

Prevalence, awareness and determinants of contraceptive use in Qatari women

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معدل انتشار استخدام موانع الحمل لدى النساء القطريّات ودرجة الوعي بها، ومحددات استخدامها
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الخلاصة: دَرَسَ الباحثون المعارف والمواقف والممارسات المتعلقة بمنع الحمل، وما يرافقها من عوامل اجتماعية ديموغرافية، في عينة مُعَبَّرَة تضمّ 1130 من النساء القطريّات المتزوجات، وممن تتراوح أعمارهن بين 18 و49 عاماً. وقد جمع الباحثون المعطيات من خلال استبيان، ووجدوا أن العمر الوسطي للنساء يبلغ 32.2 عاماً (بانحراف معياري مقداره 7.6)، وكانت معارف معظمهن (94.6%) حول منع الحمل جيدة. إلا أن عدد اللاتي كنّ يؤيّدنّ منع الحمل من بين هؤلاء النسوة الـ 1070، لما يتجاوز 694 (أي 64.9%). ولوحظ أن المعارف حول منع الحمل تزداد بازدياد مستوى التعليم ($P < 0.001$). في حين أنها تتناقص مع انخفاض دخل الأسرة ($P < 0.001$). ولم يتجاوز عدد النسوة اللاتي كنّ يستخدمن موانع الحمل في وقت الدراسة 511 سيدة (47.8%)، ويترابط ذلك ترابطاً يُعْتَدُّ به إحصائياً بالعمر، وبعمر الزوج، وسنوات الزواج، ومستوى التعليم، ومستوى الدخل، والموقف المتخذ من تنظيم الأسرة. وكانت أكثر وسائل منع الحمل من حيث شيوع المعارف عنها ومن حيث استخدامها هي اللوالب والأقراص. وكان الأصدقاء أكثر مصادر المعلومات شيوعاً حول طرق تنظيم الأسرة (80%).

ABSTRACT We determined the knowledge of, attitude to and practice of contraception and the associated sociodemographic factors among a representative sample 1130 Qatari married women aged 18–49 years. Data were collected by questionnaire. The mean age of the women was 32.5 (SD 7.6) years. The vast majority (94.6%) knew about contraception but of these 1070, only 694 (64.9%) were in favour of contraception. Knowledge of contraception increased with increasing level of education ($P < 0.001$), but decreased the lower the household income ($P = 0.002$). Only 511 (47.8%) women were currently using contraceptives, which was significantly associated with age, husband's age, years of marriage, education level, income level and attitude to family planning. The most commonly known and used contraceptives were intrauterine device and pills. Friends were the most common source of knowledge about family planning method (80.0%).

Prévalence et déterminants de l'utilisation de la contraception et connaissances en la matière chez les femmes qataries

RÉSUMÉ Dans un échantillon représentatif de 1 130 femmes qataries mariées, âgées de 18 à 49 ans, nous avons évalué les connaissances, l'attitude et les pratiques en matière de contraception ainsi que les facteurs sociodémographiques associés. Les données ont été recueillies au moyen d'un questionnaire. L'âge moyen des femmes était de 32,5 ans (E.T. 7,6). La grande majorité (94,6 %) avait des connaissances en contraception mais sur 1 070 femmes, seulement 694 (64,9 %) y étaient favorables. Les connaissances en matière de contraception augmentaient parallèlement au niveau d'instruction ($P < 0,001$), et diminuaient parallèlement au niveau de revenus du ménage ($P = 0,002$). Seules 511 femmes (47,8 %) utilisaient alors une méthode contraceptive. Ce pourcentage était étroitement associé à l'âge, l'âge du conjoint, au nombre d'années de mariage, au niveau d'instruction, au niveau de revenus et à l'attitude vis-à-vis de la planification familiale. Les méthodes contraceptives les plus connues et les plus fréquemment utilisées étaient les dispositifs intra-utérins et les pilules. Les amies représentaient la source de connaissances la plus utilisée au sujet des méthodes de planification familiale (80,0 %).

