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Original Research Article

Contraception use among Muslim women in Alexandria, Egypt: a descriptive pilot study

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ABSTRACT

Background: This pilot study aimed to create a questionnaire survey directed to understand knowledge gaps related to contraception among Muslim women in Alexandria, Egypt, so potential interventions could be designed to enable more informed decision-making. The project was a mixed-method, cross-sectional study using a questionnaire survey.

Methods: Participants were randomly selected at outpatient clinics at Alexandria university hospitals in September and October 2020. The inclusion criteria were to be an 18 year old or older woman and able to give consent. The recruitment goal for this pilot study was 100 participants. The consented participants were interviewed about demographics, socio-structural and contraception use. The questionnaire was tested using a focus group of 11 women. The study data was collected using KoBoToolbox and exported to the SPSS software for descriptive analysis. The primary outcome was to validate the survey questionnaire and the secondary outcome to assess knowledge regarding contraception methods and emergency contraception.

Results: The age of study participants ranged from 18-60 with a mean of 34 years. Almost all participants had previously heard of various contraceptive methods and 75% used them before. The majority did not know about emergency contraception. Most respondents had a favorable attitude toward family planning, and their primary sources of information were family and friends.

Conclusions: Preliminary findings show that most women knew about contraception methods, though few of them heard of emergency contraception. Because of the patriarchal nature of Egyptian society, family planning education should target the whole population.

Keywords: Contraception, Emergency contraception, Family planning, Awareness

INTRODUCTION

Egypt started implementing a family planning program in 1965 to reduce the wide demographic gap due to declining

mortality rates and a consistently high birth rate.¹ Even though Egypt's fertility rate and annual population growth rate have significantly decreased over time, the United Nations population division estimated Egypt's average

fertility rate between 2015 and 2020 to be 3.33 live births per woman and its average annual population growth rate to be 2.03%. These estimates are higher than the global average of 2.47 live births per woman and a world population growth rate of 1.09%, making Egypt the country with the 57th highest fertility rate and the 54th highest population growth rate worldwide.² In recent years the fertility rate has been on a slightly upward trajectory again. Increased religiosity has often been mentioned as a possible reason for this upturn in the wake of the Arab spring movement, but lack of employment opportunities for young, often highly educated women is a more plausible explanation.³

Most women of reproductive age in rural areas know little about family planning methods and some common knowledge may even be false or misleading.⁴ This lack of knowledge negatively affects women's attitudes toward family planning. The unintended pregnancies mostly result from poor understanding as well as non-use, inconsistent or incorrect use of effective contraceptive methods.⁵ Low utilization of modern contraceptive methods leads to unintended pregnancies and closely spaced births, which increases the risk of maternal complications and mortality. One of the common results of unintended pregnancy is abortion, an outcome, for which there are few if any, data in developing countries as it is not generally reported. Also, unintended pregnancies are associated with an array of risky health behaviors such as domestic violence, decreased likelihood of breastfeeding and poor antenatal care.⁶

Emergency contraception, also known as postcoital contraception, is a therapy used to prevent pregnancy after unprotected or inadequately protected sexual intercourse. Common indications for emergency contraception include contraceptive failure (e.g. condom breakage or missed doses of oral contraceptives) and failure to use any form of contraception.⁷

Egypt's social and cultural customs promote large families, making it difficult to adopt modern reproductive behavior.⁸ Patriarchy builds on subordination, the head of the family, the father, makes all the decisions and the rest of the family members are bound to obey.⁹ The largely rural population, like that in Egypt, has inadequate infrastructure, services as well as low literacy rates, especially among women.¹⁰ This is true in Alexandria's rural provinces, which lack skilled antenatal, labor and delivery care. There are missed opportunities in general healthcare, as maternal reproductive care is not integrated with the infants' and children's existing health care, creating further barriers to increasing birth control methods.⁹

This pilot study aimed to determine the psychometric properties of sociocultural attitude towards appearance questionnaire of contraception and emergency contraception among Muslim women in the city of Alexandria in Egypt, with the long-term goal of

implementing the questionnaire on a larger sample size (3000 participants) to understand the factors that influence the women decisions and designing educational intervention programs to support informed decision-making regarding family planning.

