor-UCLA, Torrance, CA, USA.

OBJECTIVE: This study was undertaken to determine how consistently indigent, predominantly Hispanic women who had previously selected male condoms as their contraceptive method had used condoms and emergency contraception (EC) during the 2 weeks before their family planning clinic visit and reasons for any nonuse. STUDY DESIGN: Cross-sectional survey with no personal identifiers collected. RESULTS: Two hundred forty-eight women were surveyed. Overall, 43.8% of sexually active women reported inconsistent condom use during the prior 14 days. Only 39% of women who had not used condoms consistently used EC at least once. The most common reason for nonuse of both condoms (44%) and EC (41%) was that the woman did not perceive that she was at risk. CONCLUSION: Inconsistent use of condoms and low use of EC are very frequent, even in a short-time frame. Patients may be reluctant to volunteer to clinicians their real contraceptive choices. Risk taking occurs at high rates, even among couples provided ready and free access to male condoms and EC.
Re: Advance supply of emergency contraception.

Trussell J, Raymond E, Stewart FH.


Publication Types:
  Comment
  Letter
OBJECTIVE: Awareness and use of hormonal emergency contraception are not known in the Arab world. This study investigated awareness and perceptions of hormonal emergency contraception among women within a Kuwaiti extended family and their social contacts. STUDY DESIGN: A cross-sectional survey was conducted using a self-administered questionnaire which was distributed to 66 married women within a Kuwaiti family's social network. The questionnaire provided a short explanation of hormonal emergency contraception and then elicited the respondent's prior awareness, concerns and perception on future availability. RESULTS: The mean (S.D.) age of the respondents was 35.1 (6.3) years. Over 30% were currently using oral contraceptives; 28% were using no contraceptive method. Four women (6.1%) had heard of hormonal emergency contraception before, one had used it. Most respondents (65.2%) would not use or inform a friend about hormonal emergency contraception. Main concerns were risks to the health of the woman (83.3%) or the baby (54.5%) or that it was abortifacient (21.2%). However, 90.9% of respondents wanted hormonal emergency contraception to be available. CONCLUSIONS: Awareness of hormonal emergency contraception is low among Kuwaiti women. Despite some concerns, they feel it should be made available. Health care providers and policymakers should address this situation.
CEU Guidance on emergency contraception.


McCarthy T.
Consultant, Directorate of Sexual and Reproductive Health, Gwent Healthcare NHSTrust, Llanfrechfa Grange Hospital, Cwmbran, Torfaen NP44 8YN, UK.
Risk of pregnancy and external validity in clinical trials of emergency contraception.


Family Care International, New York, NY, USA.

OBJECTIVES: To compare women who enrol in emergency contraception (EC) trials to those who decline and to understand why eligible women decline to participate. METHODS: Data were collected from all women seeking EC (n = 5787) at three clinics in the USA and UK during a period of nearly 1 year (from September 1997 to August 1998). The main outcome measures were pregnancy risk calculated by adjusted cycle day of ovulation. RESULTS: Enrolled and non-enrolled women had similar mean ages and similar mean cycle lengths. However, the enrolled and non-enrolled groups were different with respect to adjusted cycle day of unprotected sexual intercourse (UPSI), the regularity of their cycles, recent hormone use, breastfeeding, the number of other acts of UPSI they had engaged in during the same cycle, and their willingness to participate in the study. Expected pregnancy risk among enrolled patients was higher than among non-enrolled EC seekers (6.5% vs 5.0%, p<0.001, calculated using Dixon conception probabilities, and 5.4% vs 4.6%, p = 0.086, calculated using Trussell conception probabilities). Unwillingness to take part in the study was the most common reason women did not enrol in the trial. Otherwise-eligible women most often declined to enrol because they were concerned about the effectiveness of the trial regimen. CONCLUSIONS: Women in EC trials are likely to face higher pregnancy risk than the general population. Clinical trials might overestimate the number of pregnancies averted by treatment because the number of expected pregnancies in trial populations is not representative of the population of all EC seekers. This information could be useful in projecting the public health impact of expanded EC access.
Awareness and perceptions of emergency contraception among retail pharmacists in Kuwait.

Pharm World Sci. 2006 Jul 4; [Epub ahead of print]

Ball DE, Marafie N, Abahussain E.

Department of Pharmacy Practice, Faculty of Pharmacy, Health Sciences Center, Kuwait University, 24923, Safat, 13110, Kuwait, dball@hsc.edu.kw.

OBJECTIVE: To describe the awareness and perceptions of hormonal emergency contraception (EC) among retail pharmacists. SETTING: Private retail pharmacies in Kuwait City. METHOD: A self-administered questionnaire was developed to elicit pertinent demographic information as well as awareness of and concerns about EC and administered to the senior pharmacist in 51 randomly selected private retail pharmacies. MAIN OUTCOME MEASURE: Proportion of pharmacists aware of EC and who had recommended EC. RESULTS: The respondents had a mean (SD) age of 34.2 (7.7) years; 58.8% were male, and all but one were non-Kuwaiti. The median practice experience of the pharmacists was 6 years. Oral contraceptives and male condoms were universally available in the pharmacies, but none stocked emergency contraceptives, female condoms, or diaphragms. Twenty respondents (39.2%; 95% confidence intervals 25.5-53.9%) said they were aware of EC, and 4 (7.8%) that they had ever offered EC. Nine (17.6%) respondents saw EC as offering no advantages over other contraceptive measures and effectiveness was perceived to be low. Most cited concerns were of encouraging irresponsible behaviour and women relying on EC in place of regular contraceptive measures. Religious opposition (41.2%), lack of awareness by clients (51.0%) and lack of awareness by health providers (35.3%) were seen as the most significant obstacles to provision of EC. CONCLUSION: Knowledge of EC is poor among community pharmacists in Kuwait. Action is needed to address this deficit and to make EC more accessible to women who wish to use it.
Pharmacist critique was ill-informed.