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Introduction

Family planning assists “families in achieving the number of children desired with appropriate spacing and timing, ensuring optimal growth and development of each family member” [1,2]. Failure to plan a pregnancy can adversely affect the health of the mother, the child and the families as a whole. Family planning can also protect women from high-risk pregnancies, unsafe abortion, reproductive tract infection (RTI) and sexually transmitted infections (STIs) including HIV/AIDS [3]. The International Conference on Population and Development (ICPD) defined voluntary family planning services as a fundamental human right as well as a couple’s right [4,5].

Gaps in reproductive health/family planning and sexual health care account for nearly one-fifth of the worldwide burden of illness and premature death, and one-third of the illness and death among women of reproductive age [5,6]. Large number of pregnancies and short birth interval cause the health risk to rise [7,8]. The total fertility rate (15–49) years in Qatar for the last 2 years was 2.3, but it was 3.4 in 2001 [9]. By reducing the number of pregnancies that women have in their lifetime, the risk of maternal mortality and morbidity is reduced considerably [10].

Education can bring about appropriate behavioural changes and improve participation in the use of family planning [3]. Free choice and promotion of a wide range of effective contraceptives, including responsible counselling, will improve the quality of reproductive health/family planning services [11]. This will avoid unplanned pregnancies, reduce complications, injury and of maternal mortality could fall by one-fourth [3]. The United Nation Family Planning Association (UNFPA) have stated that 1 in 3 deaths related to pregnancy or childbirth could be avoided if all women had access to voluntary contraceptive

services, that is, some 175 000 women each year could be saved [12].

Johns Hopkins School of Public Health studied the relationship between fertility and contraceptive use of some 100 countries surveyed in the 1990s. Results showed that in countries where contraceptive prevalence is high, the total fertility rate (TFR) is low; where contraceptive prevalence is low, TFR is high [13]. The latest TFRs posted by WHO in the Core Health Indicators database show that there was a large decrease in the TFRs of the countries of the Gulf Cooperation from the 1990s to 2005 [14,15].

Family planning services are sensitive to cultural conditions and background. While these services are available in Qatar, there is little information on their uptake and the use of family planning methods by Qatari women. The aim of this study therefore was to determine the knowledge of and attitudes towards contraceptives, and the determinants of contraceptive use among Qatari women. Such information will be useful to maternal and child health policy-makers for future planning and organization of family planning services.

Methods

Study design

This was a prospective cross-sectional study based in the primary health care (PHC) clinics of Qatar. The survey was conducted only among Qatari married women aged 18–49 years old who had not reached menopause.

Sampling size and sampling procedure

In order to secure a representative sample of the study population, the sampling was stratified with proportional allocation according to stratum size. Stratification was based on geographical location. The sample size was determined with the *a priori* knowledge that the prevalence of family planning in

Qatar is similar to that previous reports [16] (43%) about the married Qatari female population, and allowing an error of 2.5% and 95% confidence limits. Thus the sample size needed to achieve the objectives of our study was estimated to be 1300 subjects.

A multistage stratified cluster sampling design was developed; Qatar was divided administratively into 21 primary health centres (PHCs) in terms of number of inhabitants. Then the 11 PHCs visited mostly by Qatari women (8 urban and 3 semi-urban) were selected; the remaining 10 PHCs were excluded from our survey. The 11 selected PHCs represented geographically, east, west, north, south and central locations of the country and hence were representative of the Qatari population. The women were selected by simple random sampling among married Qatari women aged 18–49 years registered and attending the PHCs for various medical conditions. Qualified nurses and health educators were trained to interview the women and complete a questionnaire. The interviewers explained the purpose of the study to the possible participants and assured the confidentiality of the data; those willing to participate gave verbal informed consent.

The study was carried out from April 2008 to October 2008 after getting approval from the Medical Ethics committee of the Hamad Medical Corporation. Data collection was carried out according to a schedule for PHC centres in the 7-month period.

