

ORIGINAL ARTICLE

Prevalence of unmet contraceptive need among Egyptian women: a community-based study

M. KOTB SULTAN, I. BAKR, N. AHMED ISMAIL, N. ARAFA

Department of Community, Environmental and Occupational Medicine, Faculty of Medicine, Ain Shams University, Cairo, Egypt

Key words

Unmet contraceptive need • Prevalence • Cairo

Summary

Introduction. An estimated 17% of married women in the developing world still have an unmet need for contraception. This study aimed to measure the prevalence and reasons for unmet contraceptive need among married women in the childbearing period in an underprivileged district in Eastern Cairo.

Methods. A cluster survey of 2340 women in the Marg district of Eastern Cairo was performed. Socio-demographic data and data on both past and present contraceptive use were obtained by interview questionnaire.

Results. The prevalence of unmet need was 7.4%; 53.4% for limiting and 46.6% for spacing. Experience of side effects from contraceptive use, and fear of side effects, was highly prevalent among women with unmet need. In addition, a large proportion of women with unmet need perceived themselves not to be at risk for conceiving.

Conclusions. A substantial proportion of women in Cairo have unmet contraceptive need. Efficient counseling of women about contraception may help reduce this high prevalence.

Introduction

In most developing countries, the rates of contraceptive use have recently increased, as has the desire of most married couples for smaller families [1]. However, an estimated 17% of married women in the developing world still have an unmet need for contraception, which is defined as use of no contraceptive method in spite of sexual exposure and an expressed desire to avoid pregnancy [2]. Women identified as having an unmet need include those who express a desire to postpone their next birth for more than two years (spacing) as well as those who wish to have no more children (limiting). Women who are pregnant or have post-partum amenorrhea, and who report that their pregnancy was unintended (either mistimed or unwanted) are also classified as having an unmet need [1]. Unintended pregnancy is an important public health issue in both developed and developing countries because of its negative association with social and health outcomes for both mothers and children [3]. The Egypt Demographic and Health Survey of 2008 (EDHS 2008) measured the total prevalence of unmet need for contraception in Egypt to be 9.8% [4]. A survey in an area of lower socio-economic class in Cairo measured the prevalence of unmet need to be 13%; about two-thirds of these women wished to limit their childbearing, and the rest wished to space their pregnancies [5].

Understanding the magnitude of unmet contraceptive need, and the underlying reasons of this phenomenon, will help to reduce the number of unwanted pregnancies and reduce the birth rate of Egyptian women.

Aim of the work

We aimed to measure the prevalence and reasons for unmet contraceptive need among married women in the childbearing period in a district in Cairo.

Subjects and methods

The study was conducted in the Marg district in Eastern Cairo, which is an underprivileged district of high population density, consisting of eleven geographical areas. There were 14967 women in the reproductive age group in this district.

Sampling. Assuming a prevalence of unmet need of 9-10%, and a 5% alpha level, and a precision level of 1%, a sample of 780 women was calculated. The number was tripled ($n = 2340$) to allow for a cluster sampling technique. Five areas (of eleven) were selected randomly. Starting from a conspicuous landmark, all consecutive households in each area were sampled until 468 women meeting the inclusion criteria of the study were selected in each cluster.

The *inclusion criteria* were: currently married women in the reproductive period, aged 15-49 years, who were living with their husbands.

Operational definitions. A woman with unmet contraceptive need was one who was: pregnant and who stated that the pregnancy was unwanted or mistimed; or amenorrheic after delivery and who stated that the last delivery was unwanted or mistimed; or neither pregnant nor amenorrheic, and who was not using a contraceptive

despite a stated desire to either space their pregnancy for another 2 years, or to limit their number of children [6].

A cross-sectional survey was conducted using an anonymous, pre-tested, closed-ended, interview questionnaire applied by trained female health visitors. Questions included: socio-demographic data on both the husband and wife; status of the women during interview (whether pregnant, in puerperium or non-pregnant), current and previous use of contraceptive method, and whether the husband had desired the current or last pregnancy. Other questions included reasons for never-use of contraception, and reasons for method discontinuation (in case of previous users).

