

Provision of abortion by mid-level providers: international policy, practice and perspectives

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Abstract Based on articles found on the PubMed and Popline databases on the provision of first-trimester abortion by mid-level providers, this article describes policies on type of abortion provider, comparative studies of different types of abortion provider, provider perspectives, and programmatic experience in Bangladesh, Cambodia, France, Mozambique, South Africa, Sweden, the United States of America and Viet Nam. It shows that it is safe and beneficial for suitably trained mid-level health-care providers, including nurses, midwives and other non-physician clinicians, to provide first-trimester vacuum aspiration and medical abortions. Moreover, it finds that projects in Kenya, Myanmar and Uganda have successfully trained nurse-midwives to provide post-abortion care for incomplete abortion with manual vacuum aspiration, and that studies in Ethiopia and India have recommended that providers such as auxiliary nurse-midwives should be trained in abortion service delivery to ensure that they provide safe abortions for low-income women. The paper recommends the authorization of all qualified mid-level health-care providers to carry out first-trimester abortions, and it also recommends the integration of training in providing first-trimester abortion care into basic education and clinical training for all mid-level providers and medical students interested in obstetrics and gynaecology. Finally, it calls for documentation of the role of mid-level providers in managing second-trimester medical abortions to further inform policy and practice.

الترجمة العربية لهذه الخلاصة في نهاية النص الكامل لهذه المقالة. Al final del artículo se facilita una traducción al español. Une traduction en français de ce résumé figure à la fin de l'article.

Introduction

Since the 1960s, when laws legalizing abortion began to be passed in industrialized countries and in a growing number of developing countries, abortion has become one of the safest and most frequent clinical procedures used by women. In skilled hands, surgical methods of abortion using aspiration techniques at up to 15 weeks of pregnancy, and dilation and evacuation in the second trimester, are very safe, as is medical abortion. Medical abortion using a combination of the drugs mifepristone and misoprostol, which have been on WHO's complementary List of Essential Medicines since 2005,¹ has transformed both how abortion is provided and how it is experienced by women. Yet, laws and policies on abortion have lagged behind in recognizing and responding to these changes.

For many years now, since first-trimester abortion techniques have become so straightforward, it has been technically feasible for health professionals other than physicians to carry out first-trimester aspiration abortions, to provide medication to women for medical abortion and, in both types of procedure, to monitor and follow-up the process to a safe conclusion. Yet, in most countries, doctors are the only health professionals permitted to provide abortions, with the support of nurses. This paper argues that this policy has not kept up with technical innovation and is not only out-of-date but makes it more difficult for countries to provide highly accessible, quality abortion services at low cost.

In 2003, WHO's safe abortion guidance² recommended that abortion services be provided at the lowest appropriate level of the health-care system. It states that vacuum aspiration can be provided at primary-care level up to 12 completed

weeks of pregnancy and medical abortion up to 9 completed weeks of pregnancy, and that mid-level health workers can be trained to provide safe, early abortion without compromising safety. It includes as mid-level providers: midwives, nurse practitioners, clinical officers, physician assistants and others. Training includes bimanual pelvic examination to determine pregnancy and positioning of the uterus, uterine sounding, transcervical procedures, provision of abortion and skills for recognition and management of complications.

This paper brings together published information from both developed and developing countries to gain an international perspective on the question of whether suitably trained mid-level health-care providers, including nurses, midwives and other non-physician clinicians, can safely provide first-trimester vacuum aspiration and medical abortions and treat incomplete first-trimester abortions. It covers policies on type of abortion provider, comparative studies of the safety of abortion with different types of abortion provider, provider perspectives and programmatic experience. It is based on articles found on PubMed and Popline, the two main databases likely to cover this subject, using the keywords "abortion" and "nurse-midwives." Other keywords, such as mid-level providers and others used in this article, yielded no additional references specific to abortion provision. All relevant articles found, covering the years 1986 to 2007, are referenced here. Unless otherwise indicated, the role of mid-level providers is described in relation to first-trimester abortion only.