Questionnaire and interview

The instruments used for data collection was designed in English and later translated to Arabic by a professional translator and reviewed for consistency by the investigators. The questionnaire included sociodemographic characteristics of the participant and her husband, followed by items related to socio-economic status, pregnancy history, knowledge of contraception, attitude towards contraception and current use

of contraception. The questionnaire also included some items to determine the causes for use and reasons for avoiding contraception.

Breastfeeding, withdrawal, safe period and isolation were defined as natural family planning methods. Intrauterine device (IUD) (the loop) is classified as medical methods. Vaginal cream/supplement, pills, injectable contraceptives, tubal ligation, condoms and emergency contraceptive were defined as modern methods of family planning.

The questionnaire was pre-tested for validity and reliability. It was tested to check if it was easy for the interviewers to understand the instructions and flow of questions. Prior to pre-testing in the field, the interviewers underwent training and were provided with instructions about the survey.

Data analysis

The Student *t*-test was used to ascertain the significance of differences between mean values of 2 continuous variables and the Mann–Whitney test was used for nonparametric distribution. Chi-squared analysis was performed to test for differences in proportions of categorical variables between 2 or more groups. Spearman's correlation coefficient was used to evaluate the strength of concordance between variables. $P < 0.05$ was considered as the cut-off value for statistical significance.

Results

A total of 1300 Qatari women were approached and 1130 consented to participate in this study, giving a response rate of 86.9%. Of these, 170 women were excluded, either due to incomplete questionnaires or they excused themselves before completing the questionnaire due to lack of time.

The mean age of the participating women was 32.5 [standard deviation (SD) 7.6] years. Table 1 shows the sociodemographic and baseline

characteristics of the study sample by knowledge, attitude and practice of family planning. The majority of the women (1070, 94.6%) reported that they had heard about contraceptives and mentioned one or more. Women under 25 years of age were more likely to lack knowledge of family planning 28.3% compared to 14.7% in the same age group who knew ($P = 0.036$). Knowledge of family planning was also associated with educational level; knowledge increased with increasing level of education ($P < 0.001$). Moreover in the lowest income group, 40% of the women did not know about contraception compared with 19.8% who did ($P = 0.002$).

Of the 1070 women who knew about contraceptives, 376 (35.1%) expressed an unfavourable attitude towards them (Table 1). More women over 40 years were not in favour of contraception compared to those who viewed favourably in the same age group: 25.8% versus 17.3% respectively ($P = 0.003$). The husband's age also played a significant and similar role in the participant's attitude ($P = 0.005$). Longer duration of marriage was also associated with a negative attitude towards family planning ($P < 0.019$). Education was also associated with attitude to contraception: more illiterate (12.0%) and primary-school educated (21.5%) women were not in favour of contraception compared to women with secondary school (5.6%) or college (14.8%) education ($P < 0.001$). Women with a history of abortion were more likely to be against contraception than those with no such history ($P < 0.001$).

Only 511 women out of the 1070 women who knew about family planning methods were currently using any family planning method (Table 1). The practice of family planning was strongly associated with women aged 30–39 years and husband's age group between 30–39 years ($P = 0.001$ and $P = 0.017$ respectively). The practice was more common among women who had been married for 5–14 years – 44.8% using

contraception compared to 38.3% not using ($P < 0.001$).

Table 2 gives the factors related to attitude towards and practice of family planning methods. Having a history of abortion was lower among women who were in favour of contraception compared with women who were not in favour (33.9% versus 44.7% respectively) ($P < 0.001$). Significantly more women in favour of and using contraception had husbands also in favour of contraception and discussed their choice with their husbands ($P < 0.001$). Over 80% of the women who were in favour of and using a contraceptive method thought they needed more information on the methods.

Modern methods of family planning (67.7%) were more commonly practised among those who currently use family planning method (Table 3). The use of traditional or natural method was 35.4%. IUDs (32.9%) and pills (30.1%) were the most common specific methods identified while condoms (7.8%), breastfeeding (4.5%), withdrawal (4.5%) and injectable contraceptives (2.7%) were the least common in current practice with the studied women. Most of the women who currently use contraceptives (71.0%) mentioned child spacing as the most common reason for using them, while very few (17.6%) women did not want have more children. In addition, 10.8% of the women used contraception on a physician's advice while only 0.6% women use contraception for economic reasons. Only 15.9% of the women who currently used contraceptives reported experiencing one or more side effects from the method. The most common complications identified by the women were bleeding (4.1%), severe headache (3.1%), abdominal pain (2.3%) and vaginal discharge (2.0%).