Statistical methods. Data were revised and checked for completeness and accuracy and data entry was performed using the SPSS program version 11.

The chi-square test was used to compare categorical variables. Student's t-test was used to compare parametric quantitative data. To compute the proportions and confidence intervals, taking into account the design effect created by the cluster sampling, the C-sample software of Epi Info version 6.04 (Centers for Disease Control and Prevention) was used. Quantitative data are presented as means (95% CI), and qualitative data as no. (% [95% CI]).

Ethical considerations. This study had the acceptance of the ethical committee of medical research from the Egyptian Ministry of health and population, number 180, 1/1/2009. An informed consent was taken from the study participants after explaining the aim of the study and ensuring the confidentiality of the data. All data was kept anonymous.

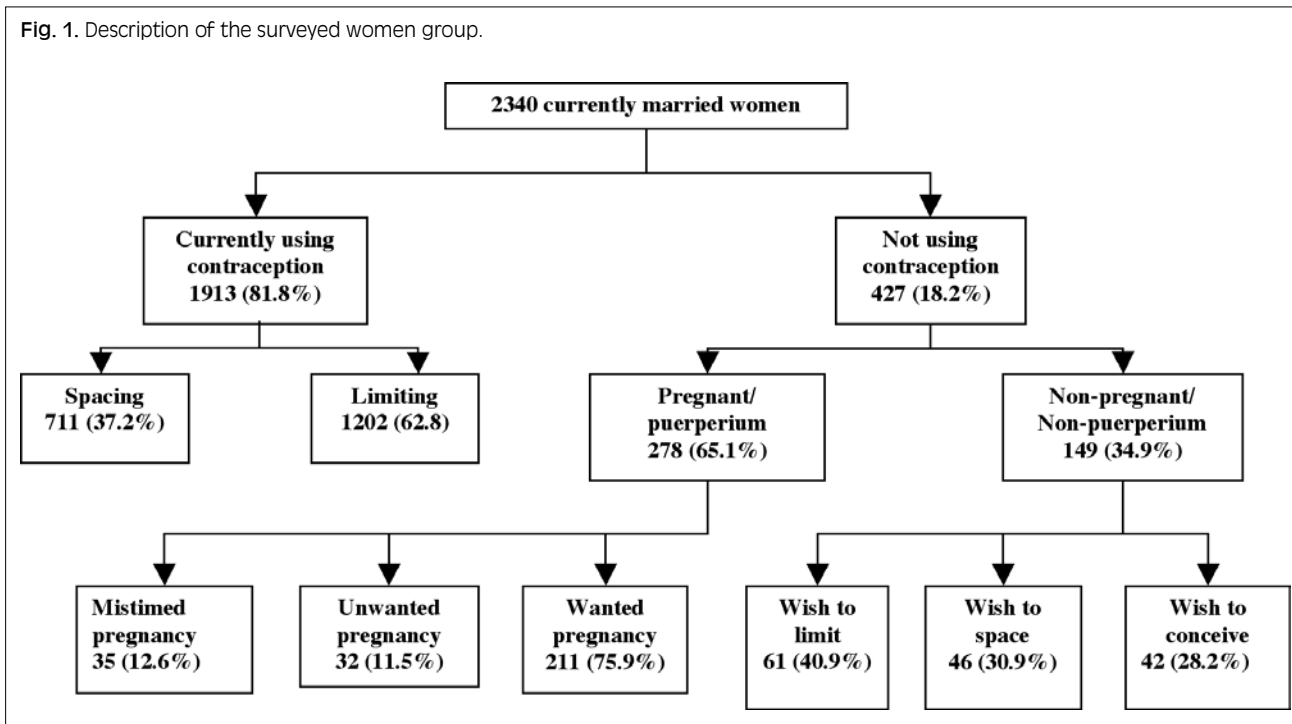
Results

Of the 2340 subjects surveyed, 1913 women (81.8%) were currently using a contraceptive method, 711 (37.2%) for spacing, and 1202 (62.8%) for limiting. Of the 427 women not using contraception, 278 (65.1%) were pregnant or in puerperium. Of these, 35 (12.6%) reported that the pregnancy was mistimed, and 32 (11.5%) reported that the pregnancy was unwanted. Of the 149 women not using a contraceptive and who were not pregnant or in puerperium, 61 (40.9%) wished to limit their childbearing, 46 (30.9%) wished to space their childbearing, and only 42 (28.1%) were currently trying to conceive (Fig. 1).

174 women were thus identified as having an unmet need for contraception, giving a prevalence rate of 7.4% in this district. Of these, 81 (46.6%) wished to space their childbearing, and 93 (53.4%) wished to limit their childbearing.

The socio-demographic characteristics of the study population (n = 2340) are shown in Table I. Women with unmet need differed from the rest of the study population in having a significantly larger number of children, female children and abortions, although they had the same number of male children. No other statistically significant differences were found for other socio-demographic factors such as age, education and employment. Characteristics of women having unmet reproductive health need (n = 174) are described in Table II. 77.6% had previously used contraception, and the main reasons for discontinuation were health related, either due to an adverse effect related to the method, or to an associated condition such as hypertension or diabetes. The main reason given for never previously using a contraceptive was fear of complications (53.9%). Of those women with

Fig. 1. Description of the surveyed women group.



unmet need and who were neither pregnant nor in puerperium, (62.6%) perceived that they had a weak or no risk of conceiving, generally because of their older age or infrequent intercourse. Nearly half of the husbands of the currently pregnant/ recently delivered women did not show acceptance of the current pregnancy or the recently born child.