Karpa KD.

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Pharmacists' ability to exercise "professional right of conscience" in dispensing emergency contraception, as well as the professionalism of pharmacists, has fallen under attack recently by the media, by state governments, and even by other healthcare professionals in published commentaries. This editorial discusses the controversy surrounding emergency contraceptives, the right of pharmacists to refuse to fill prescriptions that they consider morally objectionable, and the responsibility of pharmacists to provide medications in a timely and professional manner. The professionalism of pharmacy is also examined in light of the expanded scope of practice in which pharmacists increasingly find themselves practicing.
Emergency contraception and the LNG-IUS.


Bhathena RK.

Petit Parsee General and Masina Hospitals, B Petit Road, Cumballa Hill, Bombay 36, India.
A medical crisis of conscience: faith drives some to refuse patients medication or care.


Stein R.

Publication Types:
   Newspaper Article
Patterns of emergency contraception use by age and ethnicity from a randomized trial comparing advance provision and information only.


Walsh TL, Frezieres RG.

Research Division, California Family Health Council, Los Angeles, CA 90010, USA.

PURPOSE: This study measures the impact of the advance provision of emergency contraception (EC) among family planning clients at 31 clinics in California. METHODS: We randomized over 9000 clients to receive a packet containing either two 0.75-mg levonorgestrel pills (Plan Btrade mark) or an identical packet containing EC information only. We conducted follow-up interviews on a subset of 1130 clients selected to optimize the age and ethnicity distribution. The interviews collected information on EC use, contraception, risk-taking behaviors and EC attitudes. RESULTS: Clients who received EC in advance were significantly more likely to have used EC (19%) than women who received information only (12%) (p=.0009). There were no significant differences between the contraceptive and risk-taking behavior of the two treatment groups. Study respondents of all ages and ethnicities expressed positive attitudes about EC. Nevertheless, even with EC on-hand, many respondents who reported unprotected intercourse decided not to take EC. CONCLUSION: More research should be done on the reasons women decide not to use EC even when readily available.
Pharmacokinetics of single-dose levonorgestrel in adolescents.


Department of Biopharmaceutical Sciences, School of Pharmacy, University of California San Francisco, Box 0446, San Francisco, CA 94143-0446, USA.

PURPOSE: The purpose of this study is to compare the pharmacokinetics of levonorgestrel, a drug used for emergency contraception between female adolescents and adults. METHODS: Twenty-two female subjects, aged 13-16 years, received a single 0.75-mg dose of the drug. Serial blood samples were collected for 72 h and used to measure plasma levonorgestrel concentrations. Previously published data from 16 adults, aged 18-45 years, served as comparison. RESULTS: There was a statistically significant higher total plasma clearance divided by the bioavailability (CL/F) of levonorgestrel in adolescents compared to adults, resulting in lower maximum and average total plasma concentrations. There was a trend for a larger volume of distribution divided by bioavailability (V/F), but there was no significant difference in the half-life of levonorgestrel in adolescents relative to adults (p=.098). CONCLUSION: The differences between adolescents and adults are unlikely to be clinically significant because specific changes in total concentrations suggest that unbound concentrations are probably not affected. Furthermore, empirically high doses of levonorgestrel are given for emergency contraception.
Hormonal contraception in adolescents: special considerations.

Paediatr Drugs. 2006;8(1):25-45

Ornstein RM, Fisher MM.

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With the rates of unintended pregnancies in teenagers remaining high, it is crucial to present adolescents with all of the contraceptive options available to them. While barrier methods, for example, male condoms, are easily accessible and do not have adverse effects, their use must be consistent and correct with each act of intercourse. Hormonal contraception affords much better efficacy in preventing pregnancy when used with full compliance. Oral contraceptives are a popular method of contraception among adolescents and offer many non-contraceptive benefits along with the prevention of pregnancy. They have very few significant adverse effects, which are outweighed by the significant morbidity associated with teenage pregnancies, and can be used by most adolescent females. However, their minor bothersome effects do contribute to the high discontinuation rates seen. In addition, many girls find it difficult to remember to take a pill every day, leading to higher failure rates in teenagers than in adult women. The advent of long-acting, progestogen (progestin)-only methods, such as injectables and implantables, has been generally accepted by adolescents and these methods have proven to be more efficacious by avoiding the need for daily compliance. However, progestogen-only methods cause irregular bleeding and amenorrhea, which is not acceptable to many teenagers. In addition, the most widely used implant was taken off the market a few years ago and newer forms are not yet widely accessible. Other novel methods are currently available, including the transdermal patch and the vaginal ring. Both are combinations of estrogen and progestogen and have similar efficacy and adverse effect profiles to oral contraceptives. Their use may be associated with greater compliance by adolescents because they also do not require adherence to a daily regimen. However, there may be some drawbacks with these newer methods, for example, visibility of the patch and difficulty with insertion of the vaginal ring. When regular contraceptive modalities fail, emergency contraception is available. Choices include combination oral contraceptives, progestogen-only pills, mifepristone, or placement of a copper-releasing intrauterine device. These methods can be very useful for preventing pregnancy in adolescents as long as adolescents are aware of their existence and have easy access to them.
Hospital religious affiliation and emergency contraceptive prescribing practices.


Rubin SE, Grumet S, Prine L.

Department of Family Medicine, Montefiore Medical Center, the Bronx, NY, USA.

With access to reproductive health care eroding, examination of prescribing of contraception, including emergency contraception (EC), is important. We examined whether working in a family practice affiliated with a religious institution changes the likelihood of a provider prescribing EC. Our survey asked about EC prescribing practices in a range of situations. As predicted, practitioners in non-religiously affiliated practices reported higher rates of prescribing EC than those in religiously affiliated practices. In both cases, however, the practitioners' prescribing patterns were inadequate.
Menstrual bleeding patterns following levonorgestrel emergency contraception.