Figure 1 shows knowledge of the type of family planning method among women who had heard of family planning method. Women mostly knew about pills (90.0%) and IUDs (89.1%).

Table 1 Sociodemographic and baseline characteristics of the study sample by knowledge, attitude and practice of family planning (FP)

Variable	Know about FP No. (%) (n = 1070)	Don't know about FP No. (%) (n = 60)	P-value	In favour of FP No. (%) (n = 694)	Not in favour of FP No. (%) (n = 376)	P-value	Practise FP No. (%) (n = 511)	Don't practise FP No. (%) (n = 559)	P-value
Age (years)									
< 25	157 (14.7)	17 (28.3)		102 (14.7)	55 (14.6)		51 (10.0)	106 (19.0)	
25-29	273 (25.5)	13 (21.7)	0.036	195 (28.1)	78 (20.7)	0.003	138 (27.0)	135 (24.2)	0.001
30-39	423 (39.5)	18 (30.0)		277 (39.9)	146 (38.8)		216 (42.3)	207 (37.0)	
40-49	217 (20.3)	12 (20.0)		120 (17.3)	97 (25.8)		106 (20.7)	111 (19.9)	
Husband's age (years)									
25-29	209 (19.5)	17 (28.3)		140 (20.1)	69 (18.4)		82 (16.0)	127 (22.8)	
30-39	452 (42.2)	19 (31.7)	0.075	315 (45.4)	137 (36.4)	0.005	234 (45.8)	218 (39.0)	0.017
40-49	409 (38.2)	24 (40.0)		239 (34.4)	170 (45.2)		195 (38.2)	214 (38.3)	
Years married									
< 5	270 (25.2)	21 (35.0)		185 (26.7)	85 (22.6)		101 (19.8)	169 (30.2)	
5-14	443 (41.4)	17 (28.3)	0.097	298 (42.9)	145 (38.6)	0.019	229 (44.8)	214 (38.3)	< 0.001
≥ 15	357 (33.4)	22 (36.7)		211 (30.4)	146 (38.8)		181 (35.4)	176 (31.5)	
Educational level									
Illiterate	84 (7.9)	18 (30.0)		39 (5.6) [†]	45 (12.0)		24 (4.7)	60 (10.7)	
Primary	184 (17.2)	14 (23.3)	< 0.001	103 (14.8)	81 (21.5)	< 0.001	86 (16.8)	98 (17.5)	0.002
Secondary	351 (32.8)	16 (26.7)		239 (34.4)	112 (29.8)		172 (33.7)	179 (32.0)	
College/University	451 (42.1)	12 (20.0)		313 (45.1)	138 (36.7)		229 (44.8)	222 (39.7)	
Employment status									
Working	472 (44.1)	20 (33.3)		317 (45.7)	317 (45.7)	0.161	241 (47.2)	231 (41.3)	0.055
Not working	598 (55.9)	40 (66.7)	0.101	377 (54.3)	155 (41.2)		270 (52.8)	328 (58.7)	
Average monthly income (QR)^a									
< 12 000	192 (19.8)	20 (40.0)		113 (17.8)	79 (23.4)		76 (16.4)	116 (22.8)	
12 000-24 999	476 (49.0)	20 (40.0)	0.002	313 (49.3)	163 (48.4)	0.076	230 (49.6)	246 (48.4)	0.025
≥ 25 000	304 (31.3)	10 (20.0)		209 (32.9)	95 (28.2)		158 (34.1)	146 (28.7)	
Interval between last 2 deliveries (years)^a									
< 1	68 (8.0)	2 (4.8)		46 (8.0)	22 (8.0)		46 (10.0)	22 (5.6)	
1-< 2	287 (33.7)	18 (42.9)	0.417	205 (35.7)	82 (29.7)	0.213	148 (32.2)	139 (35.5)	0.055
≥ 2	496 (58.3)	22 (52.4)		324 (56.3)	172 (62.3)		266 (57.8)	230 (58.8)	
History of abortion									
Yes	403 (37.7)	17 (28.3)	0.146	235 (33.9)	168 (44.7)	< 0.001	182 (35.6)	221 (39.5)	
No	667 (62.3)	43 (71.7)		459 (66.1)	208 (55.3)		329 (64.4)	338 (60.5)	0.186