Discussion

The level of unmet contraceptive need found in this study was 7.4%, which is close to the national level for Egypt (9.2%) in 2008 [4]. It is however; lower than the level of 13% found in an area of similarly low socio-economic level [5]. These levels show a substantial decline in Egypt, where the prevalence of unmet need was previously measured at 20.1% of married women in 1992 [7].

The level of unmet need found in our study is also lower than those recorded in other developing countries. Umbeli et al had calculated a level of 30.7% for Dar As-salam in Sudan [8], while it was reported to be 17.5% among rural Indian women [9].

A very high proportion (almost one quarter) of our study respondents reported that their pregnancy was unintended, almost exactly the figure reported (23.6%) in a study of unintended pregnancies in Beheira governorate of Egypt [10]. These figures are much lower than that from Nepal, where up to 41% of pregnant women in Nepal reported that their pregnancy was unintended [3]. The

level of unmet need for family limitation in our study (62.8%) is comparable to that found by EDHS, where it was almost two-thirds of all unmet need [11].

The socio-demographic characteristics of women with unmet need were generally similar to the rest of the study population. The recent EDHS 2008 showed that unmet need did not vary greatly by age, education or work status [4]. Similar findings were reported in a study of unintended pregnancies in Beheira governorate of Egypt [10]. However, our study findings showed that women with unmet need were more likely to have a larger number of children, and especially female children, than the rest of the study population. This should be interpreted with caution, however, as the large sample size may produce statistically significant associations, despite only small differences in the variables considered. Son preference has often been noted as a determinant of unmet need [12-14]. A study in Egypt also reported that son preference was a barrier to replacement fertility [15].

To improve our understanding of unmet contraceptive need, it is important to explore women's reasons for non-use and their perception of their risk for conceiving. Our study findings showed that a high proportion (73%) of women with unmet need had actually used contraceptive methods previously, similar to the proportion of ever-use in Egypt (79%) [4]. This indicates that many women with unmet need, at least at some point in their reproductive life, were willing to use contraceptives. The main reasons for method discontinuation were health related (almost 61%), of which more than half were due to menstrual side effects. This is in agreement with the findings

Tab. I. Comparison of the surveyed study population and the group with unmet contraceptive need.

