

Prevalence of reproductive tract infections, genital prolapse, and obesity in a rural community in Lebanon

Mary E. Deeb,¹ Johnny Awwad,² Joumana S. Yeretian,¹ & Hanna G. Kaspar^{2,3}

Objective To determine the prevalence of reproduction-related illnesses in a rural community in Lebanon.

Methods Data were collected through interviews with women in their homes, physical examinations and history taking by physicians in a clinic in the community, and laboratory tests. A total of 557 ever-married women aged 15–60 years were selected randomly.

Findings Just over half of the sample (268, 50.6%) had five or more children, and (320, 78.9%) of women aged <45 years were using contraception. The prevalence of reproductive tract infections was very low: six (1.2%) women had sexually transmitted diseases and 47 (9.3%) had endogenous reproductive tract infections. None had chlamydial infection or a positive serological finding of syphilis. None had invasive cervical cancer, and only one had cervical dysplasia. In contrast, genital prolapse and gynaecological morbidity were elevated. Half of the women studied (251, 49.6%) had genital prolapse, and 153 (30.2%) were obese.

Conclusion The prevalence of reproductive tract infections in this conservative rural community in east Lebanon was low. Possible explanations include the conservative nature of the community, the high rate of utilization of health care services, and the liberal use of antibiotics without a prescription. More importantly, the study showed an unexpectedly high prevalence of genital prolapse and obesity — a finding that has clear implications for primary health care priorities in such rural communities.

Keywords Genital diseases, Female/epidemiology; Urogenital diseases/epidemiology; Urinary tract infections/epidemiology; Sexually transmitted diseases/epidemiology; Infection/epidemiology; Prevalence; Risk factors; Cultural characteristics Lebanon (source: *MeSH, NLM*).

Mots clés Gynécologique, Maladie/épidémiologie; Appareil urogénital, Maladies/épidémiologie; Urinaire, Infection/épidémiologie; Maladies sexuellement transmissibles/épidémiologie; Infections/épidémiologie; Prévalence; Facteur risque; Mœurs; Liban (source: *MeSH, INSERM*).

Palabras clave Enfermedades de los genitales femeninos/epidemiología; Enfermedades urogenitales/epidemiología; Infecciones urinarias/epidemiología; Enfermedades sexualmente transmissibles/epidemiología; Infección/epidemiología; Prevalencia; Factores de riesgo; Características culturales; Líbano (fuente: *DeCS, BIREME*).

Bulletin of the World Health Organization 2003;81:639-645.

Voir page 644 le résumé en français. En la página 644 figura un resumen en español.

Introduction

At a time of worldwide financial crisis, information on reproductive morbidity is essential to ensure the most appropriate allocation of existing resources and the planning of cost-effective health care strategies (1, 2). Community-based information on reproductive morbidity in developing countries is scarce (3). Data often are collected from clinics and hospitals because of the relative logistical ease and the low cost of data collection.

Knowledge about the prevalence of reproductive morbidity and its determinants in Lebanon is almost non-existent (4). Such information is critical, as it constitutes the background against which priorities in different aspects of health care are determined and appropriate recommendations to health policy-makers are developed. The health care system in Lebanon is undergoing major change after many years of civil war (5, 6). The challenge ahead is to create a

system that can accommodate the new needs of the community and adapt to modern concepts of health care.

With this background in mind, this study aimed to evaluate the demographic, clinical, and microbiological profiles of women in a rural community in east Lebanon. Nabi Sheet was chosen as the study community because of its limited resources (especially in terms of access to health care services within the village) and the high fertility of its women. The town of Nabi Sheet was also selected for logistical ease, as it was near an establishment that belonged to the American University of Beirut.

Materials and methods

Study community

Nabi Sheet has 20 000 inhabitants, is supplied with electricity and water, and has a public elementary school. A small medical dispensary provides very basic primary

¹ Department of Epidemiology and Biostatistics, Faculty of Health Sciences, American University of Beirut, Beirut, Lebanon. Correspondence should be sent to Dr Deeb at this address (email: azur@aub.edu.lb).