The idea of mid-level providers carrying out first-trimester abortions is far from new. For example, physician assistants, certified by the Board of Medical Practice in the United States of America (USA), have been permitted to carry out early abortions in the states of Montana and Vermont since 1975.³

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The role of mid-level health workers is growing in many aspects of health care, both in developing countries because of the crisis in human resources in health systems, and in developed countries to reduce the cost of health care when procedures allow for a lower cadre of provider than physicians. As Iyengar described in 2005:

*“Measures for de-medicalising primary health services include: adoption of simpler technology and service protocols, authorisation and training of less qualified providers, simplification or elimination of facility requirements, establishment of robust referral links to hospitals, increasing user control and self-medication.”*⁴

International experience

Europe

According to the Swedish Abortion Act of 1974, abortions must be performed at a public hospital by a qualified medical doctor. Today, however, much has changed. By 2001, physicians' main role in Sweden in the provision of medical abortion was to estimate the duration of pregnancy by ultrasound and to serve as consultants and supervisors. Midwives are responsible for counselling women and administering the medical abortion drugs. For many years, nurse-midwives with special training in Sweden have also been the main providers of contraceptive services, with the authority to prescribe oral contraceptives and insert intrauterine devices. Many also serve as educators on sexuality, birth control and abortion in the community, e.g. in schools and at youth clinics. Although by law only physicians are entitled to perform abortion, nurse-midwives' responsibilities for counselling and care during medical abortions have steadily increased.⁵

In France and Great Britain, both medical and surgical abortions must be performed by a physician. However, in France, as in Sweden, practice has developed in such a way as to minimize physicians' involvement in medical abortion, thereby reducing staff costs. Regulations in Great Britain are already interpreted to allow nurses to administer medical abortion drugs – as long as a physician prescribes them. As a result, medical abortion services are largely supervised by nurses, with physicians available if needed. In France, physi-

cians confirm the pregnancy and conduct the follow-up visit but nurses are often responsible for all the other procedures involved in medical abortion.⁶

USA

During the 1990s, inspired by the potential of early medical abortion to improve access to abortion services in the USA, a range of journal articles discussed the possibility of mid-level providers taking on this role.^{7,8} Since 1986, several studies have been carried out to compare the rate and type of complications in first-trimester vacuum aspiration abortions performed by physician assistants versus physicians in states that allow physician assistants to provide abortions.^{3,7-11} Outcomes of 2458 first-trimester abortions in a free-standing clinic in Vermont in 1986 found no differences in complication rates according to the provider.³ Similarly, in 2004, a 2-year prospective cohort study of 1363 women undergoing surgically-induced abortion in two clinics found that services provided by experienced physician assistants were comparable in safety and efficacy to those provided by physicians. The occurrence of complications at both clinics was very low. Moreover, the types of complications observed reflected characteristics of the women and type of abortion procedure used, rather than the cadre of providers.⁹

In recent years, the role of advanced practice clinicians in the USA – including nurse practitioners, physician assistants and nurse-midwives – has been expanding in first-trimester abortion provision. A large proportion of primary health care in the country is currently being provided by these non-physicians and their involvement in abortion care is crucial, given the serious shortage of physician providers in many states. Since January 2005, trained advanced practice clinicians have been providing medical and, in some cases, early surgical abortion in 15 states. This has led to the establishment of appropriate clinical training in those states, but it has required political advocacy to achieve the necessary legal and regulatory changes. Recent surveys in three states showed a substantial interest among mid-level providers in obtaining abortion training, leading to cautious optimism about the possibility of increasing access to abortion care

without requiring patients to travel long distances.^{11,12} For example, a survey of 1176 licensed advanced practice clinicians in the state of California determined that 25% of those interviewed desired training in medical abortion. Their most frequently cited reason for not providing or assisting with abortion procedures was the lack of training opportunities available to them.¹³ The perceived lack of available training was proven by a study in the year 2000 of the 486 programmes available nationally for nurse practitioners, physician assistants and certified nurse-midwives. It found that, of the 202 programmes that replied to a postal survey, only just over half (53%) reported didactic instruction on surgical abortion, manual vacuum aspiration or medical abortion and only 21% reported including at least one of these three procedures in their routine clinical curriculum.¹⁴ This reflects a failure to include abortion in the medical school curricula across the USA.

