

 <p>INNOVATIVE JOURNAL ИОНКИУТ</p>	<p>Contents lists available at <a href="http://www.innovativejournal.in">www.innovativejournal.in</a></p> <p><b>INTERNATIONAL JOURNAL OF NURSING DIDACTICS</b></p> <p>homepage: <a href="http://innovativejournal.in/ijnd/index.php/ijnd">http://innovativejournal.in/ijnd/index.php/ijnd</a></p>	 <p><b>IJND</b> ISSN: 2231-5454</p>
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## Effectiveness of Contraceptive Counseling on Women Knowledge and Practice in Saudi Arabia

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DOI: <http://dx.doi.org/10.15520/ijnd.2017.vol7.iss5.223.30-36>

### Abstract:

**Background:** Contraceptive counseling that emphasises effective and safe contraception plays a significant role in women's health. It can help women select contraceptive methods appropriate to their health needs. The study of contraceptive counseling has not been adequately explored in Saudi Arabia (SA). This study aimed to evaluate whether contraceptive counseling was effective at improving women's overall knowledge and use of contraceptive methods at King Abdulaziz University Hospital (KAUH).

**Objectives:** (1) Assess women's knowledge of contraceptive methods before and after counseling. (2) Explore which contraceptive methods were used before and after counseling

**Methods:** This study used quantitative, quasi-experimental design. A questionnaire was administered to women who had delivered and been admitted to the postnatal unit at KAUH. The tools used in this study were a pre-test questionnaire, a counseling evaluation sheet, and a post-test questionnaire. Purposive sampling was undertaken. Ethical approval was granted from KAUH. Data collection was conducted for four months.

**Results:** A total of 65 women consented to participate in this study. The mean age of the women was 30.1 (SD = 0.77). The majority of women (78%) had poor knowledge scores about contraception before counseling. The most frequently used contraceptive methods before counseling were lactational amenorrhea (breastfeeding), which was used by 60%, followed by withdrawal and minipill, which were each used by 50.8%. Male condom, combined oral contraceptive (COC) pills, fertility awareness and intrauterine devices (IUDs) were used by 46.2%, 43.1%, 27.7% and 18.5% of women, respectively. After counseling, the mean knowledge score increased significantly, from 49.94 to 86.35 points ( $p < 0.001$ ). After counseling, the actual methods used by study participants were lactational amenorrhea, IUD, COC, minipill, withdrawal, fertility awareness and male condom. The majority of women (91%) were very satisfied with the counseling provided.

**Conclusions and recommendations:** Contraceptive counseling significantly improves women's knowledge about and use of birth control methods. As a result, this study recommends sustained efforts to encourage women, their husbands and the community to improve contraceptive knowledge and use. Moreover, healthcare providers, especially nurses, should participate in the education of women.

**Keywords:** contraception, contraceptive counseling, birth control, contraceptive education and Family planning

## INTRODUCTION

Contraceptive counseling that emphasises effective and safe contraception plays a significant role in women's health [1]. A study found that contraceptive compliance increased to 96% after contraceptive counseling [2]. Moreover, providing contraceptive counseling is considered essential to women's health because it encourages women and couples to choose a method that is congruent with their needs and helps them use that method correctly [3]. Providing contraceptive counseling has a positive impact on women's health by reducing unwanted pregnancies and providing proper spacing between births [4]. Spacing gives mothers time to regain their health and recover from the psychological stress and physiological changes of previous pregnancies [5].

One reason for unplanned pregnancies is the incorrect or inconsistent use of contraceptives [6]. Unintended pregnancies and short birth intervals carry health risks such as delaying prenatal care, neglecting the pregnancy, low birth weight, unsafe abortion and child abuse [7]. These issues may subsequently lead to increased maternal and child morbidity and mortality [8]. Lack of information about contraception may increase unplanned pregnancies [9]. Previous studies have discussed many factors that influence women's decisions to use a specific type of contraception such as level of awareness, knowledge access, cultural

factors, religion, husband's opposition to use, and fear of health risks or side effects [10,11]. Proper education and counseling about contraceptive methods is an effective way to prevent these complications [5].