² Department of Obstetrics and Gynaecology, American University of Beirut, Beirut, Lebanon.

³ Department of Pathology and Laboratory Medicine, American University of Beirut, Beirut, Lebanon.

Ref. No. 01-1354

care. The closest major health care facility is 25 km south of the town.

The population of Nabi Sheet represents the traditional Shiite Muslim community of east Lebanon. Its population is highly fertile, it is in a rural peripheral area of Lebanon, and it classically has suffered from inadequate government attention to its needs, including health equipment and services.

Study sample

Multiple visits to the village were made before the data were collected. During these visits, the objectives and details of the study were explained to the mukhtar and sheikh — the respective governmental and religious authorities in the town — to ensure their approval and support. In addition, several focus groups were held with women in the village to solicit their opinions and suggestions.

Between 1 August and 15 November 1998, home visits were made to every other household in Nabi Sheet. The women were told the objectives of the study, and their consent to participate was solicited. Eligible participants were ever-married women aged 15–60 years. Women who were pregnant or who had taken antibiotics in the two weeks before the survey were excluded. Only one woman per household was enrolled, and priority was given to the wife of the head of the household.

House-to-house visits and interviews established that 557 eligible women were suitable for inclusion. Of these, 530 (95%) agreed to an interview, 506 (91%) to a medical and laboratory examination, and 495 (89%) to a blood test. Overall, 62 (11%) women refused to participate in the medical study.

Interview

Trained female interviewers conducted interviews in the women's homes. The interview process involved completion of two questionnaires. The first questionnaire included questions about the woman's sociodemographic background, family planning arrangements, and general health status. The second questionnaire focused specifically on women's self-reporting and perceptions of particular reproductive health conditions.

Physical examination

Three female primary care physicians performed physical examinations under the supervision of the study's two gynaecologists. A field clinic fully equipped for the study's purposes was set up in the town by the research team. Full physical examination of each participant included measurement of height, weight, and blood pressure and a full system review, with special attention paid to clinical signs and symptoms of illness. Hypertension was diagnosed when diastolic blood pressure exceeded 90 mmHg and/or systolic blood pressure exceeded 140 mmHg on two separate occasions at least 15 minutes apart after rest in a quiet environment. For those with high blood pressure, the measurement was repeated the next day, after rest in a quiet environment. Obesity was diagnosed in patients with a body mass index ≥ 30 kg/m².

The gynaecological examination began with a thorough inspection of the external genitalia. A speculum then was inserted into the vagina, the presence of vaginal discharge noted, and the appearance of the cervix described. A sterile endocervical swab was taken to enable antigen detection of

Chlamydia trachomatis. A high vaginal swab also was used to collect vaginal secretions for microscopy examination with Gram stain, with potassium hydroxide, and as a wet mount. A Papanicolaou (Pap) smear was collected with an endocervical brush and spatula. After removal of the speculum, a bimanual examination was carried out to determine the dimensions of the internal genital organs and the presence of adnexal tenderness.

Laboratory evaluation

After the physical examination was complete, the woman was given an appointment for blood withdrawal. Trained medical laboratory technicians examined urine samples in the field by dipstick and microscopy. The presence of more than four white blood cells per high-power field upon microscopic examination warranted a urine culture. Blood samples were stored in ice and transported to the main laboratories at the American University of Beirut Medical Centre within 4–6 hours of collection. Samples were analysed for complete blood counts and fasting glucose levels. Anaemia was diagnosed when the concentration of haemoglobin in serum was < 12 g/dl. Diabetes was diagnosed when the concentration of glucose in the blood after fasting exceeded 120 mg/dl. Screening for syphilis was performed by serological testing with a non-treponemal test from the Venereal Disease Research Laboratory. If the test was reactive, it was followed up and confirmed by a specific treponemal antibody (fluorescent treponemal antibody absorption) test.