There are no comparison data on safety of medical abortion by type of provider from the USA because, in most clinics providing medical abortion, mid-level providers already do gestational dating, counselling and blood work, and review the consent forms required with women. In the 35 states (in 2007) where mid-level providers do not yet have the legal authority to administer the drugs, the mid-level clinician assesses the woman's overall health, dates the pregnancies, and then reviews the choice of a medical versus a surgical procedure. The physician briefly meets the patient and administers the mifepristone. The mid-level provider then reviews with the woman how and when to take the misoprostol at home (almost all American women using early medical abortion take the misoprostol at home). A large 2-year, multisite study has recently started in California, where nurse practitioners are being trained in early aspiration abortion in seven clinics, but no data have yet been generated (personal communication, S Yanow, former director, Abortion Access Project, Cambridge, MA, 2007).

South Africa and Viet Nam

South Africa and Viet Nam were, until fairly recently, the only two developing countries where it is legal for mid-level providers to do aspiration abortions. Nurse practitioners and physician as-

sistants have been permitted to provide first-trimester abortion services in Viet Nam since 1945 and in South Africa since 1997.¹⁵ South Africa has recently updated its abortion regulations to allow trained mid-level providers to manage the whole medical abortion procedure as well. A growing number of other countries are also now reviewing their guidelines to allow trained nurse-midwives to perform abortions.

In South Africa, a programme was initiated to train registered midwives throughout the country to provide abortion services at primary-care facilities. For example, Sibuyi found that involving mid-level providers had an important impact on expanding the availability and accessibility of safe, legal abortion.¹⁶ As required by the South African Nursing Council, midwives are considered for certification in abortion care after completing 160 hours of training: 80 hours of theoretical training and 80 hours of clinical training under the supervision of experienced, practising physicians in accredited hospitals. The clinical training must be completed within 3 months of the theoretical training. From October 1999 through January 2000, an evaluation was conducted at 27 public health-care facilities in South Africa's nine provinces to assess the quality of care provided by midwives who had been trained and certified to provide abortion services. Data were collected by observing abortion procedures and counselling sessions, reviewing facility records and patients' charts, and interviewing patients and certified midwives. The physicians who assessed the midwives concluded that the midwives showed good clinical skills in 75% of the procedures. The only area identified as needing significant improvement was regarding administration of antibiotics. The authors concluded that midwives can provide high-quality abortion services in the absence of physicians.¹⁷

Randomized, controlled trials conducted in both South Africa and Viet Nam, published in 2006, compared safety and rates of complications of first-trimester manual vacuum aspiration abortion by mid-level providers and doctors in clinics run by Marie Stopes International. All participating mid-level providers had received government-certified training under supervision and had experience of doing abortions at the primary-care level.

In both countries, the abortions were done equally safely by the doctors and mid-level providers and women reported equal satisfaction with services from both types of providers.¹⁵

Bangladesh, Cambodia and Mozambique

In 2001, Ipas and the Division of International Health, Department of Public Health Sciences, Karolinska Institutet, Stockholm, Sweden (IHCAR) organized an international conference on expanding the role of mid-level providers in safe abortion care. Reports revealed that the abortion law in Cambodia establishes women's rights to first-trimester abortion on any grounds, performed by a qualified doctor, medical assistant or midwife at public or private health facilities licensed by the Ministry of Health.¹⁸ In Bangladesh, the government collaborates with nongovernmental organizations to train female paramedics called "family welfare visitors" to perform "menstrual regulation" with manual vacuum aspiration up to 10 weeks of pregnancy. In 2001, nearly 7000 trained paramedics were providing menstrual regulation in government clinics, with many more in private practice.¹⁹

In Mozambique, evaluation of the performance of surgical technicians (mid-level providers with 3 years' intensive training in surgical procedures) documented successful surgery in 90% of 7080 emergency surgeries undertaken by these providers at rural hospitals. Emergency uterine evacuation following unsafe abortions accounted for 26% of the procedures. In fact, these surgical technicians successfully performed many gynaecological procedures that were much more complicated than vacuum aspiration abortion, including Caesarean sections and hysterectomies.²⁰