Gainer E, Kenfack B, Mboudou E, Doh AS, Bouyer J. INSERM, U569, Epidemiology, Demography and Social Sciences, IFR69, Le Kremlin-Bicetre 94276, France. e.gainer@hra-pharma.com

PURPOSE: Multiple trials by the World Health Organization have established levonorgestrel as the gold standard in hormonal emergency contraception (EC). However, changes in menstrual patterns following EC have been observed; thus, we undertook this prospective study to identify and determine the characteristics of these changes. MATERIALS: Women requesting EC at either any of two hospitals --1 family planning unit and 12 pharmacies in Yaounde, Cameroon were enrolled if they had a history of regular menstrual cycles over the previous 3 months and if they agreed to follow-up until the end of the subsequent menstrual cycle. Pretreatment menstrual patterns were compared with those of the EC treatment cycle and the cycle after EC. RESULTS: In a set of 232 participants (mean age, 25 years), we observed 34 (14.7%) cases of incident intermenstrual bleeding and statistically significant changes in menstrual cycle length, menstrual period length and menstrual appearance compared to baseline patterns that differed according to whether EC was taken well before, close to or well after the expected ovulation for that cycle. The majority of these changes disappeared in the following cycle. CONCLUSION: Levonorgestrel EC is associated with significant but transient changes in menstrual patterns in a significant proportion of users.
Patterns of emergency contraception use by age and ethnicity from a randomized trial comparing advance provision and information only.


Walsh TL, Frezieres RG. Research Division, California Family Health Council, Los Angeles, CA 90010, USA. walsht@cfhc.org

PURPOSE: This study measures the impact of the advance provision of emergency contraception (EC) among family planning clients at 31 clinics in California. METHODS: We randomized over 9000 clients to receive a packet containing either two 0.75-mg levonorgestrel pills (Plan B) or an identical packet containing EC information only. We conducted follow-up interviews on a subset of 1130 clients selected to optimize the age and ethnicity distribution. The interviews collected information on EC use, contraception, risk-taking behaviors and EC attitudes. RESULTS: Clients who received EC in advance were significantly more likely to have used EC (19%) than women who received information only (12%) (p=.0009). There were no significant differences between the contraceptive and risk-taking behavior of the two treatment groups. Study respondents of all ages and ethnicities expressed positive attitudes about EC. Nevertheless, even with EC on-hand, many respondents who reported unprotected intercourse decided not to take EC. CONCLUSION: More research should be done on the reasons women decide not to use EC even when readily available.
Knowledge, attitudes, and use of emergency contraception among rural western North Carolina women.


Comment in:

Fagan EB, Boussios HE, Moore R, Galvin SL. Division of Family Medicine, Department of Obstetrics and Gynecology, Mountain Area Health Education Center, Asheville, NC, USA.

BACKGROUND: To determine the knowledge, attitudes and self-reported usage of emergency contraception (EC) in rural western North Carolina women. METHODS: Using a cross-sectional survey, with a convenience sample, participants self-administered the survey in waiting rooms of eight medical clinics in three counties in western North Carolina. Participants included 401 English-speaking women of childbearing age (18-44 years old) presenting for routine medical care during a three-month period in 2004. RESULTS: Of the 70.5% who responded, almost all (97%) were sexually active and most (92%) perceived an unintended pregnancy to be a problem. A majority of the participants (72%) were aware of EC, but only 7.5% of women reported usage in the last year. More than 80% of the surveyed women were uncertain if EC was the same as the abortion pill, RU-486. While only 16% of respondents indicated they had discussed EC with a doctor or another health professional, most women (89%) reported that doctors or other health professionals would be their first choice for accurate information about EC pills. CONCLUSIONS: Among western North Carolina women of childbearing age, EC is rarely used, perhaps because of confusion about its mechanism of action. Furthermore, EC is infrequently discussed with doctors. Since women indicate that health care providers would be their preferred choice for accurate information about EC, improved patient education by physicians about EC would be a first step in increasing knowledge among patients.
Emergency contraception: a call to education.


Comment on:


Humphrey DA.

Publication Types:
Comment
Editorial
Plan B: to shelve, or not to shelve. Emergency contraception is on the hot seat again.


Fischman J.

Publication Types:
   News
Emergency contraception: Controversy remains.


Comment on:

Katz A. Prostate Centre of CancerCare, Manitoba, Winnipeg.

Publication Types:
  Comment
Emergency contraception in Honduras: knowledge, attitudes, and practice among urban family planning clients.


Garcia SG, Lara D, Landis SH, Yam EA, Pavon S. Reproductive Health, Population Council, Latin America and the Caribbean Regional Office, Mexico City, Mexico. sgarcia@popcouncil.org.mx

Emergency contraception (EC) has the potential to improve women's reproductive health significantly. In Honduras, where nearly one-fourth of pregnancies are unplanned, the need for EC is substantial. To increase awareness of this option, nongovernmental organizations launched countrywide EC outreach activities in 2001-03. We conducted pre- and postintervention cross-sectional surveys among a total of 2,693 family planning clinic clients to assess EC knowledge, attitudes, and practice at baseline and at two years postintroduction. EC awareness increased over time, but remained at just 20 percent at follow-up. Respondents generally demonstrated a positive attitude and low rates of concern about EC. Awareness of and willingness to use EC were strongly associated with age, educational status, and city of residence. Public-sector acceptance of the method is essential to increase awareness of and access to EC. This study is intended to fill an information gap regarding EC in Latin America and the Caribbean and to be useful in determining educational messages and target audiences for future awareness campaigns in Honduras.
Provision of contraceptive and related services by publicly funded family planning clinics, 2003.

Perspect Sex Reprod Health. 2006 Sep;38(3):139-47.