Trained laboratory technicians were responsible for the detection of sexually transmitted diseases and endogenous reproductive tract infections through a series of field-based screening tests. *Trichomonas vaginalis* was detected by direct visualization of the motile flagellated organism on saline wet mounts under light microscopy. Vulvovaginal candidiasis was diagnosed in symptomatic women by the presence of budding yeasts and pseudomycelia in a suspension of vaginal secretions in 10% potassium hydroxide. The criteria used to establish bacterial vaginosis were a positive amine test and the presence of clue cells. Gonorrhoea was strongly suspected when Gram-negative intracellular diplococci were observed upon Gram stain in the presence of mucopurulent cervical discharge. Cases of *C. trachomatis* were identified by cervical screening using the Chlamy-Check-1 test (Vedalab, France).

Ethical approval and statistical analysis

The study proposal was approved by the American University of Beirut Internal Review Board. All statistical analyses were done using SPSS software (version 10.0 for windows).

Results

Population characteristics

Most women 500 (94.3%) were married at the time of the survey; 30 (5.7%) were widowed or divorced (Table 1). Overall, 491 (92.6%) women were unemployed and 190 (35.8%) were current smokers. About half of the women surveyed (268) had five or more children, and 320 (78.9%) of the women aged < 45 years were using contraception.

Table 1. Characteristics of 530 women in Nabi Sheet, Lebanon, in 1998

Characteristic	No. ^a
<i>Age (years)</i>	
<25	66 (12.5)
25–34	201 (37.9)
35–44	138 (26.0)
45–60	125 (23.6)
<i>Marital status of woman</i>	
Married	500 (94.3)
Widowed or divorced	30 (5.7)
<i>Number of deliveries</i>	
0	28 (5.3)
1–2	93 (17.5)
3–4	141 (26.6)
≥5	268 (50.6)
<i>Educational status of woman</i>	
Illiterate	125 (23.6)
Primary	87 (16.4)
Intermediate	225 (42.5)
Secondary	69 (13.0)
Post-secondary	24 (4.5)
<i>Occupational status of woman</i>	
Unemployed	491 (92.6)
Employed part-time	21 (4.0)
Employed full-time	18 (3.4)
<i>Education of husband^b</i>	
Illiterate	39 (7.8)
Primary	166 (33.2)
Intermediate	177 (35.4)
Secondary	62 (12.4)
Post-secondary	56 (11.2)
<i>Occupational status of husband^b</i>	
Unemployed	90 (17.8)
Employed part-time	110 (22.0)
Employed full-time	300 (60.0)
<i>Socioeconomic status of household^c</i>	
Low	145 (27.4)
Medium	197 (37.2)
High	182 (34.4)
<i>Current smoking status of woman</i>	
Yes	190 (35.8)
No	340 (64.2)

^a Values in parentheses are percentages.

^b $n = 500$.

^c Socioeconomic status consisted of a composite score based on the number of rooms, bedrooms, and amenities (electricity, radio, television, video-cassette recorder, refrigerator, hot water, satellite dish, car, and mobile telephone) in the household. This variable was further adjusted by the husband's employment status.

Signs and symptoms

The most common symptoms reported by the women during the interview were lower abdominal pain, pain during intercourse, and genital itching and burning (Table 2). Abnormal vaginal discharge was reported by 130 (24.5%) of

Table 2. Prevalence of gynaecological signs and symptoms among 530 women surveyed in Nabi Sheet, Lebanon, in 1998

Sign or symptom	No. ^a
Abnormal vaginal discharge	130 (24.5)
Vulvar itching and burning	203 (38.3)
Lower abdominal pain	218 (41.1)
Pain during intercourse	216 (40.7)
Genital ulceration	0 (0)
Menstrual irregularities	172 (32.5)

^a Values in parentheses are percentages.

the women, while only 100 (19%) had evidence of clinically significant discharge upon physical examination.

