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Contraception and family planning: knowledge, attitude, pattern of use, and barriers among females in Gharbia Governorate, Egypt

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Abstract

Aims

Most contraceptive methods are designed to be used by women due to the paucity of effective contraceptive options for men. This study aimed to assess knowledge, attitude, and family-planning (FP) practice among women of reproductive-age group in Gharbia Governorate, Egypt.

Materials and materials

A self-administered questionnaire was developed and adapted from previous studies. Scores were used to assess the levels of knowledge, attitude, and practice concerning FP.

Results

The questionnaire was answered by 430 women. Current use of contraceptives was stated by 81.9%. The commonest methods included intrauterine device (44%), oral pills (20.7%), and injectables (8.4%). Knowledge was good, fair, and poor in 34.2%, 60.2%, and 5.6% of participants, respectively. Attitude was positive in 95.3%. Practice of FP was good in 67.9%. The most common barriers included fear of side effects (27.2%), lack of knowledge (23.3%), husband's refusal (13%), and for religious reasons (6.5%). Good knowledge was significantly associated with full-time job of women ($P < 0.001$), professional job of husband ($P = 0.002$), and high income ($P = 0.004$). Attitude was not significantly associated with sociodemographic characteristics ($P > 0.05$). Good practice was significantly associated with age ≥ 30 years ($P = 0.037$) and family size above 4 ($P = 0.002$). Knowledge and practice scores were significantly and positively, though weakly, correlated with the attitude score ($r_s < 0.3$, $P < 0.05$).

Conclusion

The overall knowledge and attitude of respondents was good, but practice needs to be improved. Future campaigns and FP counseling should address the misconceptions about contraception, particularly side effects. Other barriers should be approached to ensure meeting of FP needs of couples.

Keywords: Contraception, questionnaire, survey, women

INTRODUCTION

Contraception has become a focus of interest in medical practice to ensure good health of mothers and children by spacing pregnancies and avoiding unwanted pregnancies [1]. Social studies have demonstrated underuse of contraceptive methods in several countries [2,3].

Most contraceptive methods are designed to be used by women [4]. Therefore, assessment of women's knowledge,

attitude, and practice is pivotal for health organizations for developing and implementing the strategies of family planning (FP).

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The Egyptian FP program started in the late 1960s but began to show real impact in the 1980s, when contraceptive use reached ~30% in 1984 and then increased to 45% by 1992 [5]. A FP campaign was released in Egypt with the slogan “Two is enough.” The population of Egypt is currently about 102 million and is expected to double by 2078 [6].

Assessment of women’s knowledge offers insight into the misconceptions that may negatively impact their attitude and practice. Moreover, identification of barriers that hinder the use of contraceptive methods helps reaching the goals of stabilizing population growth. Therefore, the present study was conducted to assess knowledge, attitude, and practice of FP among women of reproductive-age group in Gharbia Governorate, Egypt.

PARTICIPANTS AND METHODS

Study design, settings, and ethical considerations

This was a cross-sectional study conducted during September 2019 through September 2020.

Sample-size calculation

Using Epi-Info statistical software package created by World Health Organization and Centre for Disease Prevention and Control, Atlanta, Georgia, USA, in 2002, the sample size was calculated at $N > 384$ with 95% confidence level and a margin of error 5%. Adding a 10% attrition percentage to account for incomplete responses yielded a final sample size of 422 participants.

Eligibility criteria

We included married females within the childbearing age (18–49 years) residing in Gharbia Governorate, Egypt, and attending family health unit (FHU) or Tanta University Hospital (TUH).

Methods

A self-administered questionnaire was adapted from previous studies [5,7–12], translated into Arabic, and validated. It was tested on a pilot sample (40 women, not included in the final analysis) to ensure clarity and understanding of questions.

It consisted of 41 questions arranged into four parts: (a) sociodemographic data and sources of information, (b) knowledge, (c) attitude, and (d) practice of participants.

The sociodemographic data included the age, weight, height, woman’s level of education and husband’s level of education, employment status of the wife and husband, and annual income of the family. Questions about knowledge sources were asked about both the first source of information and the preferred source.