### Study significance:

In SA, comprehensive contraceptive counseling is rarely seen in the obstetric and gynecology clinics. There are no specialised clinics to provide contraceptive counseling for postpartum women. Counseling remains confined to the antenatal arena of obstetric and gynecology clinics when women ask their physicians about contraceptives during follow-up visits. Moreover, most women chose contraceptives based on the experiences of family and friends, without any consultation with or education from healthcare providers; this fact may negatively affect maternal health [12]. Based on evidence regarding Saudi women's level of knowledge about contraceptive methods, this studies recommends encouraging and providing better counseling, which could provide increased compliance with contraceptive methods. Several previous studies have stated that increased knowledge about several contraceptive methods is needed to understand the benefits and disadvantages of each method [13, 14,15,16,17,18,19]. The impact of contraceptive counseling on contraceptive knowledge and use has not been adequately explored in SA. Therefore, this study is aimed to evaluate the effectiveness

of contraceptive counseling on women's contraceptive knowledge and use at KAUH. The research objectives are; (1) Assess women's knowledge of contraceptive methods before and after counseling. (2) Explore the types of contraceptive methods used by women before and after counseling.

## MATERIAL AND METHODS

### Research Design:

This study used a quasi-experimental (one group pre-test and post-test) quantitative design to answer the research questions. The study was carried out in the postnatal unit at KAUH in Jeddah. The postnatal unit was chosen because the women admitted to this unit after delivery was considered to be at the optimal time to approach women for contraceptive consultation.

### Sampling:

Purposive sampling was used in this study to select participants that included based on certain criteria. All women involved in the study were of reproductive age and had been admitted to the postnatal unit in KAUH after childbirth. Women who had previously undergone sterilization (tubal ligation) or who had a partner with a vasectomy were excluded.

### Study Tools:

This study used structured questionnaire (close-ended questions) to collect data. The researcher developed three tools: a pre-test questionnaire, an evaluation sheet and a post-test questionnaire. In addition, counseling session was prepared by using PowerPoint software; charts and figures were used to simplify the information. The questionnaire and counseling session were developed based on a review of the literature and with the help of the research supervisors, who are both specialized on women health and working at nursing faculty at King Abdulaziz University (KAU). The pre-test questionnaire was used to assess contraceptive knowledge, use and practice before counseling. It consisted of three parts: (1) demographic data; (2) medical, family, obstetric and family planning counseling history; (3) knowledge about and use of contraceptives. The questionnaire was completed by the researcher to ensure that all items were answered and misunderstood questions were clarified. The second tool was the evaluation sheet, which was filled out by the participant to evaluate the counseling session. The third tool was the post-test questionnaire, which posed the same questions as the pre-test questionnaire to assess whether knowledge of contraceptive methods increased after counseling.

### Data collection process:

The researcher invited women who admitted to the postnatal unit at KAUH to participate in the study. The researcher then explained the aim of the study and asked them to sign the invitation sheet.

The invitation sheet assured the participants that they had the right to withdraw from the study at any time and that the services provided to them would not be affected. Next, the researcher asked the participants questions and completed the pre-test questionnaire. Then the counseling was conducted via by using the PowerPoint presentation. The researcher took 45 minutes to fill out the pre-test questionnaire and conduct the consultation. After counseling, the researcher invited the participant to fill out

the evaluation sheet to evaluate the counseling session provided to them. After six weeks, the researcher contacted the study participants by telephone to complete the post-test questionnaire.

### Statistical Analysis:

Data were coded and entered using SPSS v.16 software. The researcher scored the knowledge of each contraceptive method and assigned one score for a correct answer and zero score for wrong answer. Then the knowledge level was categorised as poor, adequate or excellent in Table (1).