Use of health services among symptomatic women

Table 3 shows the type of person consulted for each reported symptom. The highest proportion of consultations with physicians was seen for perceived infertility or delays in conception 116, (79.9%), while intercourse-related complaints had the lowest proportion of consultations with physicians 52, (21.6%). Nearly 40% of women interviewed responded affirmatively when asked about consulting a health care provider for the presence of abnormal vaginal discharge, the most common treatment used was antibiotics.

Prevalence of infection

No women had vulvar ulcers or warts. Mucopurulent cervical discharge also was not seen in any woman. No cases of *C. trachomatis* were identified among the women examined, and gonorrhoea was not suspected in any screened woman (Table 4). No woman was seropositive for syphilis. Infection with *T. vaginalis* was detected in six (1.2%) of the women examined. Vulvovaginal candidiasis was observed in 44 (8.7%) women and bacterial vaginosis in four women (0.8%).

No cases of pelvic inflammatory disease were diagnosed, although the condition was suggested in 5% of the women who had cervical motion tenderness on pelvic examination but no fever or cervical purulent discharge. Pap smear screening showed that three of the women (0.6%) had evidence of epithelial cell abnormality; one of these had cervical dysplasia, but none had invasive cervical cancer.

Genital prolapse and gynaecological morbidity

In total, 251 (49.6%) of the women examined suffered from genital prolapse of various types: 198 (39%) had anterior vaginal prolapse, 81 (16%) posterior vaginal prolapse, and 75 (15%) uterine prolapse (Table 4). Of the women diagnosed with genital prolapse, 154 (61.4%) had prolapse at one site, 91 (36.3%) at two sites, and 6 (2.4%) at three sites. The prevalence of urinary tract infection diagnosed on the basis of a urine culture was 3.8%. A relatively small proportion of women was anaemic (42, 8.5%), and only a minority had severe anaemia (8, 1.6%). Hypertension was present in 83 (16.4%) women and diabetes in 12 (2.4%); 153 (30.2%) women were obese.

Discussion

The prevalence of reproductive tract infections in rural Lebanon has remained mostly unknown until now, and its

impact on public health largely has been undetermined. Our findings showed that 1% of the women evaluated in Nabi Sheet were positive for any sexually transmitted disease, 9% for any endogenous reproductive tract infection, and none for pelvic inflammatory disease. With the exception of two studies in Bangladesh (7) and Turkey (8), our results showed prevalences much lower than those cited in other developing countries (3, 9–15). A community study from India found that 11% of women had syphilis, 0.3% had gonorrhoea, 14% had trichomonas vaginitis, 62% had bacterial vaginitis, 34% had *Candida* vaginitis, and 24% had pelvic inflammatory disease (10). Another study from Egypt showed that 9% of women had chlamydia infection, 18% had trichomoniasis, 22% had bacterial vaginosis, and 11% had *Candida* vaginitis (3).

The epidemiological pattern of reproductive tract infections and sexually transmitted infections in a community results from interactions between the biological characteristics of the offending microorganisms, the social behaviour that spreads them, and the effectiveness of preventative and control measures. The population of Nabi Sheet did not exhibit many of the risk behaviours known to be associated with reproductive tract infections. In this highly conservative and religious rural community, premarital and extramarital sexual relations are not tolerated, and they could even result in social sanctioning and persecution. In this small community, people know each other, and opportunities for men and women to mix unsupervised are limited. In addition, the men work at home, and seasonal migration for job opportunities is infrequent. In areas in which other studies were conducted, such as Giza (3), men migrate for work and use sex workers.

Despite the absence of well-equipped health facilities within close range of Nabi Sheet, the rate of utilization of health services was higher than expected for such a community. Overall, 40% of women interviewed had consulted a physician for the presence of abnormal vaginal discharge, and they usually were treated with antibiotics.