^aValid percentage shown. QR = Qatari riyals

Table 2 Factors related to attitude and practise of family planning (FP)

Variable	In favour of FP	Not in favour of FP	P-value	Practise FP	Do not practise FP	P-value
	No. (%) (n = 694)	No. (%) (n = 376)		No. (%) (n = 511)	No. (%) (n = 559)	
History of abortion	235 (33.9)	168 (44.7)	< 0.001	182 (35.6)	221 (39.5)	0.186
Have a child who died	21 (3.0)	15 (4.0)	0.404	19 (3.8)	17 (3.3)	0.667
Husband in favour of FP	598 (86.2)	141 (37.5)	< 0.001	453 (88.6)	286 (51.2)	< 0.001
Think it is right for married couple to decide how many children to have according to their economic situation	457 (65.9)	178 (47.3)	< 0.001	342 (66.9)	293 (52.4)	< 0.001
Discuss the choice of contraceptive method with husband	631 (90.9)	196 (52.1)	< 0.001	479 (93.7)	348 (62.3)	< 0.001
Think there is a need for more information on contraceptive methods	575 (82.9)	218 (58.0)	< 0.001	412 (80.6)	381 (68.2)	< 0.001

Table 3 Type of family planning (FP) method used, reasons for use, complications faced among women who practise FP (n = 511)

Variable	%
FP method^a	
Injectable	2.7
Withdrawal	3.7
Breastfeeding	4.5
Condom	7.8
Tubal ligation	10.4
Pills	30.1
Intrauterine device (loop)	32.9
At least one natural method	35.4
At least one modern method	67.7
Reasons for using current FP method^a	
Economic	0.6
Physician's advice	10.8
Do not want to have children	17.6
For child spacing	71.0
History of side-effects	
Reduced breast milk	0.2
Back pain	0.2
Irregular period/absence of period	0.2
High blood pressure	0.2
Anxiety	0.4
Intrauterine device rejection	0.4
Nervous/heart palpitation	1.0
Got pregnant	1.2
Nausea and vomiting	1.4
Obesity	2.0
Vaginal discharge	2.0
Abdominal pain	2.3
Severe headache	3.1
Bleeding	4.1
Any side-effect	15.9

^aMultiple answers were accepted thus percentages do not add up to 100.

Only 25% knew about injectable contraceptives, 17.1% about withdrawal, 15.9% about condoms and 11.3% about the safe period.

Friends were the most common source of knowledge about family planning methods among the women (80.0%), followed by physicians (35.8%) and relatives (34.8%). Health workers (12.6%), teachers (2.7%) and husband (0.9%) were uncommon sources of knowledge about family planning.

On the other hand, women who were not currently using any family planning method either wanted to have more children (34.5%) or believed that contraceptives have major side-effects (14.7%). Some women did not use contraceptive methods because of their husband's objection (7.0%) or for medical reasons (6.4%). Few women who did not use contraceptives considered it to be against their religious beliefs (3.0%) (Figure 2).