Lindberg LD, Frost JJ, Sten C, Dailard C. Guttmacher Institute, New York, NY, USA. LLindberg@guttmacher.org

CONTEXT: In addition to contraceptive services, publicly funded family planning clinics provide low-income women with a range of reproductive diagnostic, treatment and educational services. Nationally representative information about the scope of services available from clinics is needed to formulate policy and programmatic recommendations. METHODS: In 2003, more than 1,000 U.S. clinics responded to an eight-page survey on service availability and clinic policies. Differences in the proportions of clinics reporting each service or policy were examined by clinic type and receipt of Title X funding. RESULTS: Nearly all clinics offer pills, injectables and condoms; 75% offer the patch; and 80% offer emergency contraception. Most clinics (73%) typically use a conventional Pap smear for initial cervical cancer screenings; 27% use liquid-based Pap tests. For follow-up, 68% of clinics use liquid-based or other advanced testing. Virtually all clinics screen at least some clients for chlamydia; Planned Parenthood and Title X-funded clinics, more than others, tend to focus screening efforts on sexually active women aged 25 and younger. Single-dose treatments are provided by 58% of clinics. Nine in 10 clinics offer HIV testing on-site, most of them to any client who requests it. Services targeted to specific populations include counseling about abstinence for minors (91%); non-reproductive health services for men (36%); and availability of staff such as translators (81%) and bilingual administrative (59%) or clinical personnel (57%) for non-English-speaking clients. CONCLUSIONS: More public funding is imperative for clinics to keep up with the demands of new technologies and a diverse client base.
The social life of emergency contraception in the United States: disciplining pharmaceutical use, disciplining sexuality, and constructing zygotic bodies.


Wynn LL, Trussell J. Office of Population Research Princeton University, USA.

This article is an examination of the FDA hearing on a proposal to permit nonprescription access to the emergency contraceptive pill Plan B. Participants debated the drug's impact on female and young adult sexuality, illustrating how the rhetoric over disciplining pharmaceutical use in the American public is a displaced language for talking about disciplining women's and girls' sexuality. Debate over Plan B also focused on its mechanism of action and whether or not it was abortifacient, revealing a medical technology characterized not only by moral but also by marked scientific ambiguity. The scientific framing of the politics of emergency contraception is testament to the powerful authority of biomedicine to narrate and thus produce ideologies of bodies (individual, embryonic, social, and political), sexuality, and selves. The discourse on access to Plan B in the United States demonstrates how women's bodies are sites of control where the politics of sexuality, discourses on public health, and medical constructions of biological processes intersect.
The profile of emergency contraception users in a chlamydia prevalence study in primary care in Belgium.


Verhoeven V, Peremans L, Avonts D, Van Royen P. Academic Centre for General Practice, Antwerp University, Wilrijk, Belgium. veronique.verhoeven@ua.ac.be

INTRODUCTION: We describe the use of emergency contraception (EC) and its association with sociodemographic, contraceptive and behavioural characteristics in a sample of family practice attendees in Belgium. METHODS: The study was part of a large Chlamydia trachomatis (CT) prevalence study in general practice. Sexually active women under 40 who consulted their general practitioner for routine gynaecological care were enrolled in the study. Participants completed a questionnaire on sociodemographic variables, urogenital symptoms, sexual history and sexual behaviour, and delivered a sample for CT testing. Logistic regression analysis was performed to identify determinants of a history of EC use in women in this sample. RESULTS: Of 815 questioned women, 23.5% had ever used EC. EC users were a heterogeneous group with respect to educational level, age and ethnicity. The use of emergency contraception was associated with the level of urbanisation, condom use, not having children yet, young age of first sexual intercourse, having had multiple partners in the past year, a history of unintended pregnancy, and current or previous STI. DISCUSSION: Information on availability and correct use of EC, and on the need for additional testing for STI, are necessary to help primary care attendees to preserve their future reproductive health.
**Contraceptive failures and determinants of emergency contraception use.**


Goulard H, Moreau C, Gilbert F, Job-Spira N, Bajos N; Cocon Group. INSERM, National Institute of Health and Medical Research, U569 "Epidemiology, Demography and Social Sciences," IFR69, 94276 Le Kremlin-Bicetre, France.

OBJECTIVES: Two years after emergency contraceptive pills (ECPs) were made available without prescription in France, we investigated the determinants of ECP use in a representative sample of women at risk for unintended pregnancy. STUDY DESIGN: This study is based on data collected from a population-based cohort exploring contraceptive practices and abortion (N=2863). RESULTS: Among the 706 women at risk for unintended pregnancy during the first year of follow-up (2001), only 11.1% used ECPs. Women in stable relationships or using the same contraceptive method during the year were less likely to use ECPs than other women. The study also demonstrates that detailed knowledge of ECPs increases the probability of its subsequent use. CONCLUSIONS: Given the low frequency of ECP use in cases of unintended pregnancy risk, these results suggest that information campaigns should be targeted not only at women with irregular contraceptive practices but also at women who experience errors in the use of their regular contraceptive method.
Emergency contraception.

**BMJ. 2006 Sep 16;333(7568):560-1.**

Comment in:
  **BMJ. 2006 Oct 7;333(7571):756.**

Glasier A.

Publication Types:
  Editorial
Comment: pharmacist critique was ill-informed.


Comment on:

Calis KA, Pucino F Jr, Penzak SR, Lombardo FA.

Publication Types:
Comment
Letter
Contraceptive usage, knowledge and correlates of usage among female emergency department patients.