For exploring knowledge, attitude, and practice, ten questions were used for each domain. A scoring system was developed for knowledge by assigning one point for each correctly answered question (questions 9–18) and zero for incorrect answers or “do not know” response. The total score of knowledge ranged from zero to ten: eight points and above indicated good knowledge, five to seven indicated fair knowledge, and below five indicated poor knowledge.

A similar score was used to assess attitude (questions 19–30, except for questions 27 and 28). A total score of five or above was considered positive attitude, whereas a total score less than five was considered negative attitude.

For assessment of practice level, a score was also used that included questions 31–40 (excluding question 38). Two points were assigned for answers of good practice, one point for poor practice and zero for no practice. The total practice score ranged from 0 to 18. A score of nine or above indicated good practice, whereas a score below nine indicated bad practice.

Statistical analysis

The participants’ responses were analyzed using SPSS for Windows, version 26 (IBM Corp., Armonk, NY). The qualitative variables were summarized as frequencies. Pearson’s χ^2 test or Fisher’s exact tests were used to examine the association between two categorical variables as appropriate. Spearman’s ranked-order correlation was used to assess the correlation between scores, considering the level of significance as $P < 0.05$.

RESULTS

Characteristics of the participants

The present study included 430 participants. A slightly higher percentage of participants were recruited from TUH compared with FHU (59.5% vs. 40.5%). Women aged 18 to less than 30 and those above 30 years constituted 44.9% and 55.1% of respondents, respectively. About two-thirds resided in rural regions. Most women had body mass index (BMI) above the average (79.4%). Approximately one-fifth of the respondents had primary or higher education, whereas those with middle/secondary educational degree accounted for 56.5%. About two-thirds of husbands had high educational level. Only 18.5% and 16.1% had primary or middle/secondary degree, respectively. Most respondents were housewives (68.8%), and only 16.7% had full-time job. Husbands worked in skilled jobs in 40.9%, professional jobs in 29.8%, and unskilled jobs in 29.3% of cases. Most respondents (63.3%) had a family consisting of four or more members. The income was stated to be enough, not enough, and more than enough in 61.2%, 27.9%, and 10.9% of cases, respectively (Table 1).

Knowledge about contraceptive methods

The main source for knowledge was healthcare providers (43.6%), followed by family/friends (31.9%), media (17.2%), and school education (7.2%). The preferable source for knowledge followed the same order but with a higher percentage preferring healthcare providers and lesser percentage in all other sources.

School education about reproductive health or contraceptive-related issues was received by 24.9%, whereas educations concerning these issues were received before marriage by 39.2% of participants. The difference between birth spacing and limitation and the ideal interpregnancy interval was known by 60.1% and 40% of respondents,

respectively. The indications and contraindications of FP methods were known by 20.5%. The side effects and failure rates of contraceptive methods were known by 42.3% and

47%, respectively (Table 2). Most (97.7%) participants heard of one or more FP method, whereas only 2.3% did not hear of any of the methods listed in the questionnaire. The most known methods were intrauterine device (85.1%), oral contraceptive pills (81.6%), injectable (58.8%), skin patch (18.6%), cap/diaphragm (17.4%), female sterilization (7%), withdrawal (3.5%), spermicidal jellies (2.3%), condom (1.9%), lactational amenorrhea (1.4%), and rhythm method (0.2%) (Fig. 1).

Table 1: Sociodemographic characteristics of the participants

Questions	n (%)
Place	
TUH	256 (59.5)
FHU	174 (40.5)
Age	
<30 years	193 (44.9)
≥30 years	237 (55.1)
Residence	
Rural	277 (64.4)
Urban	153 (35.6)
BMI	
Underweight	4 (1.2)
Normal weight	62 (19.3)
Overweight	132 (41.1)
Obese	123 (38.3)
Educational level	
Primary or less	95 (22.1)
Middle/secondary	243 (56.5)
High	92 (21.4)
Husband education	
Primary/less	79 (18.5)
Middle/secondary	69 (16.1)
High	280 (65.4)
Employment	
Full-time job	72 (16.7)
Maternity leave	47 (10.9)
Housewife	296 (68.8)
Student	7 (1.6)
Others	8 (1.9)
Husband status	
Unskilled	126 (29.3)
Skilled	176 (40.9)
Profession	128 (29.8)
Family size	
≤4	272 (63.3)
>4	158 (36.7)
Income	
Enough and saving	47 (10.9)
Enough	263 (61.2)
Not enough	120 (27.9)
First source	
Family/husband/friends	137 (31.9)
Healthcare providers	187 (43.6)
School	31 (7.2)
Media/internet/magazines/books	74 (17.2)
Preferable source	
Family/husband/friends	88 (21.4)
Healthcare providers	264 (64.1)
School	5 (1.2)
Media/internet/magazines/books	55 (13.3)

BMI, body mass index; FHU, family health unit; TUH, Tanta University Hospital.