	Surveyed group (n = 2166)	Unmet group (n = 174)	p-value
Mean (95% CI)			
Age of woman	31.4 (30.9, 31.6)	31.5 (30.5, 32.6)	p > 0.05
Age at marriage	20.4 (20.2, 20.5)	20.0 (19.5, 20.5)	p > 0.05
Number of children	2.6 (2.5, 2.7)	2.9 (2.7, 3.1)	p < 0.05
Number of male children	1.3 (1.2, 1.4)	1.4 (1.3, 1.5)	p > 0.05
Number of female children	1.3 (1.2, 1.4)	1.5 (1.4, 1.6)	p < 0.01
Age of last child	3.8 (3.6, 4.0)	3.5 (3.0, 4.0)	p > 0.05
Number of abortions	0.4 (0.3, 0.5)	0.5 (0.4, 0.6)	p < 0.01
No. (% [95% CI])			
Religion			
- Muslim	2044 (94.4 [93.4, 95.4])	169 (97.1 [93.4, 99.1])	p > 0.05
- Christian	122 (5.6 [4.6, 6.6])	5 (2.9 [0.9, 6.6])	
Women's occupation			
- Housewife	1908 (88.1 [86.6, 89.4])	151 (86.8 [80.8, 91.4])	p > 0.05
- Works	258 (11.9 [10.6, 13.4])	23 (13.2 [8.6, 19.2])	
Husband's occupation: No. (% [95% CI])			
- Does not work	53 (2.4 [1.8, 3.2])	1 (0.6 [0.01, 3.2])	p > 0.05
- Non-skilled work	1061 (49.0 [46.9, 51.1])	78 (44.8 [37.3, 52.5])	
- Skilled work	706 (32.6 [30.4, 34.6])	68 (39.1 [31.8, 46.8])	
- Professional work	346 (16.0 [14.5, 17.6])	27 (15.5 [10.5, 21.8])	
Women's education: No. (% [95% CI])			
- Illiterate/ read & write	764 (35.3 [33.3, 37.3])	68 (39.1 [31.8, 46.8])	p > 0.05
- School	1141 (52.7 [50.5, 54.8])	91 (52.3 [44.6, 59.9])	
- University	261 (12.0 [10.7, 13.5])	15 (8.6 [4.9, 13.8])	
Husband's education: No. (% [95% CI])			
- Illiterate/ read & write	588 (27.1 [25.3, 29.1])	56 (32.2 [25.3, 39.7])	p > 0.05
- School	1203 (55.6 [53.4, 57.6])	90 (51.7 [44.0, 59.4])	
- University	375 (17.3 [15.7, 18.9])	28 (16.1 [10.8, 22.4])	

Tab. II. Characteristics of women with unmet contraceptive need.