Discussion

Our study shows that the vast majority of women (1070, 94.6%) had heard about family planning methods and knew one or more method; intrauterine device and pills (30.1%) were the two methods most commonly known and

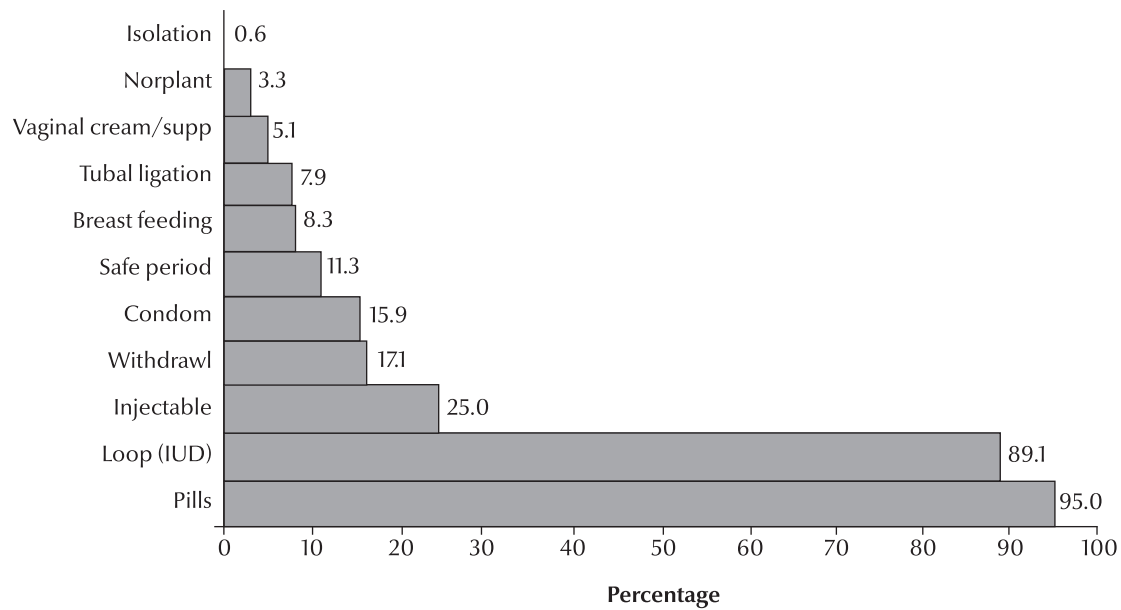


Figure 1 Knowledge of type of family planning method among women who had heard of family planning: multiple answers were accepted thus percentage do not add to 100% ($n = 1070$)

used. The knowledge of family planning was associated with education level, increasing with increasing level of education. This is consistent with a previous reported studies in the Middle-East region among Arabs [6,15–19]. Women with secondary education (32.8%) or those with college/university education (42.1%) were more likely to know about family planning compared with women with lower educational levels. Furthermore, fewer women with lower

monthly household income knew about contraceptives than those with higher income.

As regards use of family planning, illiterate women were the least likely to practise any family planning method and women with university or college education constituted the majority of the sample that were currently using any family planning method. Family planning was more common among women with higher household income which is

in agreement with studies reported in Jordan [6], Oman [15] and Turkey [17].

The number of clients with no children was very low. Considering the importance of contraception before a first pregnancy, the reasons why this group does not make use of the public family planning services needs to be determined. More emphasis on this area may be needed during premarital counselling. While premarital