One interesting consideration was the unrestricted access of women to medications, including antibiotics, without proper prior medical advice. Pharmaceuticals are obtained over the counter in Lebanon, and often they are self-administered on the basis of prior personal experience or lay advice. When faced with abnormal vaginal discharge, 35.4% of women in this study used some form of self-medication. How this high use of self-prescribed medications influenced the prevalence of reproductive tract infections in the community is not clear. Such a practice might have led to an underestimation of disease prevalence because of early and indiscriminate treatment of symptomatic vaginal discharge. Liberal public access to antimicrobial agents might facilitate the selection of resistant strains of some microorganisms, making them less amenable to conventional treatment.

Although reproductive tract infections seemed to be of low prevalence among women in this community, three potential health conditions of measurable significance emerged: genital prolapse, obesity, and hypertension. Half of the women had some form of genital prolapse; this agrees with findings from the Giza study in Egypt, which had a prevalence of 56% (3). Predisposing factors classically have been linked to birth-related events and were thought to follow the weakening of pelvic muscles and ligaments by repeated birth trauma (16). The true pathophysiology of genital prolapse still is understood poorly, however, and hence the efficacy of preventive measures remains questionable.

Overall, 40% of the women were overweight and 30% obese. These figures were much higher than those reported elsewhere (17, 18): for example, obesity was 20% in Egypt (3); 12% in the United Kingdom; and approximately 7% in France, Italy, and Sweden (17). Some of the potential predisposing factors in our community may be linked to the cultural and demographic characteristics of Nabi Sheet. Close kinship marriages are very common, and this could explain, in part, a possible genetic predisposition to obesity.

Table 3. Person consulted for each symptom reported by women surveyed in Nabi Sheet, Lebanon, in 1998

Symptom	Person consulted ^a			All respondents ^c
	Physician	Other ^b	Self	
<i>Reproductive tract infections</i>				
Abnormal discharge	52 (40.0)	17 (13.1)	46 (35.4)	130
Lower abdominal pain	73 (33.5)	26 (11.9)	56 (25.7)	218
Menstrual problems	55 (32.2)	33 (19.4)	9 (5.3)	172
Problems with intercourse	52 (21.6)	37 (15.4)	21 (8.7)	241
<i>Prolapse</i>				
Heaviness below or urge to urinate	61 (28.8)	20 (9.4)	16 (7.5)	212
<i>Infertility</i>				
Delay in conception	116 (79.9)	24 (16.7)	17 (11.8)	145
<i>Urinary tract infection</i>				
At least one of five symptoms ^d	106 (36.8)	32 (11.1)	60 (20.8)	288

^a Values in parentheses are percentages.

^b Other includes consultations with any other persons than physicians (pharmacists, nurses, neighbours, family, etc.).

^c Not all respondents had a consultation.

^d Burning from inside, burning from outside, frequent urination, night urination, and urgency to urinate.

High parity and inadequate spacing between consecutive childbirths could account for a failure to lose the excessive weight gained during a previous pregnancy. Obesity has been associated with hypertension, diabetes, and coronary heart disease (18), and in this study, the prevalence of hypertension also was relatively high (17%).

The traditional approach to the diagnosis of reproductive tract infections is the use of "gold standard" laboratory tests. Since such an approach entails the use of sophisticated laboratory equipment and expensive materials, affordability is a major impediment to the use of laboratories in developing countries — even more so if the purpose is community screening, as even industrialized countries have questioned the cost-effectiveness of such laboratory tests for such a purpose. Simple diagnostic and screening tools thus were introduced to fit the context of the medical office, despite their limited diagnostic accuracy. For example, the detection of motile trichomonads by wet-mount microscopy has a reported sensitivity of 38–92% and specificity of 100% (19), and findings of Gram-negative intracellular diplococci in the presence of purulent cervical discharge with Gram stain have a sensitivity of 60% and specificity of 90–95% for gonorrhoea (20). Without available field-appropriate and inexpensive diagnostic tools, the limitations of such field-based tests will remain a pitfall for general screening.