	No. (% [95% CI])
Status at time of interview (n = 174)	
- Pregnant	46 (26.4 [20.1, 33.6])
- Non- pregnant	107 (61.5 [53.8, 68.8])
- Puerperium	21 (12.1 [7.6, 17.9])
Type of unmet need: (n = 174)	
- Spacing	81 (46.6 [43.5, 58.8])
- Limiting	93 (53.4 [45.7, 61.0])
Ever use of contraception (n = 174)	
- Yes	135 (77.6 [70.7, 83.5])
- No	39 (22.4 [16.5, 29.3])
Reason for method discontinuation (n = 135)	
- Menstrual side effects (e.g. menorrhagia, amenorrhea)	44 (32.6 [24.8, 41.2])
- Non-menstrual side effects (e.g. weight gain, infections)	26 (19.3 [13.0, 26.9])
- Other health conditions (e.g. hypertension, diabetes)	12 (8.9 [4.7, 15.0])
- Method failure	19 (14.1 [8.7, 21.1])
- Wanted pregnancy at time of discontinuation	16 (11.9 [6.9, 18.5])
- Others	18 (13.3 [8.1, 20.3])
Reasons for never previously using any contraceptive method (n = 39):	
- Fear of complication	21 (53.8 [37.2, 69.9])
- Feels no risk of pregnancy	7 (17.9 [52.4, 83.0])
- Used breast feeding	6 (15.4 [5.9, 30.5])
- Doesn't believe in contraceptive methods	2 (5.1 [0.6, 17.3])
- Has health problems	3 (7.7 [1.6, 20.9])
Intention to use contraception in the future (n = 107)*	
- Yes	33 (30.8 [22.3, 40.5])
- No	46 (43.0 [33.4, 52.9])
- Don't know	28 (26.2 [18.1, 35.6])
Woman's perception of risk of pregnancy among the non-pregnant (n = 107)*	
- Risk is present	28 (26.2 [18.1, 35.6])
- Risk is low	20 (18.7 [11.8, 27.4])
- No risk	47 (43.9 [34.3, 53.9])
- Don't know	12 (11.2 [5.9, 18.8])
Perceived causes for having a low or no risk of pregnancy (n = 67):	
- Older age	37 (55.2 [42.6, 67.4])
- Infrequent or no intercourse	6 (9.0 [3.4, 18.5])
- Others**	24 (35.8 [24.5, 48.5])
Husband's acceptance of the current pregnancy or recently born baby (n = 67):	
- Yes	18 (26.9 [16.8, 39.1])
- No	34 (50.7 [38.2, 63.2])
- Undecided	15 (22.4 [13.1, 34.2])

* Asked only for those not pregnant and not currently using contraception.

**These include marital problems with the husband, health problems, and low fecundity.

of Tolley et al., who reported that menstrual side effects were responsible for up to 40% of method discontinuation among women in Cairo [16]. Among those in our study who had never used any contraceptive method, more than half (53.9%) stated the fear of complications was the reason for never-use.

Many studies have reported that health concerns are an important cause for unmet need of contraception [4, 5, 17, 18, 19, 20]. The fear of the health side effects of contraceptives includes not only the expected physical discomfort, but also the fear of the expected time and financial costs of managing the side effects, and the possibility of interference with spousal sexual relations. Family planning providers must recognize the multidimensional nature of this cost of contraception in order to provide appropriate counseling [20].

In the present study, only 30.8% of women with unmet need intended to use contraceptives in the future, compared to 63.7% of women in the EDHS 2008 who were

not currently using contraceptives [4]. This indicates that although women with unmet need may have previously used contraceptives in the past, they are much less willing than others to resume use.

A large proportion of women with unmet need, who were neither pregnant nor in puerperium (62.6%), perceived themselves to be at a low or no risk of conceiving. This is a very similar level to that found among women with unmet need in Kuwait (66%) [18]. Reasons for the perceived low or no risk of conceiving cited by our study respondents included older age, infrequent or no intercourse and low fecundity. The EDHS 2008 previously reported that fertility related causes such as sub-fecundity, or having little or no sex was responsible for 36.6% of unmet need [4]. These levels are much higher than that reported non-users in the Behavioral Risk Factor Surveillance System (BRFSS) study in the US (8.4%) [21]. Women who, correctly or incorrectly, perceive themselves at low risk of conceiving probably

see little reason for undergoing the various costs and inconveniences of using contraception [20].

Conclusion

Our results indicate that a considerable proportion of Egyptian women still have an unmet need for contracep-

tion. Experience of adverse effects, and fear of their occurrence are the main factors behind non-use of contraception. Furthermore, a large proportion of these women do not consider themselves to be at risk of conceiving. This indicates a need for effective education and counseling of women for family planning at any point of contact with a health care provider, to reduce the prevalence of unmet need in Egypt.