Attitude of participants toward the use of contraceptive methods

Nearly two-thirds of participants agreed of enlightening unmarried girls regarding reproductive health and FP. Discussing these matters with unmarried girls was considered common in society (44.4%), uncommon (30.7%), and embarrassing (18.6%). The preferred number of children to have was 2–3 in 83.7% of responses. Seventy percent of respondents stated that they do not want more children now. Most participants were positive toward discussing contraceptive methods with their husbands or surroundings, whereas the remainders were embarrassed (7.2%) or avoided discussion (16.7%). Similar attitudes were reported concerning the husband’s or acquaintances’ attitude when discussing these issues. Most (72.3%) respondents used contraceptives without or despite adverse effects, whereas 10.7% never used them. Bad experiences were reported by 127 (29.5%) participants with one or more methods. Participants considered having a male child in their family very important (31.9%), somewhat important (30.5%), and of low importance (37.5%). Larger families were considered happier than small families by 40.5% of participants, similarly happy by 14%, and less happy by 40.5%. The bad experiences of contraceptives as reported by participants were bleeding (14.4%) and pregnancy while using the method (6.5%) (Table 3).

Pattern of use of contraceptive methods and barriers of family planning

The methods used by participants of this study included intrauterine devices (44%), oral pills (20.7%), hormonal injectable (8.4%), condom (1.9%), lactational amenorrhea (1.4%), and others (3%). Those who did not use

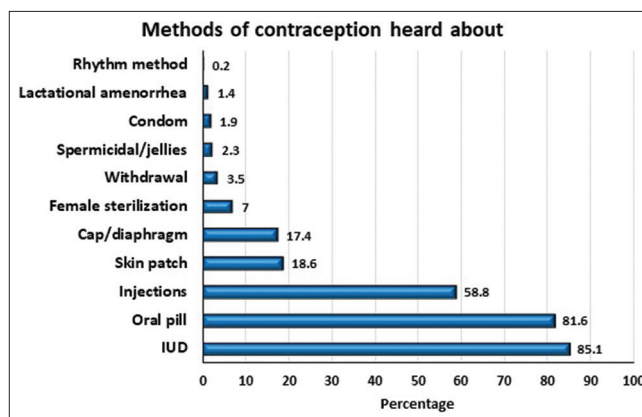


Figure 1: Methods of contraception heard about among the participants.

any method constituted 20.7% of participants (Fig. 2). The mean age of the participants when having their first child was 21.6 ± 3.4 (range: 16–36 years).

Only 4.9% of participants used contraceptive methods before their first child. About 27% of respondents stated that they would not use contraceptives even if they do not want more children. Current use of contraceptive methods (either by the woman or the husband) was reported by 352 (81.9%) participants, whereas 78 (18.1%) did not use methods at the

time of survey. Only 25 of women not using contraceptives attributed this for wanting to get pregnant. The preferred places to seek medical services were gynecologist clinics (38.8%), health centers (28.8%), university hospitals (13.7%), governmental hospital (11.4% attend), pharmacies (3.5%), and general practitioners (3.3%). Only two participants chose nowhere. The barriers to FP were recognized by 27%, whereas 66.7% stated that no barriers exist and 6.3% were unsure. The most commonly reported barriers were fear of side effects (27.2%), lack of knowledge (23.3%), refusal of husband (13%), religious reasons (6.5%), social stigma and pressure (5.1%), lack of affordability (4.9%), and lack of access (2.3%), besides other miscellaneous unspecified barriers (17.7%) (Table 4).