The women's high level of compliance with the interview and physical examination is notable and is one of this study's strengths: the refusal rate of 11% was considerably lower than most rates reported in developing countries (9, 10). Women in these countries usually are reluctant to consent to interviews or gynaecological examinations, particularly in the absence of apparent symptoms of disease. This reinforces the importance of a careful and well-planned entry into the community; an approach emphasized previously by the Giza study (3).

Conclusion

This study shows a surprisingly low prevalence of reproductive tract infections in this conservative Shiite Muslim rural community in east Lebanon. This might be due to the availability of over-the-counter medications, the liberal use of antibiotics, the women's limited numbers of sexual partners, and the community's social norms. This study also showed an unexpectedly high prevalence of genital prolapse and obesity. Such findings undoubtedly will influence the trend of medical practice in this community and will alter government health policies with respect to defining health priorities and reallocating existing resources.

This study calls into question the cost-effectiveness of universal screening programmes for the detection of reproductive tract infections in communities with low prevalence of such infections (7, 21). Selective screening for general health problems is recommended for these communities. Efforts should be geared towards intervention strategies that are designed to prevent risky behaviours that endanger women's health by increasing their risk of obesity and hypertension (22). Our findings of a high prevalence of reproductive symptoms and a low prevalence of reproductive tract infections calls for a targeted approach to evaluate individual

Table 4. Proportion of 506 examined women who were positive for gynaecological infections, genital prolapse, or gynaecological morbidity in Nabi Sheet, Lebanon, in 1998

Morbidity	No. of women ^a
<i>Any sexually transmitted disease</i>	6 (1.2)
Gonorrhoea	0 (0)
Chlamydia	0 (0)
Syphilis	0 (0)
Trichomoniasis	6 (1.2)
<i>Any endogenous reproductive tract infection</i>	47 (9.3)
Bacterial vaginosis	4 (0.8)
Candidiasis	44 (8.7)
Genital prolapse	251 (49.6)
Urinary tract infection	19 (3.8)
<i>Anaemia (serum hemoglobin level)^b</i>	42 (8.5)
10–11.9 g/dl	33 (6.7)
<10 g/dl	8 (1.6)
Hypertension	83 (16.4)
Body mass index	359 (70.9)
Overweight (25–30 kg/m ²)	206 (40.7)
Obese (>30 kg/m ²)	153 (30.2)
Diabetes	12 (2.4)

^a Values in parentheses are percentages.

^b *n* = 495 for blood tests.

women with specific symptoms, because screening for genital infection does not seem to give insight into the etiology of their illnesses. In addition, gynaecologists should be more sensitive to the high morbidity experienced by women with genital prolapse. ■

Acknowledgements

We thank the regional Reproductive Health Working Group for their support and collaboration throughout the study. We are indebted to the community of Nabi Sheet, especially the women, for agreeing to participate in the different phases of data collection. We acknowledge the efforts of all our interviewers, as well as those of the graduate and research assistants who were involved at various levels of the study. We are grateful to Michele Schulein for her contribution to the data analysis. We extend our gratitude to Dr Huda Zurayk, Dr Cynthia Myntti, and Dr Bert Hirschhorn for their invaluable and insightful comments on earlier drafts of the paper. We also thank the Mellon Foundation, the Ford Foundation, and the World Health Organization's Regional Office for the Eastern Mediterranean for financial support.

Funding: This study was funded by a grant from the Mellon Foundation to the Faculty of Health Sciences, American University of Beirut, for the Population and Reproductive Health Program, with a contribution from the Ford Foundation. Support for the laboratory evaluations was provided by the World Health Organization's Regional Office for the Eastern Mediterranean.

Conflicts of interest: none declared.

Résumé

Prévalence des infections de l'appareil génital, du prolapsus génital et de l'obésité dans une communauté rurale au Liban

Objectif Déterminer la prévalence des maladies liées à la procréation dans une communauté rurale au Liban

Méthodes Des données ont été rassemblées à partir d'entretiens conduits auprès de femmes à leur domicile, d'examen physiques et d'interrogatoires menés par des médecins dans un dispensaire de la communauté, et de tests de laboratoire. L'échantillon était composé de 557 femmes non célibataires de 15 à 60 ans choisies au hasard.