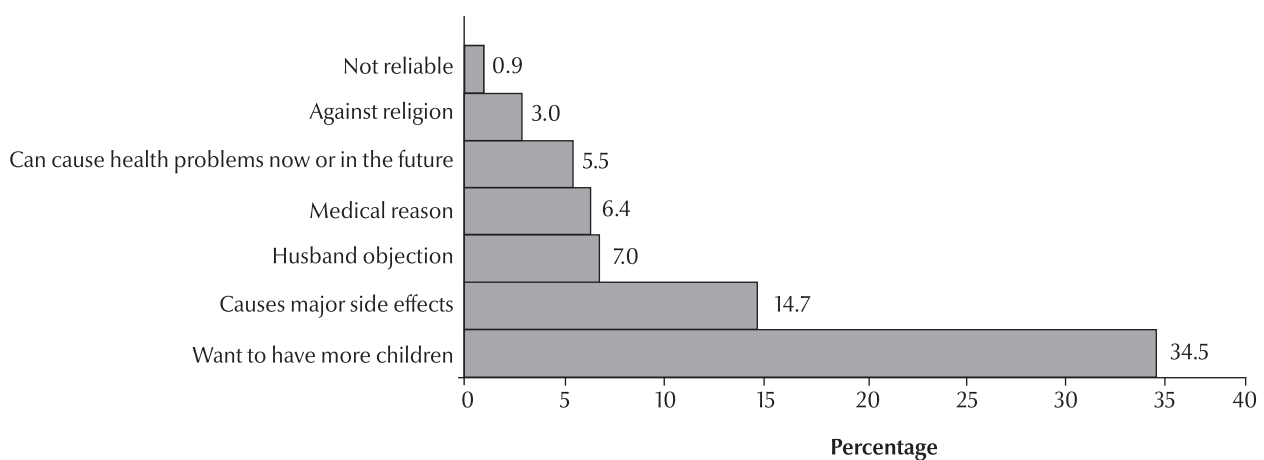


Figure 2 Reasons for not using any family planning method among participants who currently do not use any family planning method: multiple answers were accepted thus percentage do not add to 100% ($n = 559$)

counselling is not mandatory in Qatar it is shortly be introduced. Premarital counselling is one of the important measures which can help reduce the incidence of genetic diseases and can contribute to a healthier and happier married life.

It has been shown that the rate of discontinuation is higher among women who have not been adequately counselled about side-effects. Similar observations have been reported from other developing countries such as Pakistan [18] in Islamic Republic of Iran [19] in Botswana and Tanzania [20]. In a study among Pakistani rural women [16], a positive attitude towards contraception was found among (76%) of the women, while 41% stated their husbands' had a positive attitude towards contraception; this is consistent with in our study although higher.

Fertility transition in Arab countries occurred when the use of modern contraceptives was sanctioned by Islam.

Several legal opinions in Islamic jurisprudence on contraception indicate that Islam approves contraception use including the non-permanent modern methods [6,21–24]. Previous reported studies have also explained the contraception practices among Arab women in the context of Islam. In brief, Arab women tended to avoid the use of contraception unless they had decided they had had a sufficient number of children, particularly at a certain age, and to let God decide on the ideal number of children. In addition, men play a significant role in determining childbearing [22]. These sociocultural norms explain women's inconsistent behaviours (i.e. not wanting more children but not practising contraception) and the low effectiveness of contraception (e.g. short duration and/or high discontinuation rate of contraception use) [23,24].

The women who were in favour of family planning methods were likely also to be currently using contraception.

Moreover most of the women in favour of contraception believed that it was right for married couples to decide on how many children to have according to their economic situation and almost half of those not in favour also held this believe; this is consistent with previous reported studies [21–24].

Conclusions

Our results show that the knowledge of contraception was high among the women interviewed (95%) although only a small majority had a positive attitude to it (61%) and only minority (albeit a large minority) used contraception. Our research suggests that educational programmes are important to teach how family, individual, cultural and relationship environments influence decision-making about contraceptive use and child spacing.