Merchant RC, Damergis JA, Gee EM, Bock BC, Becker BM, Clark MA. Department of Emergency Medicine, Brown Medical School, Rhode Island Hospital, Providence, RI 02903, USA. rmerchant@lifespan.org

OBJECTIVES: For female emergency department (ED) patients, we sought to assess the prevalence of contraceptive usage as well as the extent of contraceptive knowledge and to determine if demographic and sexual health history factors, comprehension of contraceptive methods and moral/religious opinions on contraception were associated with current usage of birth control pills (BCPs), prior usage of emergency contraception (EC) and frequency of condom usage. METHODS: English-speaking female ED patients aged between 18 and 55 years at a northeastern United States urban ED were surveyed on their usage, comprehension and opinions regarding BCPs, EC and condoms. RESULTS: Of the 539 respondents (64.6% were aged </=35 years), most were White (63.1%), single (42.5%), Catholic (48.4%) and privately insured (55.3%). Among the 223 women at pregnancy risk [not currently pregnant, not using any form of nonsurgical birth control (except condoms) and with no prior tubal ligation or hysterectomy], about 25% were using BCPs, fewer than 10% had used EC and almost 40% never used condoms. Most women displayed good knowledge about BCPs and condoms but poor understanding about EC. In multivariate logistic regression analyses, current BCP usage among women at risk of pregnancy was associated with younger age [odds ratio (OR)=0.54; 95% confidence interval (CI)=0.37-0.79], private insurance (OR=2.52; 95% CI=1.30-4.86) and recent intercourse (OR=1.61; 95% CI=1.19-2.18). Among women at risk of pregnancy, those who had an abortion (OR=2.56; 95% CI=1.17-5.61) and those who displayed greater EC knowledge (OR=3.23; 95% CI=1.50-6.95) had greater odds of having used EC. Among all women, more frequent condom usage was associated with being younger (OR=0.57; 95% CI=0.46-0.70), having never been married (OR=0.44; 95% CI=0.28-0.68) and not having intercourse recently (OR=0.79; 95% CI=0.64-0.98). CONCLUSIONS: A high percentage of female ED patients (41.4%) were at risk of pregnancy. Demographic and sexual history factors can help identify women who might benefit from receiving referrals or education on contraceptive measures.

Access to emergency contraception.
The introduction of emergency contraception (EC) has encountered barriers derived from the erroneous perception of EC as an abortifient and conservative attitudes. In several countries, "prolife" groups have initiated lawsuits against national regulatory bodies for approving EC. Other barriers are limited availability and high price of dedicated products, lack of information among providers about EC and the requirement of medical prescription for EC. The availability of EC has increased in the last years due to efforts of multiple stakeholders. Facilitating factors include the acceptability of EC by users and providers; dissemination of information about EC; advocacy among policymakers; training of providers; registration of dedicated products; over the counter sales and inclusion of EC in the national norms. By 2005, 109 countries have registered around 50 dedicated products that are available in public services, pharmacies, NGOs or through social marketing and 45 countries have included EC in their national norms.
Information, education and communication for emergency contraception.


Puri CP, Hazari K, Kulkarni R.
National Institute for Research in Reproductive Health, Mumbai.

The utilisation of the emergency contraception pills is very low both in the public and private sectors. The major reason for this under-utilisation is the lack of awareness about the method among the users or the providers. A real need arises to aware the potential users or the healthcare providers like obstetrician and gynaecologists, medical practitioners, family planning counsellors, nurses and ANMs. Wider dissemination of information, education and communication about emergency contraception relating to the proper usage, mode of action and provision is the need. The information, education and communication materials developed should always be in languages socioculturally appropriate to the target audience. Mass media like TV, newspapers and women's magazine should also be included for dissemination of messages. Service providers should be informed correctly about the method. Healthcare providers would need basic scientific information of the contents of the emergency contraception pills, mode of action, indications, contra-indications, etc. Emphasis should be put on the method for use only as an emergency or 'second chance' when a primary method is not used or has failed.

Parivar Seva's experience with emergency contraceptive pills.
Parivar Seva, an NGO working in the area of reproductive health carried out an operation research project as a feasibility study on emergency contraception recently. The study was conducted among 1120 clients coming after unprotected sexual intercourse or improper use of any contraceptive method by using emergency contraception pills coming within 3 days and IUCD coming between 3 and 5 days of unprotected sexual intercourse. It was found that failure of emergency contraception was as low as 0.6%. The success rate in term of preventing pregnancy was 99.4% both with combined oral contraception pills and laevonorgesterol. There lies the scope for introducing emergency contraception in India wide and it can occupy a unique position in a range of contraceptive choices currently available to Indian women, as it can prevent unwanted pregnancies. A coalition of 30 like minded organisations including the Parivar Seva had formed a subcommittee on emergency contraception to evolve strategies to address promotion of emergency contraception.

**Introduction of emergency contraception in India.**

_J Indian Med Assoc. 2006 Sep;104(9):499-502, 504-5._

Mittal S.
Emergency contraception is a safe and effective method for preventing unwanted pregnancy following unprotected sexual exposure. The method had not been included in the National Family Programme of India. A Consortium on National Consensus for Emergency Contraception met in New Delhi in January 2001, to reach a consensus on strategies for introduction of emergency contraception in India. During the consortium experts from different walks of life deliberated on issues related to emergency contraception introduction and formulated national consensus statements and guidelines. This paper describes highlights of consortium activity which has led to introduction of emergency contraception in India.

Emergency contraceptive pills (ECPs).


Jayalakshmi MS.
Publication Types:
Editorial
Risk of pregnancy among women seeking emergency contraceptives from pharmacists in British Columbia.


Levine M, Soon JA. Faculty of Pharmaceutical Sciences, The University of British Columbia, Vancouver BC, Department of Pharmacy, Children's and Women's Hospitals of British Columbia, Vancouver BC.