Table 2: Knowledge about contraceptive methods among participants (total n=430)

Questions	n (%)
Did you receive any reproductive health and contraceptive-related education at your school?	
Do not know	44 (10.2)
No	279 (64.9)
Yes	107 (24.9)
Do you ever know the difference between birth spacing (control) and birth limitations?	
No	171 (39.9)
Yes	258 (60.1)
Did you get any education about reproductive health and contraceptive methods before you got married?	
Do not know	13 (3.0)
No	248 (57.8)
Yes	168 (39.2)
Which one is the ideal time to have the first child?	
18-21 years	203 (47.3)
22-24 years	189 (44.1)
25-27 years	33 (7.7)
28 and above	4 (1.0)
What is the ideal time space between children?	
1 year	28 (6.5)
1.5-2 years	172 (40.0)
3-5 years	213 (49.5)
5 years or more	17 (4.0)
Do you know the indication and contraindication of each family-planning method?	
Do not know	155 (36.0)
No	187 (43.5)
Yes	88 (20.5)
Do you know the side effects of each family-planning method?	
Do not know	110 (25.6)
No	138 (32.1)
Yes	182 (42.3)
Do you know the failure rate of each family-planning method?	
Do not know	96 (22.3)
No	132 (30.7)
Yes	202 (47.0)
Do you know the suitable time to use the IUD as family-planning method after labor?	
No	111 (25.8)
Yes	319 (74.2)

IUD, intrauterine device.

Knowledge, attitude, practice, and their determinants among the participants

Knowledge was good in 147 (34.2%), fair in 259 (60.2%), and poor in 24 (5.6%) participants. Lower level of knowledge was significantly associated with urban residence ($P = 0.029$), whereas high and fair levels of knowledge were significantly associated with the woman having full-time job ($P < 0.001$), husband having professional job ($P = 0.002$), and earning more-than-enough income ($P = 0.004$) (Table 5).

The attitude toward contraceptive methods was positive in 410 (95.3%) and negative in 20 (4.7%) respondents. In addition, no significant association with any of the sociodemographic characteristics of the participants was found. The level of practice was good in 67.9% and bad in 32.1% of cases. The good practice was significantly associated with being recruited from FHU ($P = 0.023$), being 30 years old or above ($P = 0.037$), and having a family size above 4 ($P = 0.002$) (Table 6).

Correlation between the total scores of knowledge, attitude, and practice

The total knowledge and practice scores were significantly and positively, though weakly, correlated with the attitude score ($r_s < 0.3$, $P < 0.05$) (Table 7).

DISCUSSION

The present study was conducted to assess the knowledge, attitude, and practice of FP among women of reproductive age in Gharbia Governorate, Egypt.

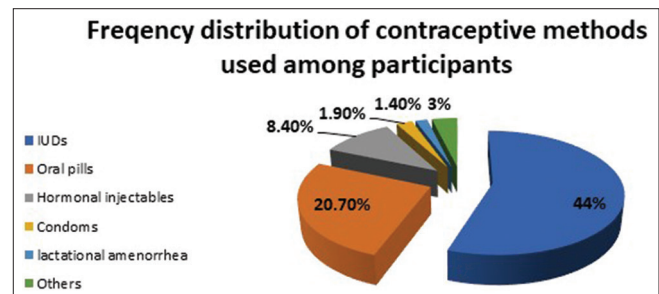


Figure 2: Types of contraceptive methods used by participants.

Table 3: Attitude of participants toward the use of contraceptive methods (total n=430)

Questions	n (%)
Do you think an unmarried young girl should know about reproductive health and family planning?	
Yes	277 (64.4)
No	127 (29.5)
Do not know	26 (6.0)
How many children do you like to have or suggest to others?	
None	2 (0.5)
1	10 (2.3)
2-3	360 (83.7)
4 or above	58 (13.5)
Do you like to have more children now?	
Yes	129 (30.0)
No	301 (70.0)
What do you think (attitude) toward the discussion about reproductive health and family-planning information with an unmarried girl, in your social context?	
Not common in our society to discuss	132 (30.7)
Shame to discuss/embarrassed to discuss	80 (18.6)
Common topics in our society to discuss	191 (44.4)
I never think this before	27 (6.3)
What was your attitude when you discussed with your husband or your surroundings about contraceptive methods?	
Embarrass/avoid discussing	52 (12.1)
Positive/we are enjoying discussions	314 (73.0)
I never discussed	64 (14.9)
What was your husband's attitude or your surroundings' attitude when they discussed with you about contraceptive methods?	
Embarrass/avoid discussing	31 (7.2)
Positive/we are enjoying discussions	327 (76.0)
Avoid or never discussed	72 (16.7)
What is your view about contraceptive methods?	
I have used contraceptives without/despite problems	311 (72.3)
It is trouble to use	21 (4.9)
It has side effects	37 (8.6)
It is against nature	3 (0.7)
I do not like to use	11 (2.6)
I never used	46 (10.7)
Do not know	1 (0.2)
Do you think that the presence of male children in your family is	
Very important	137 (31.9)
Somewhat important	131 (30.5)
Low importance	161 (37.5)
Do you think that compared with a smaller family (less than 3 children), large families are	
Happier	174 (40.5)
Less happy	174 (40.5)
The same	60 (14.0)
Do not know	22 (5.1)