METHODS

The study design was a quantitative, cross-sectional study using a questionnaire survey among women from Alexandria and the neighboring provinces. It was carried on Alexandria university hospital from September 2020 till the end of October 2020. The reason it was chosen because it was the largest university hospital in Northern Egypt, located in Alexandria, the second most populous governorate in Egypt. The population of Alexandria was about 5.1 million, with most residents living in urban areas. As expected, about half of the residents were females. Participants were randomly selected from patients who presented to primary care centers and outpatient clinics in Alexandria university hospitals to assess the level of knowledge about family planning. Criteria for inclusion were that participants were females between 18 and 55 years old and able to give valid consent. Participants excluded if they were below 18 or cannot give consent.

An evidence-based stepwise approach for the validation of the questionnaire was adopted.^{11,12} The research team consisted of 3 physicians and 4 research assistants (medical students). All team members were trained in administering the questionnaire. The study had 3 phases of data collection; the first phase was composed of a focus group for testing face validity, the second phase was an expert phase where specialized professionals discussed the content of the questionnaire and the third phase was an interview-based questionnaire (qualitative data).

The focus group participants (11 women) were volunteers attending the university of Alexandria obstetrics/gynecologic hospital outpatient clinic, who were recruited by the clinic nurses to participate. The research team explained the goals of the study and the participants consented to provide feedback about whether they understood the questions in the survey. They were also encouraged to answer the questions to understand nuances within the possible answers. These answers were not included in the analysis and they were solely used to fine-tune any questions that were unclear or needed further modification. So, seven questions were chosen to be included in the focus group process based on their importance in the study and whether the study team thought they needed further clarification. The questions were arranged according to the pertinence to a common topic. The total time of the focus group discussion was 25 minutes.

The moderator's first question to the participants of the focus group was whether they had heard of contraception before, all 11 participants answered affirmatively. The

second question was about the perceived purpose of contraception in family planning, which was, for most women, to allow for time between pregnancies to benefit both the mother and the children. The third question was about contraception methods that were commonly used in the community. The following question was about the side effects they had experienced due to the use of contraception. The next question was about general knowledge of emergency contraception, which none of the 11 women had heard of before. The participants were also asked about the impact of husbands, parents-in-law and religion on family planning. The final question was whether any of the participants had an abortion. Three of the eleven women had abortions, two had them spontaneously and one had a cesarean hysterotomy at six months due to a fetal health problem. After the questions were fine-tuned through focus group discussions and expert feedback, the study team started to administer the survey. Modifications were made to the order of the questions as well as paraphrasing.

The following step was the main survey administration. Participants were randomly selected from the same pool attending the Alexandria university hospitals. The study team approached 124 women; 110 of whom accepted to participate and were eligible for the survey, according to the inclusion and exclusion criteria. The interviews were conducted in Arabic (Egyptian dialect) and approximately lasted 15 minutes. The participants were interviewed in natural settings with no benefits or compensation offered. To keep the confidentiality of participants, no participant identifiers were asked or recorded. The survey included questions about socio-demographic circumstances, knowledge of contraceptive methods, source of that knowledge, the current methods of contraception used, any known side effects and the level of involvement of the husband or other family members.

Statistical analysis

The study data was collected via KoBoToolbox, a secure open-source toolkit based on the OpenDataKit system and the data are stored on servers hosted by Amazon Web Services (AWS) in the US. The survey questions and answers were provided in both English and Arabic (Egyptian dialect). Data was exported from the KoBoToolbox and imported into SPSS (IBM SPSS Statistics 24.0.0.0) for descriptive statistical analyses.

Ethical considerations

Alexandria university ethics and research committee approval for research and verbal consent was obtained before starting the study and ethical considerations were accounted for throughout the whole process of data gathering. All study procedures were carried out following the Declaration of Helsinki regarding research involving human subjects.