Post-abortion care

Nurse-midwives have also been successfully trained to carry out post-abortion care for complications of incomplete abortion using manual vacuum aspiration. For example, in Kenya, the PRIME II Project collaborated with the Kenya Ministry of Health, the Nursing Council of Kenya, National Nursing Association of Kenya and others to train private and nongovernmental

organization sector nurse-midwives in post-abortion care at 44 private sector facilities in six districts, serving both urban and rural populations, starting with a pilot programme in 1999, which was scaled up in 2004.²¹ In Uganda, as part of the same PRIME-assisted project, 24 midwives from 13 public sector facilities in nine districts received training, followed by supervisory visits for quality assurance and for monitoring post-training performance.²²

In India, both a nationwide study published in 2004²³ and a study in Rajasthan in 2004²⁴ found that providers such as auxiliary nurse-midwives were providing abortions to low-income women, mostly without the benefit of training, often leading to complications. The authors of the Rajasthan study recommended that, given the prevalence of such providers, the feasibility of training some of them to offer safe abortion services, particularly for terminations in early pregnancy, should be explored at policy, programme and research levels. Similar recommendations were made in a study in Ethiopia, before abortion was legalized there, which also found high complication rates as a result of a lack of training. It recognized that making abortion safe would only be possible if mid-level providers were trained, as physicians were lacking, particularly in low socio-economic and rural areas.²⁵

In Myanmar, following a study in 2000 showing high mortality rates from unsafe abortions, post-abortion care and contraceptive services were integrated into the township health system, led by township medical officers in the initial towns participating in the project, with the intention of scaling up services if the outcomes were good. Hospital-based doctors and nurses, clinic midwives, village midwives and other volunteer health providers, including traditional birth attendants, were all trained but the key providers were the medical officers and midwives. The role of the local clinic midwife was extended to make follow-up home visits to the women with post-abortion complications and provide them with contraception when requested.²⁶ Indeed, one of the reasons why it has been considered important to involve midwives has been to link post-abortion contraceptive provision with abortion care.

Opposition from physicians decreasing

Provision of most contraceptives is an example of a sexual health service at primary-care level that long ago safely passed from physicians to family-planning nurses in many countries, though not always without controversy. As a *Lancet* commentary in 2006 pointed out: "Any proposal to use non-physicians for surgical procedures or any medical role is unlikely to be widely accepted without substantial scepticism and some level of professional turf protection."²⁷

For example, the number of physicians trained and willing to provide abortions in the USA has been falling since the 1990s,²⁸ a problem compounded by anti-abortion violence. Naturally, those who do provide abortions want to protect their skills, their caseloads and their income. In the current circumstances, however, allowing nurses, midwives and other trained mid-level providers to manage abortions may be the best, if not the only, way of avoiding a crisis due to lack of accessibility. In 1993, obstetricians and gynaecologists in the USA opposed allowing nurse practitioners to provide several routine gynaecological services.²⁹ The trend appears to be towards increasing acceptance of these role changes, however. A 1998 survey of obstetricians and gynaecologists and family practice physicians in the USA found that one-third believed that advanced practice clinicians should be allowed to offer medical abortion,³⁰ while a 2002 study of experienced abortion providers found that 80–85% of those interviewed believed that advanced practice clinicians were qualified to provide medical abortions.³¹ Moreover, since 1999, the American Public Health Association has endorsed the role of advanced practice clinicians to be permitted to provide first-trimester surgical and medical abortions.³²

Trends in other developed countries remain to be documented. In

developing countries where abortion is not legally restricted, given the dearth of physicians available to provide abortions in most cases, particularly in rural areas, opposition to the training of mid-level providers in abortion provision would be even less defensible. However, it would appear that change will come only slowly.