References

1. Fisher AA et al. *Handbook for family planning operations research design*, 2nd ed. New York, Population Council, 1991.
2. Leke RJI. *Family planning in Africa south of the Sahara*. Geneva Foundation for Medical Education and Research (www.gfmer.ch/Books/Reproductive_health/Family_planning_Africa.html, accessed 18 October 2010).
3. Moronkola OA, Ojediran MM, Amosu A. Reproductive health knowledge, beliefs and determinants of contraceptives use among women attending family planning clinics in Ibadan, Nigeria. *African Health Sciences*, 2006, 6:155–159.
4. Fertility and Contraceptive Use. UNICEF Statistics (<http://unstats.un.org/unsd/demographic/products/Worldswomen/Gender%20statistics%20sources.htm>, accessed 11 November 2010).
5. UNFPA State of World Population 2004: Reproductive Health and Family Planning (www.unfpa.org/swp/2004/english/ch6/index.htm, accessed 18 October 2010).
6. Sueyoshi S, Al-Khozha HO, Ohtsuka R. Effects of reproduction norms on contraception practice among Muslim women in Amman, Jordan. *European Journal of Contraception & Reproductive Health Care*, 2006, 2006, 11:138–145.
7. Obuekwe IF, Marchie CL. Family planning: a possible intervention in maternal mortality. The regional Institute; 25th Congress of the Medical Women's Association (www.regional.org.au/au/mwia/papers/full/33_flossy1.htm, accessed 18 October 2010).
8. Population Resource Center website. Executive summary: maternal mortality and morbidity (http://www.prcc.org/files/Maternal_Mortality.pdf, accessed 11 November 2010).
9. Annual Health Report for the year 2009, Department of Epidemiology & Medical Statistics, Hamad Medical Corporation, July 2010.
10. Ronsmans C, Campbell O. Short birth intervals don't kill women: evidence from Matlab, Bangladesh. *Studies in Family Planning*, 1998, 29:282–290.
11. Atighetchi D. The position of Islamic tradition on contraception. *Medicine and Law*, 1994, 13(7–8):717–725.
12. Dharmalingam A, Morgan SP. Pervasive Muslim-Hindu fertility differences in India. *Demography*, 2004, 41:529–545.
13. *Family planning for the future*. Baltimore, Johns Hopkins School of Public Health, 1999 (Population Reports, Volume XXVII, Number 2) (Series J, Number 49) (www.infoforhealth.org/pr/j49/j49chap11.shtml, accessed 18 October 2010).
14. WHO Statistical Information System (WHOSIS). Core health indicators (www.who.int/whosis/database/core/core_select.cfm, accessed 18 October 2010).
15. Al Riyami A, Afifi M, Mabry RM. Women's autonomy, education and employment in Oman and their influence on contraceptive use. *Reproductive Health Matters*, 2004, 12:144–154.
16. Al-Jaber K, Farid SM. *Qatar Family Health Survey, 1998*. Doha, Qatar Ministry of Health.
17. Cindoglu D, Sirkeci I, Sirkeci RF. Determinants of choosing withdrawal over modern contraceptive methods in Turkey.

- European *Journal of Contraception & Reproductive Health Care*, 2008, 13:412–421.
18. Mustafa R, Afreen U, Hashmi HA. Contraceptive knowledge, attitude and practice among rural women. *Journal of the College of Physicians and Surgeons--Pakistan*, 2008, 18:542–545.
 19. Simbar M et al. Quality assessment of family planning services in urban health centers of Shahid Beheshti Medical Science University, 2004. *International Journal of Health Care Quality Assurance Incorporating Leadership in Health Services*, 2006, 19:430–442.
 20. Miller K et al., eds. *Indicators of readiness and quality: basic findings. Clinic-based family planning and reproductive health services in Africa: Findings from situation analysis studies*. New York, Population Council, 1998:31–85.
 21. Musallam BF. Why Islam permitted birth control. *Arab Studies Quarterly*, 1981, 3:181–197.
 22. Petro-Nustas W. Men's knowledge of and attitudes toward birth spacing and contraceptive use in Jordan. *International Family Planning Perspectives*, 1999, 25:181–185.
 23. Sueyoshi S, Ohtsuka R. Effects of polygyny and consanguinity on high fertility in the rural Arab population in South Jordan. *Journal of Biosocial Science*, 2003, 35:513–526.
 24. Sueyoshi S, Ohtsuka R. Ineffective contraceptive use and its causes in a natural fertility population in southern Jordan. *Human Biology*, 2004, 76:711–722.

Selected practice recommendations for contraceptive use

Selected practice recommendations for contraceptive use (second edition) is one of two evidence-based cornerstones of the World Health Organization's new initiative to develop and implement evidence-based guidelines for family planning. The first cornerstone, the *Medical eligibility criteria for contraceptive use*, 4th edition is about to be published, and offers guidance on the safety of use of different methods. *Selected practice recommendations for contraceptive use* provides guidance for how to use contraceptive methods safely and effectively once they are deemed to be medically appropriate. The document provides selected practice recommendations based on the best available evidence and is intended to be used by policy-makers, programme managers, and the scientific community. It aims to provide guidance to national family planning/reproductive health programmes in the preparation of guidelines for service delivery of contraceptives.

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