References

- [1] Westoff CF, Bankole A. *The potential demographic significance of unmet need*. International Family Planning Perspectives 1995;22:16-20.
- [2] Ross JA, Winfrey WL. *Unmet need for contraception in the developing world and the former Soviet Union: an updated estimate*. International Family Planning Perspectives 2002;28:138-43.
- [3] Adhikari R, Soonthorndhada K, Prasartkul P. *Correlates of unintended pregnancy among currently pregnant married women in Nepal*. BMC Int Health Hum Rights 2009;9:17.
- [4] El-Zanaty F, Way A. *Egypt Demographic and Health Survey 2008*. Cairo, Egypt: Ministry of Health, El-Zanaty and Associates, and Macro International 2009.
- [5] Kotb MM, Ismail NA, Ramy AR, et al. *Unmet need for family planning in a slum area of Cairo governorate: its prevalence and underlying causes: A population based study*. Ain Shams Medical J 2004;4:465-91.
- [6] El-Zanaty F, Way A. *Egypt Demographic and Health Survey, 2005*. Cairo, Egypt: Ministry of Health and Population, National Population Council, El-Zanaty and Associates, and Macro International 2006.
- [7] El-Zanaty F, Sayed HA, Zaky HM, et al. *Egypt Demographic and Health Survey 1992*. Cairo, Egypt: Ministry of Health, El-Zanaty and Associates, and Macro International 1993.
- [8] Umbeli T, Mukhtar A, Abusalab MA. *Study of unmet need for family planning in Dar Assalam, Sudan 2001*. East Mediterr Health J 2005;11:594-600.
- [9] Yadav K. Singh B, Goswami K. *Unmet family planning need: differences and levels of agreement between husband-wife, Harana, India*. Indian J Community Med 2009;34:188-91.
- [10] Youssef RM, Moubarak II, Gaffar YA, et al. *Correlates of unintended pregnancy in Beheira governorate, Egypt*. East Mediterr Health J 2002;8:521-36.
- [11] Khadr Z. *Monitoring socioeconomic inequity in maternal health indicators in Egypt: 1995-2005*. Int J Equity Health 2009;8:38. doi:10.1186/1475-9276-8-38.
- [12] Pasha O, Fikree F, Vermund S. *Determinants of unmet need for family planning in squatter settlements in Karachi, Pakistan*. Asia-Pacific Population Journal 2001;16:93-108.
- [13] Kumar S, Priyadarshni A, Kant S, et al. *Attitude of women towards family planning methods and its use--study from a slum of Delhi*. Kathmandu Univ Med J (KUMJ) 2005;3:259-62.
- [14] Bhandari GP, Premarajan KC, Jha N, et al. *Prevalence and determinants of unmet need for family planning in a district of eastern region of Nepal*. Kathmandu Univ Med J (KUMJ) 2006;4:203-10.
- [15] El-Zeini LO. *The path to replacement fertility in Egypt: acceptance, preference, and achievement*. Stud Fam Plann 2008;39:161-76.
- [16] Tolley E, Loza S, Kafafi L, et al. *The Impact of Menstrual Side Effects on Contraceptive Discontinuation: Findings from a Longitudinal Study In Cairo, Egypt*. International Family Planning Perspectives 2005;31:15-23
- [17] Casterline JB, Perez AE, Biddlecom AE. *Factors underlying unmet need for family planning in the Philippines*. Stud Fam Plann 1997;28:173-91.
- [18] Shah MA, Shah NM, Chowdhury RI, et al. *Unmet need for contraception in Kuwait: issues for health care providers*. Soc Sci Med 2004;59:1573-80.
- [19] Bhattacharya SK, Ram R, Goswami DN, et al. *Study of Unmet need for family planning among women of reproductive age group attending immunization clinic in a medical college of Kolkata*. Indian Journal of Community Medicine 2006;31:(2006-04 - 2006-06)
- [20] Casterline J, Sinding S. *Unmet need for family planning in developing countries and implications for population policy*. Population and Development Review 2000;26:691-723.
- [21] Bensyl DM, Iuliano DA, Carter M, et al. *Contraceptive use--United States and territories, Behavioral Risk Factor Surveillance System, 2002*. MMWR Surveill Summ 2005;54:1-72.

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■ Correspondence: Naglaa Arafa, 90 Abdel Aziz Fahmy Street, Heliopolis, 11361 Cairo, Egypt - E-mail: naglaaarafa@yahoo.com