RESULTS

Qualitative analysis (focus group)

During face validation, all the women indicated that all the questionnaire questions were clear and related to the reproductive women's life. The impact scores of all the items were above 1.5. As for content validity and based on the participants' opinion, items 6, 14 and 37 required reviews and modification. For example, questions changed from what are the reasons precluding women to practice contraception? to what is the purpose of family planning to you? and what do you know about emergency contraception? to have you ever heard about emergency contraception methods? With experts' opinions about the value of each item, CVR was calculated. Afterward, CVI was calculated to be between 0.89 and 1 for all the items. Moreover, the means of CVR and CVI were, respectively, 0.81 and 0.91 for the whole questionnaire.

Demographic characteristics

A total of 110 respondents out of 124 accepted and consented to participate in the survey. The mean age of participants was 36.5 (range=18-55) and the ethnic distribution of the sample was comparable to that of the community studied. Among the participants, 23.6% were pregnant at the time of the survey, 58.2% never finished any formal education; 17.1% were illiterate 40.9% were just able to read and write, 12.7% went to college. 80% did not have a job and 72.7% had household incomes below \$100,00 per month (Table 1).

Contraceptive knowledge and actual use

The respondents showed a majority having heard of family planning methods (97.3%). Most respondents knew the hormonal method (97.2%) including oral contraceptive pills (94.4%), contraceptive injections (86.9%) and subcutaneous implants (72%). The majority knew intrauterine devices (96.3%), while a minority of respondents (5.6%) showed knowledge of spermicides, which were the least commonly used methods in the community. When asked whether they had heard of emergency contraception, only 10.9% of participants responded with affirmation; 66.7% of whom heard of ECP and 16.7% of IUD as emergency contraception methods.

In addition, most of the participants reported previous use of contraception (77.6%) while 22.4% never used any family planning methods. Hormonal methods and IUDs were the most popular methods (57% and 57.9% respectively), while permanent methods and spermicides were the least utilized. Participants who never used contraception (22.4%) reported desiring fertility (70.8%) and not being sexually active (20.8%) as a reason to not use any method. This data was demonstrated in Figure 1.

Table 1: Demographics (n=110).

Demographics	N (%)
Age	
Mean±SD	34±10
Gender	
Female	110 (100.0)
Residence	
Alexandria	84 (76.4)
Other cities	26 (23.6)
Marital status	
Married	100 (90.9)
Divorced	3 (2.7)
Widowed	1 (0.9)
Single	6 (6.5)
Pregnancy status	
Pregnant	26 (23.6)
Non-pregnant	84 (76.4)
Number of children	
Mean±SD	2.28±1.56
Age of youngest child (n=91)	
Younger than 1 year old	6 (6.6)
One year old to younger than 5 years old	30 (33.0)
5 years old to younger than 10 years old	30 (33.0)
10 years old to younger than 15 years old	12 (13.2)
15 years old to younger than 18 years old	5 (5.5)
18 years old or older	8 (8.8)
Gender of youngest child (n=91)	
Female	41 (45.0)
Male	50 (55.0)
Religion	
Muslim	110 (100.0)
Education level	
Illiterate	19 (17.3)
Elementary education and vocational degree	70(63.6)
High school or college or postgraduate degree	21 (19.1)
Monthly income EGP=15.69 USD	
Below 1700	80 (72.7)
Above 1700	30 (27.2)
Work status	
Yes	22 (20)
Does not work (student, on pension, and does not work)	88 (80.0)

Knowledge about side effects

The majority of participants (91.5%) identified one or more side effects of contraceptive methods. More than half of participants did hear about either gynecological, fertility, or sexual side effects of contraceptive methods as well as systemic changes like weight changes, back pain,

fatigue, hyperpigmentation or osteoporosis. On the other hand, a striking minority of only 4.1% were aware of the thrombotic side effects. Regarding adverse effects that were actually experienced, only 12.8% of those that were using a contraceptive method reported no side effects whereas 87.2% experienced one side effect or more. To expand, 48.9% of the participants reported gynecological, fertility or sexual problems. Additionally, 29.8% reported systemic changes including weight changes, back pain, fatigue, hyperpigmentation or osteoporosis. Less commonly reported side effects included mood changes and headache in 8.5% of participants and exacerbation of pre-existing morbidities (obesity, diabetes, hypertension or cancer) in 4.3%. The comparison between the knowledge and experience of contraception adverse effects are demonstrated in Figure 2.