Conclusion

The evidence described in this paper confirms the similar experience of the individual countries where surveys and studies have been carried out. They all conclude that it is safe and beneficial for suitably trained mid-level health-care providers to provide first-trimester vacuum aspiration and medical abortions and to treat incomplete abortions. As Ipas has noted, however:

*"The principal obstacle preventing nurses, midwives ... and other mid-level providers from helping meet women's needs for safe abortion-related care is that ... training and authorization to perform abortions ... are restricted to physicians. Even where policies or regulations do not explicitly include such restrictions, opportunities for non-physician health-care providers to learn clinical and other skills needed for abortion care are scarce."*³³

This, then, is where change needs to begin, with different cadres of health professional working side-by-side to ensure accessibility and availability of abortion. Existing programmes from South Africa and the USA could serve as models for other countries to adapt for purposes of education and practical training.^{13,17} If mid-level providers in a range of both developed and developing countries are successfully providing first-trimester aspiration and medical abortions, there is no reason why providers in other countries where abortion is legal cannot and should not do so as well, with appropriate training. To make this feasible, countries will need to:

- authorize all qualified health-care personnel, including nurses and mid-

wives, to provide appropriate elements of abortion care;

- remove existing policy restrictions that allow only doctors to perform abortions;
- establish regulations and training that support the capacity of mid-level providers to play a greater role in providing abortions; and
- integrate training in providing abortion care into basic training for all mid-level providers interested in obstetrics and gynaecology, including midwives, nurses and other cadres, as well as all medical students, and also in in-service training and refresher courses.

By training mid-level providers to provide first-trimester aspiration abortions and manage medical abortions, countries will be able to increase the number of health service sites offering first-trimester abortions at primary-care level, thereby improving and increasing women's access to abortion services without compromising safety or quality of care. In addition, documentation is needed on the role of nurses, midwives and other mid-level providers in second-trimester medical abortions, especially in France, Great Britain, Norway and Sweden, where they already play an important role in managing these abortions. ■

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Résumé

Pratique de l'avortement par des prestataires de soins de niveau intermédiaire : politiques, pratiques et perspectives dans plusieurs pays

D'après des articles trouvés dans les bases de données PubMed et Popline sur la pratique de l'avortement pendant le premier trimestre de grossesse par des prestataires de niveau intermédiaire, le présent article présente les politiques relatives au type de prestataire de services d'avortement, des études comparatives sur les différents types de prestataires, les perspectives pour ces prestataires et l'expérience programmatique acquise en Afrique du Sud, au Bangladesh, au Cambodge, aux Etats-Unis d'Amérique, en France, au Mozambique, en Suède et au Viet Nam. Il montre que des prestataires de soins de niveau intermédiaire correctement formés, notamment des infirmières, des sages-femmes et d'autres cliniciens non médecins, peuvent pratiquer des aspirations pendant le premier trimestre et des avortements médicaux de manière sûre et bénéfique. En outre, il constate que des projets menés au Kenya, au Myanmar et en Ouganda ont formé avec succès des infirmières obstétriciennes à la dispensation de soins post-avortement en cas d'avortement

incomplet par aspiration manuelle et que des études réalisées en Ethiopie et en Inde recommandent la formation de prestataires tels que des infirmières obstétriciennes auxiliaires aux services d'avortement pour s'assurer qu'elles pratiquent des avortements sans risque chez les femmes à faible revenu. L'article recommande d'autoriser tous les prestataires de niveau intermédiaire disposant des qualifications nécessaires à pratiquer des avortements pendant le premier trimestre de grossesse et d'intégrer la formation aux soins liés à ces avortements dans l'enseignement de base et la formation clinique destinés à tous les prestataires de niveau intermédiaire et étudiants du domaine médical, intéressés par l'obstétrique et la gynécologie. Enfin, il lance un appel à documents sur le rôle des prestataires de niveau intermédiaire dans la prise en charge des avortements médicaux du second trimestre, en vue d'étayer davantage les politiques et les pratiques.