The overall level of knowledge was good in 147 (34.2%), fair in 259 (60.2%), and poor in 24 (5.6%) participants. Lower level of knowledge was significantly associated with urban residence ($P = 0.029$), which is in line with Abd-el-Rahman

Table 4: Pattern of use of contraceptive methods and barriers of family planning (total n=430)

Questions	n (%)
Have you used any contraceptives before having your first child?	
Yes	21 (4.9)
No	409 (95.1)
If you are not wanted to have more children, then are you using any contraceptives now?	
Yes	312 (72.6)
No	118 (27.4)
Who are using any contraceptives?	
Me	341 (79.3)
Husband	11 (2.6)
No use	78 (18.1)
If you are not using any of the contraceptives, please mention the possible reason	
Want to be pregnant	100 (23.3)
Prefer traditional methods	182 (42.3)
Others	148 (34.4)
If you need medical service, where do you prefer to go?	
Gynecologist	167 (38.8)
Health center	124 (28.8)
University hospital	59 (13.7)
Governmental hospital	49 (11.4)
Pharmacy	15 (3.5)
General practitioner	14 (3.3)
Nowhere	2 (0.5)
Have you ever felt any barrier when you were seeking for medical service?	
Yes, there are barriers	116 (27.0)
No barriers	286 (66.7)
Do not know	27 (6.3)
Barriers on family planning and contraceptive use	
Fear of side effects	117 (27.2)
Lack of knowledge	100 (23.3)
Refusal of the husband	56 (13.0)
Religious	28 (6.5)
Social stigma and social pressure	22 (5.1)
Lack of affordability	21 (4.9)
Lack of access	10 (2.3)
Others	76 (17.7)

et al. [8] who surveyed 550 postpartum women in Minia, Egypt, and found that knowledge level was higher in rural areas (77.2%) than in urban areas (52.5%). High and fair levels of knowledge were significantly associated with the woman having full-time job ($P < 0.001$), her husband having professional job ($P = 0.002$) and earning more-than-enough income ($P = 0.004$). The knowledge level was not significantly associated with place of recruitment, age, BMI, educational level of the woman or husband, family size, and first or preferred source for information.

The main first source for knowledge about contraception was healthcare providers (43.6%), followed by family/friends (31.9%), media (17.2%), and school