Family planning source of knowledge

Figure 3 illustrates the source of participants' knowledge about family planning was found to be mainly (46.8%) through health education carried out by the healthcare workers and then through some advice from family and friends (38.3%). While media, religious sources, books, flyers and other methods constituted almost 15% combined.

Attitude towards contraception

Most of the respondents (n=66) (79.6%) felt safer in their intimate relationships upon using contraception while 15.6% did not feel as safe. And most of them (76.6%) did not feel embarrassed to discuss contraception with their partner, while 16.9% felt embarrassed to discuss such matters (Table 2).

The sociocultural factors were also assessed among participants in Table 3. The majority thought that their religious beliefs and cultural background did not affect their opinion on contraception (69.1% and 79.4% respectively), while less than 1/4th of the participants had their religious beliefs and cultural background influencing their opinion on contraception (24.3% and 16.9% respectively). Nonetheless, over half the participants thought that religious beliefs and cultural background affect the community's view on contraception (51.4% and 52.3% respectively), while around 34% thought they did not. Regarding family influence, 59.8% of the participant's opinion on contraception was influenced by their partner's opinion whilst 30.8% were not influenced by their partner's opinion. On the contrary, only 34.7% were influenced by their parents-in-law's views on contraception, while 65.4% refused or denied any interference by their parents-in-law's views.

Unplanned conception and emergency contraception

Almost one-third of the participants (35.1%) had an unplanned pregnancy, 79.4% of those continued with it while only 14.9% attempted abortion and 5.8% had a

spontaneous one. Most of the study participants (89.1%) had no prior knowledge of emergency contraception as a

concept or EC methods. Those who knew (10.9%), identified (ECP) as a possible method.

Table 2: Attitude assessment.

Questions	Responder (%)	Disagree		Neutral		Agree	
		No.	%	No.	%	No.	%
Using contraception gives a safe sensation during a sexual relationship.	83	13	15.6	4	4.8	66	79.6
Discussions about contraception are embarrassing	107	82	76.6	7	6.5	18	16.9
My partner does not approve of our use of contraception	83	69	83.1	1	1.2	13	15.7

Table 3: Sociocultural factors (religion, tradition, and family) and attitude towards contraception.

Questions	Responder (%)	Disagree		Neutral		Agree	
		No.	%	No.	%	No.	%
Religious beliefs affect my opinion on contraception	107	74	69.1	7	6.5	26	24.3
Religious beliefs affect the community's opinion on contraception	107	36	33.7	16	14.9	55	51.4
Cultural beliefs affect my opinion on contraception	107	85	79.4	4	3.4	18	16.9
Cultural beliefs affect the community's opinion on contraception	107	36	33.8	15	14.0	56	52.3
The husband's opinion on contraception affects the wife's use of it	107	33	30.8	10	9.4	64	59.8
The partner's parents' opinion on contraception affects the couple's use of it	107	70	65.4	2	1.9	25	34.7
I would encourage the use of contraception methods to others	107	6	5.6	5	5.6	95	78.8
I am satisfied with the contraception method I or my partner are using at present	47	10	21.3	3	6.4	34	72.4
Contraception should not be used before having at least one child	107	11	10.3	5	4.7	91	85.0
Contraception should not be used before having at least a male child	107	94	87.8	6	5.6	7	6.5