Objective: Recent revision of the method used to estimate risk of pregnancy among women requesting medication for emergency contraception (EC) suggests that the effectiveness of EC may be lower than is generally believed. We undertook a population-based study to estimate the risk of pregnancy among women requesting EC from pharmacists in British Columbia under conditions of routine care. Methods: We obtained data on time since unprotected intercourse and medication provided for women in British Columbia requesting EC from January 1, 2001 to December 31, 2002. Results: More women obtained levonorgestrel (60.7%) than the Yuzpe regimen (39.3%) for EC, and of those reporting contraceptive failure, 90% requested EC because of condom failure. Overall, the estimated risk of pregnancy among the 11,795 women who obtained EC was 4.12% (95% confidence interval 3.77-4.49). Conclusion: Under routine conditions, the population-based predicted risk of pregnancy is lower than has previously been estimated. This suggests that the relative reduction in pregnancies achieved with EC is lower than is currently assumed by clinicians and patients.
Emergency contraception is not just for the morning after.

**BMJ. 2006 Oct 7;333(7571):756.**

Comment on:
- BMJ. 2006 Sep 16;333(7568):560-1.

Ma R.

Publication Types:
- Comment
- Letter
Emergency contraceptive options available for adolescents.


Gupta V, Goldman RD. Pediatric Research in Emergency Therapeutics program, Hospital for Sick Children, Toronto, Ontario, Canada.

QUESTION: A 16-year-old female patient came into a clinic seeking consultation after unprotected coitus. What treatments are available if this patient does not want to continue with a pregnancy? ANSWER: Teen pregnancy is a substantial problem. Several emergency contraceptives exist, including the combined pill, the progesterone-only pill, and copper-bearing intrauterine devices. While many teenagers are unaware of these options, this armamentarium is very effective if used early after coitus and when further sexual activity is avoided for a few days.
Knowledge, attitude and practices of emergency contraception among beneficiaries and providers.


Mondal A, Ghosh D, Seal SL, Bose C, Chakraborty AK.
Department of Obstetrics and Gynaecology, RG Kar Medical College, Kolkata.

In the new millennium emergency contraceptives have become one of the effective methods for control of global population. It can avert many unwanted pregnancies. In the present study the authors have tried to evaluate the knowledge, attitude and practice of different methods of contraceptive techniques available at present and also about the emergency contraceptive which is recently available amongst 140 healthcare providers and 480 beneficiaries. In one of the teaching institution of Kolkata, RG Kar Medical College and in the district of 24 Parganas (N), the participants in the study were evaluated by preset questionnaires which were separate for providers and for beneficiaries. The results were analysed subsequently.
**Progesterone receptor modulator for emergency contraception: a randomized controlled trial.**


Comment in:

Creinin MD, Schlaff W, Archer DF, Wan L, Frezieres R, Thomas M, Rosenberg M, Higgins J. Department of Obstetrics, Gynecology and Reproductive Sciences, University of Pittsburgh and Magee-Womens Research Institute, Pittsburgh, Pennsylvania 15213, USA. creinin@upmc.edu

**OBJECTIVE:** Compare the efficacy and adverse effects of CDB-2914, a new progesterone receptor modulator, to levonorgestrel for emergency contraception. **METHODS:** We performed a randomized, double-blinded noninferiority trial, enrolling healthy women seeking emergency contraception within 72 hours of unprotected intercourse. Participants were randomly assigned to receive a single dose of 50 mg of CDB-2914, plus a placebo 12 hours later or two doses of 0.75 mg of levonorgestrel taken 12 hours apart. Follow-up was scheduled 5 to 7 days after the expected onset of the next menstrual period. Posttreatment pregnancy was established by a positive urine test at follow-up and confirmed by quantitative serum beta-hCG. Daily diaries were used from the time of emergency contraception use until next menses to record adverse effects and sexual activity. **RESULTS:** Product efficacy was evaluable in 775 of CDB-2914 users and 774 of levonorgestrel users. Pregnancies occurred in 7 (0.9%, 95% confidence interval 0.2-1.6%) and 13 (1.7%, 95% confidence interval 0.8-2.6%) women, respectively. Based on the estimated cycle day of unprotected intercourse, 85% and 69% of anticipated pregnancies, respectively, were averted. Nausea was reported by a somewhat greater percentage of CDB-2914 than levonorgestrel users (29% compared with 24%, P=.03), but the distribution of other adverse effects was similar in both groups. Women in both groups experienced considerable variation in menstrual cycle length as compared with their reported individual normal cycle lengths. **CONCLUSION:** CDB-2914 is at least as effective as levonorgestrel in preventing pregnancies after unprotected intercourse and has a similar side effect profile. **LEVEL OF EVIDENCE:** I.
Images of American sexuality in debates over nonprescription access to emergency contraceptive pills.


Comment in:

Wynn LL, Trussell J. Office of Population Research, Princeton University, Princeton, New Jersey 08544, USA. lisawynn@princeton.edu

The debate over emergency contraceptive pill access in the United States revolves around speculations about Americans' sexual lives. The recently released internal U.S. Food and Drug Administration (FDA) memo that expresses fears that adolescents will form "sex-based cults" around emergency contraceptive pills echoes arguments made against the nonprescription switch at the 2003 FDA hearings. In these hearings, opponents argued that non-prescription access would lead to adolescent promiscuity and disease transmission and that adult predators would use the drug to facilitate the sexual abuse of young women. In contrast, proponents of expanded access to emergency contraceptive pills overwhelmingly portrayed their model user as a responsible adult who experiences a torn condom during consensual sex. These imaginations of American sexuality are tied to competing models of the role of medical providers in women's sexual decision making. Opponents of the nonprescription switch argued that women need a learned intermediary, not only to determine their need for emergency contraception, but also to educate them about proper sexual behaviour and protect them from abuse. Proponents advocated putting more responsibility for sexual health decision making in the hands of women, not doctors, and complained about the moralizing scrutiny of medical providers. In the absence of nonprescription access to emergency contraception, advance prescription of emergency contraceptive pills can ensure that contraceptive education is not tied to a specific sexual act and therefore not perceived as a judgment about women's sexual decisions. However, advance prescription does not help women who lack access to health care or women who make sexual and contraceptive decisions without consulting physicians.
Revisiting pharmacists' refusals to dispense emergency contraception.