Table 5: Determinants of knowledge of the participants

	Knowledge level			Tests of significance	
	Poor (n=24)	Fair (n=259)	Good (n=147)	χ^2	P
Place					
TUH	17 (6.6%)	161 (62.9%)	78 (30.5%)	4.571 ^a	0.102
FHU	7 (4.0%)	98 (56.3%)	69 (39.7%)		
Age					
<30 years	14 (7.3%)	110 (57.0%)	69 (35.8%)	2.615 ^a	0.270
≥30 years	10 (4.2%)	149 (62.9%)	78 (32.9%)		
Residence					
Rural	10 (3.6% ^c)	165 (59.6%)	102 (36.8%)	7.061 ^a	0.029*
Urban	14 (9.2% ^c)	94 (61.4%)	45 (29.4%)		
BMI					
Underweight	0 (0.0%)	1 (25.0%)	3 (75.0%)	4.994 ^b	0.525
Normal weight	5 (8.1%)	32 (51.6%)	25 (40.3%)		
Overweight	6 (4.5%)	81 (61.4%)	45 (34.1%)		
Obese	9 (7.3%)	72 (58.5%)	42 (34.1%)		
Educational level					
Primary or less	6 (6.3%)	62 (65.3%)	27 (28.4%)	5.936 ^a	0.204
Middle/secondary	15 (6.2%)	135 (55.6%)	93 (38.3%)		
High	3 (3.3%)	62 (67.4%)	27 (29.3%)		
Husband education					
Primary/less	6 (7.6%)	48 (60.8%)	25 (31.6%)	4.500 ^b	0.335
Middle/secondary	5 (7.2%)	46 (66.7%)	18 (26.1%)		
High	13 (4.6%)	163 (58.2%)	104 (37.1%)		
Employment					
Full-time job	2 (2.8%)	30 (41.7% ^c)	40 (55.6% ^c)	27.195 ^b	<0.001*
Maternity leave	4 (8.5%)	29 (61.7%)	14 (29.8%)		
Housewife	17 (5.7%)	194 (65.5% ^c)	85 (28.7% ^c)		
Student	0 (0.0%)	1 (14.3%)	6 (85.7%)		
Others	1 (12.5%)	5 (62.5%)	2 (25.0%)		
Husband status					
Unskilled	8 (6.3%)	81 (64.3%)	37 (29.4%)	17.275 ^a	0.002*
Skilled	15 (8.5%)	110 (62.5%)	51 (29.0%)		
Profession	1 (0.8% ^c)	68 (53.1%)	59 (46.1% ^c)		
Family size					
≤4	15 (5.5%)	153 (56.3%)	104 (38.2%)	5.506 ^a	0.064
>4	9 (5.7%)	106 (67.1%)	43 (27.2%)		
Income					
Enough and saving	2 (4.3%)	20 (42.6%)	25 (53.2% ^c)	15.593 ^a	0.004*
Enough	13 (4.9%)	155 (58.9%)	95 (36.1%)		
Not enough	9 (7.5%)	84 (70.0%)	27 (22.5% ^c)		
First source					
Family/husband/friends	7 (5.1%)	80 (58.4%)	50 (36.5%)	10.422 ^b	0.108
Healthcare providers	12 (6.4%)	122 (65.2%)	53 (28.3%)		
School	0 (0.0%)	14 (45.2%)	17 (54.8%)		
Media/internet/magazines/books	5 (6.8%)	42 (56.8%)	27 (36.5%)		
Preferable source					
Family/husband/friends	7 (8.0%)	57 (64.8%)	24 (27.3%)	4.785 ^b	0.548
Healthcare providers	12 (4.5%)	158 (59.8%)	94 (35.6%)		
School	0 (0.0%)	3 (60.0%)	2 (40.0%)		
Media/internet/magazines/books	5 (9.1%)	32 (58.2%)	18 (32.7%)		

BMI, body mass index; FHU, family health unit; TUH, Tanta University Hospital. ^aPearson's χ^2 test for independence. ^bFisher-Freeman-Halton exact test. ^cSignificant difference from other row percentages. *Significant at $P<0.05$.

education (7.2%). The preferable source for knowledge followed the same order but with higher percentage

preferring healthcare providers and lesser percentage in all other sources. Similarly, previous studies in Egypt reported