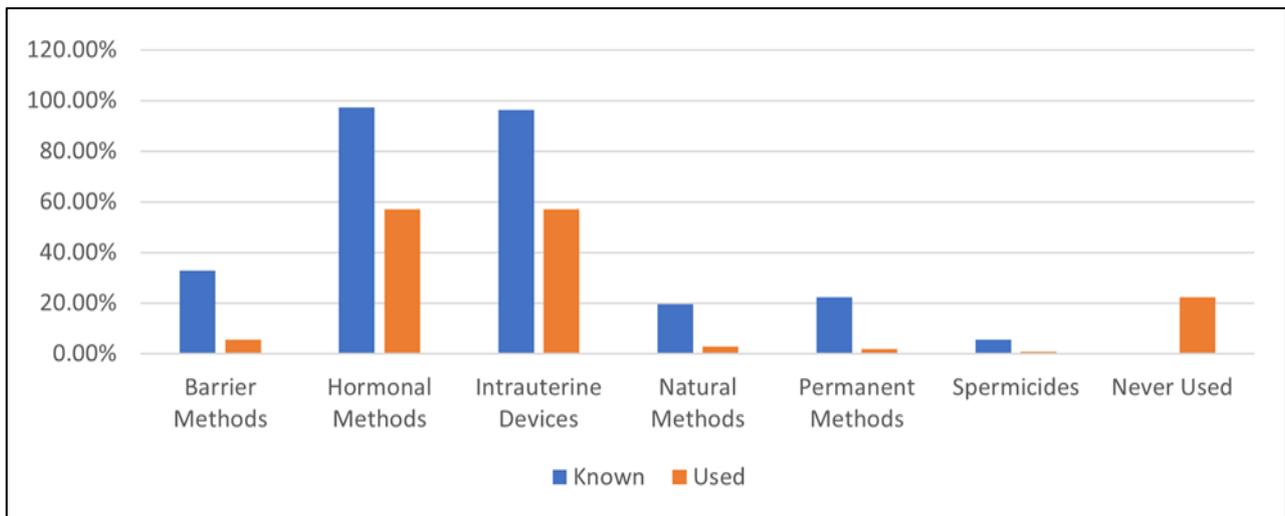


Figure 1: Comparison between contraceptive methods known and used.

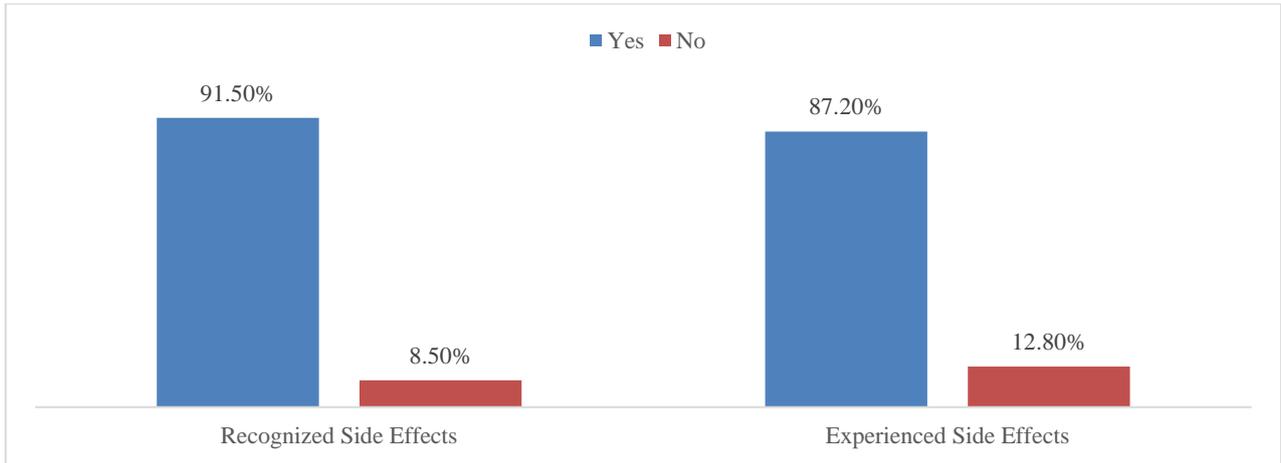


Figure 2: Knowledge and experience of side effects related to use of contraceptives.