Résultats A peine plus de la moitié des femmes (268, 50,6 %) avaient au moins 5 enfants et 320 femmes de moins de 45 ans (78,9 %) recouraient à la contraception. La prévalence des infections de l'appareil génital était très faible : six (1,2 %) femmes présentaient des maladies sexuellement transmissibles et 47 (9,3 %) des infections endogènes de l'appareil génital. Il n'a été observé ni chlamydie, ni sérodiagnostic positif pour la

syphilis, ni cancer invasif du col, mais un cas seulement de dysplasie du col. En revanche les cas de prolapsus génital et de morbidité gynécologique étaient nombreux. La moitié des femmes étudiées (251, 49,6%) présentaient un prolapsus génital et 153 (30,2%) étaient obèses.

Conclusion La prévalence des infections de l'appareil génital dans cette communauté rurale traditionnelle de l'est du Liban était faible – situation qui peut s'expliquer notamment par le caractère traditionnel de la communauté, le taux élevé d'utilisation des services de soins de santé et le recours général aux antibiotiques sans ordonnance. Mais l'étude a surtout révélé une prévalence étonnamment élevée du prolapsus génital et de l'obésité – ce qui n'est pas sans conséquence pour l'établissement des priorités des soins de santé primaires dans ce type de communauté rurale.

Resumen

Prevalencia de infecciones del aparato reproductor, prolapso genital y obesidad en una comunidad rural del Líbano

Objetivo Determinar la prevalencia de las enfermedades relacionadas con el aparato reproductor en una comunidad rural del Líbano.

Métodos Los datos empleados proceden de las entrevistas efectuadas a las mujeres en sus hogares y de las exploraciones físicas y las historias clínicas realizadas por los médicos en un consultorio de la comunidad, así como de pruebas de laboratorio. Se seleccionó aleatoriamente a un total de 557 mujeres casadas alguna vez, con edades comprendidas entre 15 y 60 años.

Resultados Poco más de la mitad de la muestra (268, 50,6%) tenía cinco o más niños, y 320 (78,9%) de las mujeres con menos de 45 años estaban usando métodos anticonceptivos. La prevalencia de infecciones del aparato reproductor fue muy baja: seis mujeres (1,2%) sufrían enfermedades de transmisión sexual, y 47 (9,3%) tenían infecciones endógenas del aparato

reproductor. Ninguna de ellas presentaba infección por clamidias o un resultado serológico positivo de sífilis. Ninguna sufría cáncer invasivo del cuello uterino, y sólo una tenía displasia cervical. En cambio, los casos de prolapso genital y la morbilidad ginecológica eran elevados. La mitad de las mujeres estudiadas (251, 49,6%) presentaban prolapso genital, y 153 (30,2%) eran obesas.

Conclusión La prevalencia de infecciones del aparato reproductor en esta comunidad rural conservadora del este del Líbano fue baja. Posibles explicaciones de ello son el carácter conservador de la comunidad, la alta tasa de utilización de los servicios de salud y el uso libre de antibióticos sin receta. Lo que es más importante, el estudio reveló una prevalencia inesperadamente alta de prolapso genital y obesidad, resultado que tiene claras implicaciones para fijar las prioridades de la atención primaria en las comunidades rurales de ese tipo.