Table 6: Determinants of attitude and practice of the participants

	Attitude				Practice			
	Positive attitude (n=410)	Negative attitude (n=20)	χ^2	P	Good practice (n=292)	Bad practice (n=138)	χ^2	P
Place								
TUH	246 (96.1%)	10 (3.9%)	0.792 ^a	0.374	163 (63.7%)	93 (36.3%)	5.207 ^a	0.023*
FHU	164 (94.3%)	10 (5.7%)			129 (74.1%)	45 (25.9%)		
Age								
<30 years	184 (95.3%)	9 (4.7%)	0.000 ^a	0.991	121 (62.7%)	72 (37.3%)	4.366 ^a	0.037*
≥30 years	226 (95.4%)	11 (4.6%)			171 (72.2%)	66 (27.8%)		
Residence								
Rural	266 (96.0%)	11 (4.0%)	0.812 ^a	0.368	184 (66.4%)	93 (33.6%)	0.783 ^a	0.376
Urban	144 (94.1%)	9 (5.9%)			108 (70.6%)	45 (29.4%)		
BMI								
Underweight	4 (100.0%)	0 (0.0%)	5.502 ^b	0.118	3 (75.0%)	1 (25.0%)	1.044 ^b	0.816
Normal weight	60 (96.8%)	2 (3.2%)			42 (67.7%)	20 (32.3%)		
Overweight	119 (90.2%)	13 (9.8%)			86 (65.2%)	46 (34.8%)		
Obese	119 (96.7%)	4 (3.3%)			87 (70.7%)	36 (29.3%)		
Educational level								
Primary or less	89 (93.7%)	6 (6.3%)	3.762 ^b	0.174	67 (70.5%)	28 (29.5%)	0.719 ^a	0.698
Middle/secondary	230 (94.7%)	13 (5.3%)			161 (66.3%)	82 (33.7%)		
High	91 (98.9%)	1 (1.1%)			64 (69.6%)	28 (30.4%)		
Husband education								
Primary/less	74 (93.7%)	5 (6.3%)	0.783 ^a	0.704	54 (68.4%)	25 (31.6%)	0.025 ^a	0.987
Middle/secondary	66 (95.7%)	3 (4.3%)			47 (68.1%)	22 (31.9%)		
High	268 (95.7%)	12 (4.3%)			189 (67.5%)	91 (32.5%)		
Employment								
Full-time job	67 (93.1%)	5 (6.9%)	3.216 ^b	0.431	55 (76.4%)	17 (23.6%)	5.480 ^b	0.231
Maternity leave	47 (100.0%)	0 (0.0%)			29 (61.7%)	18 (38.3%)		
Housewife	281 (94.9%)	15 (5.1%)			199 (67.2%)	97 (32.8%)		
Student	7 (100.0%)	0 (0.0%)			3 (42.9%)	4 (57.1%)		
Others	8 (100.0%)	0 (0.0%)			6 (75.0%)	2 (25.0%)		
Husband status								
Unskilled	121 (96.0%)	5 (4.0%)	0.218 ^a	0.897	83 (65.9%)	43 (34.1%)	5.354 ^a	0.069
Skilled	167 (94.9%)	9 (5.1%)			112 (63.6%)	64 (36.4%)		
Profession	122 (95.3%)	6 (4.7%)			97 (75.8%)	31 (24.2%)		
Family size								
≤4	258 (94.9%)	14 (5.1%)	0.410 ^a	0.522	170 (62.5%)	102 (37.5%)	9.930 ^a	0.002*
>4	152 (96.2%)	6 (3.8%)			122 (77.2%)	36 (22.8%)		
Income								
Enough and saving	45 (95.7%)	2 (4.3%)	1.619 ^b	0.480	33 (70.2%)	14 (29.8%)	1.087 ^a	0.581
Enough	253 (96.2%)	10 (3.8%)			182 (69.2%)	81 (30.8%)		
Not enough	112 (93.3%)	8 (6.7%)			77 (64.2%)	43 (35.8%)		

BMI, body mass index; FHU, family health unit; TUH, Tanta University Hospital. ^aPearson’s χ^2 test for independence. ^bFisher–Freeman–Halton exact test. *Significant at $P<0.05$.

healthcare professionals as the main source of contraceptive knowledge [5,8].

In the present study, the attitude toward contraceptive methods was positive in 95.3% but negative in 4.7% of respondents. This percentage of positive attitude is higher than the rates reported by Ibrahim *et al.* [13] in Assiut, Egypt (72.6%), Gupta *et al.* [14] in Haryana, India (83.1%), and Semachew Kasa *et al.* [15] in Northwest Ethiopia (58.8%). These variations in the attitude of women reflect probably differences in cultural values, baseline characteristics of participants, and tools used to assess attitude.

We found a lack of significant association between women’s attitude and the sociodemographic characteristics of the respondents. Ibrahim *et al.* [13] found that positive attitude was significantly associated with younger age, being employed, residing in urban areas, and having high education. These differences may be attributed to variations in baseline characteristics of participants and tools used to assess attitude.