Baergen R, Owens C.

Department of Philosophy and College of Pharmacy, Idaho State University, Pocatello, Idaho 83209-8056, USA. baerralp@isu.edu

Pharmacists' refusals to fill prescriptions for emergency contraceptives for reasons of conscience have contributed to a national debate regarding the permissibility of such actions. Some in the medical community assert that pharmacists ought not to refuse to dispense emergency contraceptives on this basis. Three lines of argument have become prominent in defense of that position: 1) the professional status of pharmacists does not allow for refusal to dispense legitimately written prescriptions, 2) the medical facts regarding the mechanism of action of emergency contraception are often misunderstood, misrepresented, or both, and 3) refusals by pharmacists to fill legitimate prescriptions undermine patient care. In this commentary, these arguments are rejected as missing the central point of the issue, which is that pharmacists are autonomous, moral agents who are accountable for their choices and entitled-within limits-to decide in which activities they will participate. Pharmacists' professionalism is defended, their responsibilities in the provision of drug therapy are set forth in the context of pharmaceutical care, and these lead to the conclusion that pharmacists' refusals may be ethically justified. There are important limits on how pharmacists may respond when they are being asked to participate in actions they find morally objectionable. Notably, they must ensure that these prescriptions are filled by someone else in a timely manner and must refrain from any abusive or demeaning treatment of patients, as summed up in our Principle of Conscientious Refusal to Dispense.
Women's experiences with emergency contraception in an internal medicine practice.


Cunnane MS, Dickson G, Cook RL. Division of General Internal Medicine, University of Pittsburgh, Pittsburgh, Pennsylvania, USA. cunanem@upmc.edu

BACKGROUND: Emergency contraceptive pills (ECPs) are effective for preventing unintended pregnancy. Whether patients in primary care settings receive physician counseling regarding ECPs has not been evaluated. METHODS: We conducted a cross-sectional telephone survey of reproductive-age women who sought care at a university-based general internal medicine clinic regarding receipt of physician counseling about ECPs, knowledge and experiences with ECPs, and attitudes toward using ECPs. RESULTS: One hundred forty-nine women aged 18-45 completed the survey. Eighty percent of respondents (n = 119) were at risk for unintended pregnancy. Although all women in the sample had seen an internist in the previous 12 months, only 10% had received physician counseling about ECPs. There was little difference in the proportion of women who received counseling about ECPs comparing those who received care from an obstetrician/gynecologist and an internist with women who received care from an internist alone (13% vs. 8%, p = 0.529). Receipt of ECP counseling was not associated with the consistency of current contraceptive use. No women who were married or over the age of 40 were counseled about ECPs. The majority of participants (92%) had heard of ECPs, although most (54%) had learned about them through the media. Fifty-four percent of women would be likely to use ECPs to prevent unintended pregnancy. CONCLUSIONS: Only a fraction of women seeing internists for their primary care are receiving counseling about ECPs, irrespective of receiving care from an obstetrician/gynecologist. As primary care physicians, internists should determine risk for unintended pregnancy, assess patients' knowledge and attitudes toward ECPs, and provide counseling about this effective therapy.
Unintended pregnancy and use of emergency contraception among a large cohort of women attending for antenatal care or abortion in Scotland.


Comment in:

Lakha F, Glasier A. University of Edinburgh School of Clinical Science and Community Health, Edinburgh, UK.

BACKGROUND: Unintended pregnancy is common. Although many unintended pregnancies end in induced abortion, up to a third of those proceeding to birth might be unplanned. Some of these pregnancies could be prevented by emergency contraception. We have sought to establish how many pregnancies ending in either childbirth or abortion are unintended, and what proportion of women use emergency contraception to try to prevent pregnancy.

METHODS: 2908 women who attended an Edinburgh hospital for antenatal care and 907 attending for abortion fully completed a self administered questionnaire including a validated measure of pregnancy intention and questions about emergency contraceptive use.

FINDINGS: 814 (89.7%) of 907 pregnancies among women requesting abortion were unintended compared with only 250 (8.6%) among 2908 women who planned to continue pregnancy. However, only 1909 (65.6%) of continuing pregnancies were intended. The rest of the women were ambivalent about pregnancy intention. In women who continued with their pregnancies intendedness was related to age, with unintended pregnancy most probable in young women (p<0.0001). Emergency contraception was used by 113 (11.8%) of women who requested abortion but only 40 (1%) of those planning to continue pregnancy. In those whose pregnancy was continuing, the proportions reporting use of emergency contraception were higher in young women than in older women and in those who reported that their pregnancies were unintended than in those who meant to become pregnant (both p<0.0001).

INTERPRETATION: Unintended pregnancy is common, even among women planning to continue pregnancy. However, EC use is low even among women with no intention of conceiving, and is thus unlikely to reduce unintended pregnancy rates. Rather, we need to find ways to improve the use of regular contraception.
Over-the-counter access to emergency contraception.


Aschenbrenner DS. Johns Hopkins University School of Nursing, Baltimore, MD, USA. dianea@son.jhmi.edu

After years of debate, the Food and Drug Administration has granted approval for levonorgestrel (Plan B) to be sold over the counter to people ages 18 and older. The dual status of Plan B as an over-the-counter drug and a prescription drug is unusual. The article reviews the drug's method of action and recommended dosage, as well as what nurses need to know to counsel patients on what to expect when taking the medication.

Publication Types:
  Review
Hormonal contraception: recent advances and controversies.


The Practice Committee of the American Society for Reproductive Medicine. American Society for Reproductive Medicine, Birmingham, Alabama.