Resumen

Realización de abortos por personal de nivel medio: políticas, prácticas y perspectivas internacionales

A partir de artículos hallados en las bases de datos PubMed y Popline en relación con la práctica de abortos durante el primer trimestre de embarazo por personal de nivel medio, se describen aquí las políticas existentes sobre el tipo de personal encargado de realizarlos, diversos estudios comparativos sobre los diferentes tipos de proveedores de esa intervención, las perspectivas de los proveedores y la experiencia de programas emprendidos en Bangladesh, Camboya, Francia, los Estados Unidos de América, Mozambique, Sudáfrica, Suecia y Viet Nam. Se muestra que la práctica de abortos mediante aspiración por vacío y abortos farmacológicos en el primer trimestre es una opción segura y provechosa para el personal de nivel medio debidamente capacitado, incluidas enfermeras, parteras y demás personal clínico no médico. Se informa además de proyectos emprendidos en Kenya, Myanmar y Uganda en los que se ha adiestrado satisfactoriamente a enfermeras-parteras para que proporcionen

atención postaborto en los casos de aborto incompleto con aspiración por vacío manual, así como de estudios realizados en Etiopía y la India en los que se recomienda que se capacite a personal como enfermeras auxiliares y parteras en la práctica de abortos para garantizar que ofrezcan abortos seguros a las mujeres de ingresos bajos. En el artículo se recomienda que se autorice a todo el personal sanitario de nivel medio cualificado a practicar abortos durante el primer trimestre, y que la capacitación para la realización de abortos en ese intervalo se integre en la formación básica y clínica destinada a todos los proveedores de nivel medio y estudiantes de medicina interesados en la obstetricia y la ginecología. Por último, se pide que se aporte documentación sobre la función del personal de nivel medio en el manejo de los abortos farmacológicos en el segundo trimestre para fundamentar así mejor las políticas y las prácticas.

ملخص

تقديم القائم على إيتاء المستوى المتوسط من الرعاية الصحية للخدمات المتعلقة بالإجهاض السياسات، الممارسات، ووجهات النظر على الصعيد الدولي

تقديم الرعاية التالية للإجهاض في حالة الإجهاض الناقص باستخدام الشفط اليدوي بالتخلية، وأن الدراسات المجراة في الهند وأثيوبيا أوصت بضرورة تدريب مقدمي الخدمات من قبيل القابلات الممرضات المعاونات على تقديم خدمات الإجهاض لضمان تقديمهن خدمات إجهاض مأمونة للنساء ذات الدخل المنخفض. ومن ثمَّ توصي الورقة بتفويض جميع مقدمي الرعاية الصحية المؤهلين بتقديم خدمات الإجهاض خلال الأثلوث الأول من الحمل، كما توصي بإدماج التدريب على تقديم رعاية حالات الإجهاض في الأثلوث الأول من الحمل ضمن التعليم الأساسي والتدريب السريري لجميع مقدمي الرعاية من المستوى المتوسط وطلاب الطب المهتمين بالوليد وأمراض النساء. وأخيراً تطالب بتوثيق دور مقدمي الخدمات من المستوى المتوسط في معالجة حالات الإجهاض الطبية في الأثلوث الثاني من الحمل لتوفر المزيد من التوجيه للممارسة والسياسات.

استناداً إلى المقالات الموجودة في قواعد البيانات الخاصة بالشؤون الطبية "باميد"، والشؤون السكانية "بوب لاين" حول تقديم القائم من المستوى المتوسط للخدمات المتعلقة بالإجهاض خلال الأثلوث الأول من الحمل، توضح هذه المقالة السياسات الخاصة بنمط مقدمي خدمات الإجهاض، والدراسات المقارنة لمختلف أنماط مقدمي خدمات الإجهاض، ووجهات نظرهم، وتجاربهم البرمجية في الولايات المتحدة الأمريكية، وبنغلاديش، وجنوب أفريقيا، والسويد، وفرنسا، وفيت نام، وكمبوديا، وموزمبيق. وتبين هذه المقالة سلامة وجدوى قيام مقدمي الرعاية الصحية من المستوى المتوسط المدربين تدريباً جيداً، بما فيهم الممرضات والقابلات وغيرهن من الممارسين السريريين من غير الأطباء بالشفط بالتخلية، والإجهاض تحت الإشراف الطبي في الأثلوث الأول من الحمل. بالإضافة إلى ذلك، فقد وجد الباحثون أن المشروعات التي نفذت في أوغندا، وميامار، وكينيا قد دربت بنجاح الممرضات - القابلات على

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