References

- World Health Organization. *Interpreting reproductive health*. ICPD+5 Forum, The Hague, The Netherlands, 8–12 February; 1999. WHO document WHO/CHS/RHR/99.7.
- García-Moreno C, Turmen T. International perspectives on women's reproductive health. *Science* 1995;269:790-2.
- Younis N, Khattab H, Zurayk H, el-Mouelhy M, Amin MF, Farag AM. A community study of gynecological and related morbidities in rural Egypt. *Studies in Family Planning* 1993;24:175–86.
- Deeb ME, ed. *Beirut: a health profile 1984–1994*. Beirut: American University of Beirut; 1997.
- van Lerberghe W, Ammar W, el-Rashidi R, Awar M, Sales A, Mechbal A. Reform follows failure: II. Pressure for change in the Lebanese health sector. *Health Policy and Planning* 1997;12:312–9.
- Kandela P. Lebanese medicine — still struggling against the odds. *Lancet* 2000;355:907.
- Hawkes S, Morison L, Foster S, Gausia K, Chakraborty J, Peeling RW, et al. Reproductive-tract infections in women in low-income, low-prevalence situations: assessment of syndromic management in Matlab, Bangladesh. *Lancet* 1999;354:1776-81.
- Bulut A, Yolsal N, Filippi V, Graham W. Contraceptive choice and reproductive morbidity in Istanbul. *Studies in Family Planning* 1997;28:35-43.
- Wasserheit JN. The significance and scope of reproductive tract infections among Third World women. *International Journal of Gynaecology and Obstetrics* 1989;3 Suppl:S145-68.
- Bang RA, Bang AT, Baitule M, Choudhary Y, Sarmukaddam S, Tale O. High prevalence of gynaecological diseases in rural Indian women. *Lancet* 1989;1:85-8.
- Brabin L, Kemp JJ, Obunge OK, Ikimalo J, Dollimore N, Odu NN, et al. Reproductive tract infections and abortion among adolescent girls in rural Nigeria. *Lancet* 1995;345:300-4.
- Bhatia JC, Cleland J, Bhagavan L, Rao NS. Levels and determinants of gynecological morbidity in a district of south India. *Studies in Family Planning* 1997;28:95-103.
- Paxton LA, Sweankambo N, Gray R, Serwadda D, McNairm D, Li C, et al. Asymptomatic non-ulcerative genital tract infections in a rural Ugandan population. *Sexually Transmitted Infections* 1998;74:421-5.

14. Temmerman M, Kidula N, Tyndall M, Rukaria-Kaumbutho R, Muchiri L, Ndinya-Achola J. The supermarket for women's reproductive health: the burden of genital infections in a family planning clinic in Nairobi, Kenya. *Sexually Transmitted Infections* 1998;74:202-4.
15. Gorbach PM, Hoa DT, Tsui A, Nhan VQ. Reproduction, risk and reality: family planning and reproductive health in northern Vietnam. *Journal of Biosocial Science* 1998;30:393-409.
16. Samuelsson EC, Arne Victor FT, Tibblin G, Svardsudd KF. Signs of genital prolapse in a Swedish population of women 20 to 59 years of age and possible related factors. *American Journal of Obstetrics and Gynecology* 1999;180:299-305.
17. Martinez JA, Kearney JM, Kafatos A, Paquet S, Martinez-Gonzalez MA. Variables independently associated with self-reported obesity in the European Union. *Public Health Nutrition* 1999;2:125-33.
18. al-Mahroos F, al-Roomi K. Overweight and obesity in the Arabian Peninsula: an overview. *Journal of Rural Social Health* 1999;119:251-3.
19. Spiegel CA. Vaginitis. In: Wentworth BB, Judson FN, editors. *Laboratory methods for the diagnosis of sexually transmitted diseases*. Washington (DC): American Public Health Association; 1991:181-202.
20. Holmes KK, Sparling PF, Mardth PA, Wasserheit J, editors. *Sexually transmitted diseases*. New York (NY): McGraw-Hill; 1990.
21. Macmillan S, McKenzie H, Flett G, Templeton A. Which women should be tested for Chlamydia trachomatis? *British Journal of Obstetrics and Gynaecology* 2000;107:1088-93
22. Weintraub M. Long-term weight control: the National Heart, Lung and Blood Institute funded multimodal intervention study. *Clinical Pharmacology and Therapeutics* 1992;51:581-5.