In this study, the level of practice was unsatisfactory, with only 67.9% of respondents showing good practice. As 70% of participants admitted that they do not want to have more

Table 7: Correlation between the total scores of knowledge, attitude, and practice

	Total knowledge score	Total attitude score	Total practice score
Total knowledge score			
r_s		0.230	0.083
P		<0.001*	0.087
Total attitude score			
r_s	0.230		0.189
P	<0.001*		<0.001*
Total practice score			
r_s	0.083	0.189	
P	0.087	<0.001*	

r_s : Coefficient of Spearman’s rank-order correlation. *Significant at $P < 0.05$.

children, this indicates the presence of unmet needs of FP, particularly if we took into consideration those wanting more children but require spacing pregnancies.

The rate of contraceptive-method use among our participants was 81.9%. In about one-third of those not using contraception, the cause was their desire to get pregnant. About 27% of respondents stated that they would not use contraceptives even if they do not want more children. Such a finding raises alarm that barriers exist that prevent women who need FP from using contraception. This rate is higher than that reported by Ibrahim *et al.* [13] of women who used before or intended to use contraception in the future (59.2% and 77%, respectively).

Good practice in our study was significantly associated with being recruited from FHU ($P = 0.023$), being 30 years old or above ($P = 0.037$), and having a family size above 4 ($P = 0.002$). The association of good practice with large family size could be explained in light of that a large family needs the services of FP and the woman becomes motivated because more children would pose a burden on the family. There was no significant association between the educational level and practice. Similarly, Nansseu *et al.* [16] in Cameroon reported the absence of a significant association between educational level and practice of FP.

Barriers to FP were recognized by 27% of our participants, whereas 66.7% stated that no barriers exist and 6.3% were unsure. The reported barriers were fear of side effects (27.2%), lack of knowledge (23.3%), refusal of husband (13%), religious reasons (6.5%), social stigma and pressure (5.1%), lack of affordability (4.9%), and lack of access (2.3%).

Lack of knowledge and fear of serious side effects (such as womb damage, disease, and death) represent major barriers to the use of contraceptive methods as reported by previous studies. Ibrahim *et al.* [13] reported that 14.6% of their participants feared side effects of contraceptive methods and viewed these as barriers to use. Similar concerns were reported by studies from Democratic Republic of Congo [17], Kenya [18], Nigeria [19], and Zambia [20].

Refusal of the husband to use of contraceptives was cited among the barriers in several studies conducted in various Islamic and African countries [13,19,21–25], where the husband is regarded as the head of the family and has the right to be obeyed by his wife. Therefore, women cannot use contraceptives without permission of their husbands in these communities.

Religious and cultural beliefs were reported as barriers to the use of contraceptive methods in some African countries where they condemn birth control as “children are gifts of God” [11,21,25–27].

Accessibility and affordability of different contraceptives are important factors in determining the use of FP methods. In Egypt, both public and private health sectors provide FP services. Inaccessibility may arise if some methods of contraception require certain level of skill and equipment such as vasectomy and tubal ligation, so, they may not be available in a certain location for all couples who are in need [20]. It may result from noncooperation of healthcare providers and failure to provide adequate counseling for couples [11,17,20,22,24].

Both total knowledge and practice scores were significantly and positively, though weakly, correlated with the attitude score ($r_s < 0.3$, $P < 0.05$). The lack of significant correlation between knowledge and practice on one hand, and the weak correlation between attitude and knowledge on the other hand, reflects the presence of barriers other than lack of knowledge. These barriers may include fear of side effects that was defective in most participants, husband’s refusal, or religious causes. Other barriers may exist and deserve dedicated research to explore them, such as cultural beliefs of the stability of marriage when the number of children is increased, the desire to have male children, and childwork that may drive families to have more children in order to improve their income.

The present study included several points of strength. The questionnaire covered many aspects of knowledge, attitude, and practice, and explored many potential barriers to FP. However, the study was subject to some limitations. The nature of survey studies bears some risk of recall bias, particularly when women discuss the bad experiences or sources of knowledge. Moreover, the accessibility and quality of FP services, as rated by the participants, deserve more investigation as they represent potential barriers.

CONCLUSION

The overall knowledge and attitude of respondents were good, but the practice of FP needs to be improved. Future campaigns and FP counseling should address the misconceptions about contraception, particularly side effects. Other barriers should be studied and approached to ensure meeting of FP needs of couples.

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Conflicts of interest

There are no conflicts of interest.

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