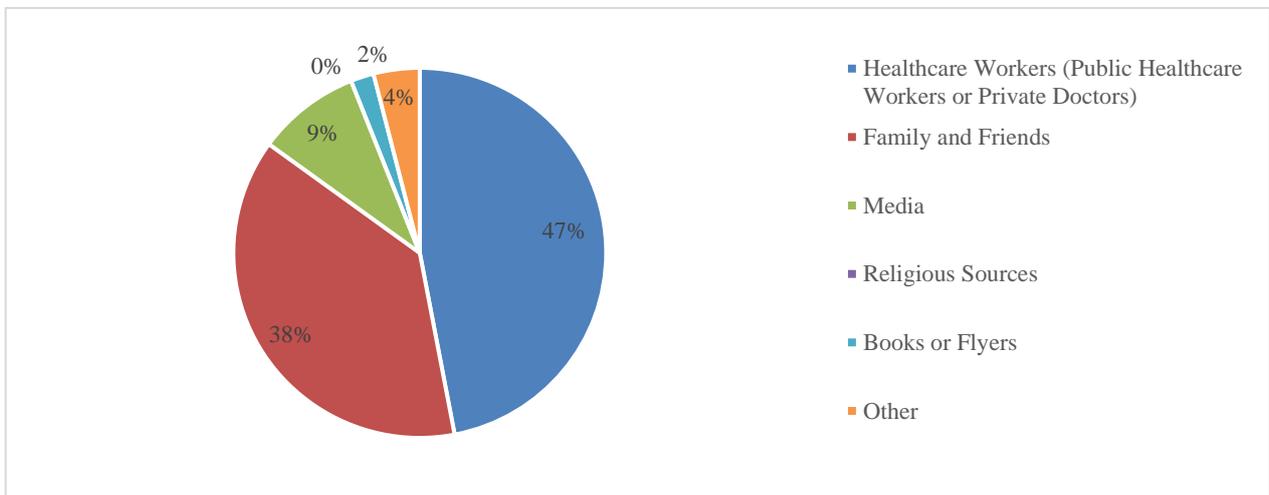


Figure 3: Contraceptive knowledge sources.

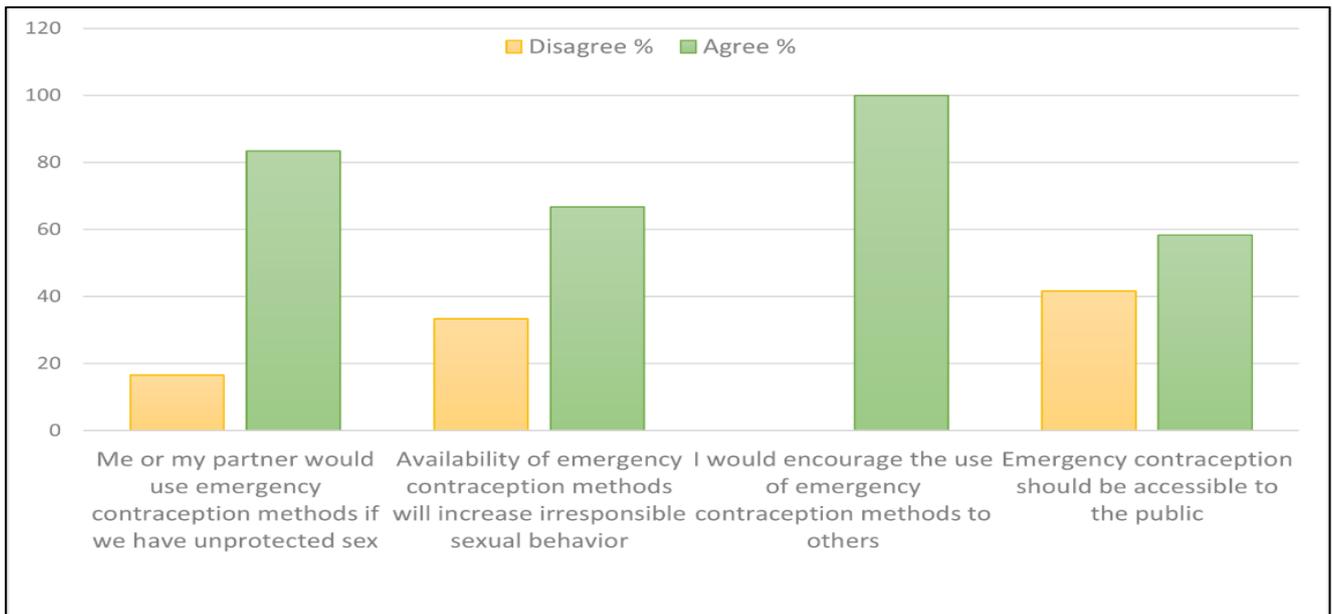


Figure 4: Attitude towards emergency contraception.