This document will outline new delivery systems and contraceptive formulations, summarize recent advances in emergency contraception, and review the effects of hormonal contraception on cancer risks, cardiovascular disease, and bone.
Emergency contraception: politics and science move forward.


Comment on:

Gilliam M.

Publication Types:
- Comment
- Editorial
Current issues in emergency contraception: an overview for providers.


Brunton J, Beal MW.Yale School of Nursing, CT, USA.

Emergency contraception has the potential to greatly reduce the number of unintended pregnancies occurring each year in the United States. Emergency contraception is a safe and effective intervention to which all women should have easy access in the event of an act of unprotected intercourse. Methods of emergency contraception include combined hormone oral contraceptive pills, progestin-only oral contraceptive pills, a dedicated progestin-only emergency contraceptive product, and insertion of a copper intrauterine device. Barriers exist to the increased use of emergency contraception, including the prescription-only status of all of the methods and lack of accurate knowledge on the part of health care providers and consumers. This article provides an overview of the clinical management of emergency contraception.
Expanding access to emergency contraception through state systems: the Washington State experience.


Weldin M, Hutchings J, Hayes M, McAllister S, Harris C, Larsen-Mills D. Reproductive Health Strategic Program, Program for Appropriate Technology in Health, Seattle, WA, USA. mweldin@path.org

Publication Types:
Research Support, Non-U.S. Gov't
OBJECTIVE: Adolescents tend to be at risk for unwanted pregnancies, so detecting their level of knowledge on emergency contraception and providing them information is important to prevent such pregnancies. Hence, in two faculties at Gazi University, this study aimed to detect freshman students' level and need of knowledge on emergency contraception and to evaluate their attitude towards emergency contraception. MATERIALS AND METHODS: The study was performed with freshman students of the Occupational Education Faculty and the Technical Education Faculty. A questionnaire including questions about demographic properties, obstetrical history, status of contraceptive use, level of knowledge and opinions on emergency contraception was administered to the students. Data was analyzed statistically with the computer program EPI Info 6.0. RESULTS: A total number of 385 adolescents were included in the study; 157 of whom were males (40.8%) and 228 of whom were females (59.2%). To the question "is there any way to prevent a possible pregnancy after an unprotected sexual intercourse?", 166 students replied "yes" (50.5%), 39 "no" (11.9%) and 124 "I do not know" (37.7%). Of 166 students replying "yes," 114 (68.7%) listed a possible contraceptive method. The mostly cited method was "morning after pills" (n = 62; 54.4%), followed by curettage (n = 15; 13.2%). Among all students, 158 (49.8%) informed us that they were aware of the presence of "morning after pills" whereas 159 (50.2%) claimed they were not. Eighty-six male students (70.5%) and 115 female students (72%) emphasized that they would use emergency contraception upon necessity. CONCLUSION: Half of the participants were familiar with various options to prevent pregnancy after an unprotected sexual intercourse episode, but they lacked specific knowledge about possible methods and ways to use them. Thus, it is essential that information about emergency contraception be included in adolescents' educational programs and that adolescents be provided with easily accessible medical services.
Refusals by pharmacists to dispense emergency contraception: a critique.


Comment on:

Gans JA.

Publication Types:
   Comment
   Letter
Emergency contraception care.


Erdahl KJ, Holten KB. Clinton Memorial Hospital/University of Cincinnati Family Practice Residency, Wilmington, OH USA.

This guideline targets women who have had unprotected or inadequately protected intercourse within the past 120 hours and do not desire pregnancy. Practitioners can make informed decisions about obstetric and gynecologic care, given the evidence in this guideline regarding safety, efficacy, risks and benefits of the use of emergency contraception including progestin-only and combined estrogen-progestin regimen. The major outcome considered was incidence of unintended pregnancy. The evidence rating is updated to comply with the SORT taxonomy.
Clinical applications of mifepristone.


Tang OS, Ho PC. Department of Obstetrics and Gynaecology, University of Hong Kong, Hong Kong, SAR, China.

Mifepristone is a progesterone antagonist that has been studied for a number of clinical applications. It is a well-known abortifacient that is effective for both first- and second-trimester medical abortion when used with a prostaglandin analog. It is also an effective cervical priming agent that can be used to soften the cervix before surgical evacuation. Its clinical efficacy as an emergency contraception has been proven. Other applications including treatment for fibroids, endometriosis and various cancers have been explored. However, its association with abortion limits the applications of mifepristone in many of these areas.
Birth control within reach: a national survey on women's attitudes toward and interest in pharmacy access to hormonal contraception.


Landau SC, Tapias MP, McGhee BT. Pharmacy Access Partnership, Oakland, CA 94610, USA.

OBJECTIVE: This survey was conducted to better understand women's experiences with hormonal contraception and their interest in and attitudes toward gaining direct access to oral contraception (OC), patch, ring or emergency contraception (EC) in pharmacies. METHOD: A nationally representative telephone survey of 811 women aged 18-44 years who were at risk for unintended pregnancy was conducted in the United States. RESULTS: It was found that 68% of women in the United States said they would use pharmacy access to OC, patch, ring and/or EC. Likely users include women not using contraception who would begin using hormonal contraceptives (41%) if they were available directly in pharmacies, and OC, patch or ring users who were interested in obtaining their method this way (66%). Over half of the women (55%) said they would be more likely to use EC if they were available directly in pharmacies. Interest in pharmacy access is higher among uninsured and low-income women. Support for pharmacy access hinges on pharmacist screening, with 63% of women agreeing that OC, patch and ring should be available without prescription if pharmacists screen women for medically safe use. CONCLUSION: Most women in the United States believe that hormonal contraception should be available without prescription and would personally use pharmacy access. Seventeen to 22 million women constitute the potential market for pharmacy access to hormonal contraceptives in the United States. Women's enthusiasm for pharmacy access suggests that the pharmacy is an important site for the provision of sexual health education, screening and supplies.