As regard attitude towards EC, most participants (83.4), even those who did not have prior knowledge of the concept and when it was explained, approved largely for the use of EC. All respondents agreed that they would advise their friends and family to use EC methods if they needed and they are available. More than 50% also agreed that EC methods should be accessible to the public. However, over two-thirds of the surveyed women thought that the availability of such methods would encourage irresponsible sexual behaviors (Figure 4).

DISCUSSION

The main purpose of the pilot was to explore the women's behavior toward the CP and test the acceptability of the survey tool for Muslim women living in Alexandria. The survey scales had sensitive questions related to religion and Muslim culture. During the pilot testing, we confirmed our sampling strategy and its adequacy to reach our target group, accounting for non-response and refusal rates. We found that the tools were suitable for the target group when the questionnaire was facilitated by the team members to account for the level of education of the participant.

There were 110 women of different social and financial backgrounds were interviewed for this study. Even though there had been very little organized sexual education in Egypt, participants indicated that the governmental family planning initiatives had potentially been successful.¹³ However, the barriers to knowledge were apparent regarding contraception methods and their use. Healthcare workers, especially primary care physicians must have the knowledge and favorable attitude towards the practice of family planning.

The results of this study showed that almost all of the respondents had knowledge about family planning and their major source of information was family and friends. This was in contrast with data from other studies from the region, which reported primary care physicians as the primary source of family planning information in Cameroon and the United Arab Emirates.^{14,15} This comparison showed that primary healthcare providers needed to get more involved in the discussion about family planning and contraception. The study also showed that even though emergency contraceptives were legally available in Egypt, there was very little known about them among young women as reported also by Ibrahim et al.¹⁶ These results indicated the need to constantly adopt health awareness programs.

Strengths and limitations

The obstetrics and gynecology clinicians, residents and nursing staff were welcoming, helpful and made data collection easy. Most of the patients attending the clinics were cooperative and willing to participate in the questionnaire offering their time graciously. The questionnaire was easily understood by almost all participants using local vocabulary and concise questions.

All data collectors were Egyptian physicians, who made it easier for women to open up and answer the questions. We found that the training the data collectors received was adequate to conduct the study, we will use the same team to conduct the main future study.

Our study harboured some limitations.

The number of patients attending the clinics daily was limited due to COVID-19 nationwide restrictions and hospital policies during the pandemic. Hence, conducting interviews in personal protective equipment was inconvenient and communication between the interviewer and the participant was sometimes difficult. Personal protective equipment such as masks and hand sanitizers were provided by the interviewers, not by the hospital as the project was not funded. The interviewing team members were of both genders which made refusal rates were higher for male team members. Responses to some questions were commonly given to female interviewers but rarely to male interviewers suggesting that there may be different responses according to the gender of the interviewer. However, in Egypt, the field of ob/gyn and primary care centers, where most women can get contraception are practiced by both female and male physicians and are socially acceptable. As a result, the presence of a male interviewer would be a true representation of what women might encounter while seeking contraception advice.

Social desirability bias was when participants answered questions a certain way so they would be more accepted. Muslim women were very sensitive about sexuality so there was a risk of participants answering questions based on what was expected from them instead of the truth.^{17,18} To avoid this, the interviewer made sure that the interview settings were private, ensured the participants multiple times that the interviews were anonymous and that there was no way that anyone would ever know what they answered to a question.

CONCLUSION

To conclude, women of reproductive age know little about modern family planning methods and the low utilization of them can lead to unintended pregnancies, closely spaced births and maternal complications, and mortality. With this pilot testing, we confirmed the sampling strategy and its adequacy to reach our target group accounting for non-response and refusal rates. Also, confirmed that knowledge of contraceptive methods, and emergency methods, in particular, is lacking. These results indicate the need of constantly implementing health awareness programs.

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