Table 1: Level of knowledge scores about contraceptive methods

Level of knowledge	Score in percentage
Poor	Below 40%
Adequate	60%–40%
Excellent	Above 60%

### Ethical considerations:

Official permission was obtained from the Ethical Committee of Nursing Faculty at KAU. Next, permission was obtained from KAUH to initiate data collection.

## RESULTS

The researcher invited 100 women to participate in the study; 65 of them completed the pre-test and post-test questionnaires. As shown in table (2), the mean age was thirty (mean age = 30.1). Half of the women (n = 33, 50.8%) had earned a bachelor's degree, 33.8% (n = 22) had completed a secondary degree and only 3.1% (n = 2) held a postgraduate degree. The majority (83.1%) were unemployed housewives. Forty of participants (n= 40, 61.4%) were married to a man who had finished higher education. When comparing family income, the majority had family income that exceeded five thousand riyals per month (n = 39, 60%), and the rest (n = 26, 40%) had family income below five thousand riyals per month. Eighteen of study participants (27.7%) had one child (mean number of children was 2.9).

Table 2: Demographics and characteristics of women

Demographics and characteristics of respondent women (n = 65).		
Demographic	Count n	Percentage %
Age Mean (SD)	30.1 (0.77)	—
<b>Education</b>		
Primary	2	3.1
Elementary	6	9.2
Secondary	22	33.8
Bachelor	33	50.8
Postgraduate	2	3.1
<b>Employment</b>		
Employed	11	16.90
Housewife	54	83.10
<b>Income</b>		
Below 5000 SAR/mon.	26	40
Above 5000 SAR/mon	39	60
<b>Marital Condition</b>		
Married an educated man with secondary level and above	40	61.50
<b>Nationality</b>		
Saudi	52	80
Non-Saudi	13	20
<b>Age First Menarche: Mean (SD) yrs.</b>	13 (1.3)	—
<b>Age Married: Mean (SD)</b>	22.5 (4.6)	—
<b>Number of Children: Mean (Min, Max).</b>	2.9 (1,11)	—

When women were asked about their sources, methods, timing and duration of contraceptive information, the majority relied on friends (n = 42, 64.6%), then doctors (n = 23, 35.4%) and Internet resources (n = 19, 29.2%), followed less frequently by pamphlets (n = 3, 4.6%) and curriculum (n = 2, 3.1%). Thus, most contraceptive information gained from friends and then doctors. In contrast, when the women were asked what methods they used to seek out information on contraceptives, the majority answered that they discussed it with groups and friends during gatherings (n = 38, 53.5%), followed by consulting a health educator (n = 24, 36.9%). Around (n= 4, 6.2%) of women acquired information prior to marriage, while the majority of women (n= 26, 40%) got their information postnatally. Only (15.4%) of respondents learned about contraceptive measures during antenatal visits. Significantly, none of the women mentioned that a nurse at the hospital played a role in educating them about contraceptives (see Table 3).

Table 3: Sources of information about contraceptive methods

Items	Frequency	Percent
<b>Source of information (n = 65)</b>		
<b>100%</b>		
Peers/Friends	42	64.6
Doctors	23	35.4
Internet	19	29.2
Pamphlets	3	4.6
Curriculum	2	3.1
TV	1	1.5
<b>Method of obtaining the information</b>		
Counselling by educator	24	36.9
Group discussion	38	58.5
Reading materials	3	4.6
Health education in waiting area	2	3.1
Program	2	3.1
<b>Time of receiving the information</b>		
Postnatal	26	40.0
During antenatal visits	10	15.4
Immediately after delivery	8	12.3
Before marriage	4	6.2
Other	3	4.6
<b>Duration</b>		
10–20min	35	76.7
20–30min	4	3.3
More than 30 min	1	3.3

All participants were aware of the meaning of contraception. When the researcher assessed participants' knowledge of different contraceptive types, advantages, side effects and mechanisms of action before counseling, (n=50.7, 78%) scored in the poor knowledge range and (n=13, 20%) scored in the adequate knowledge range (Figure 1). The mean level score was 49.94, which indicates a poor level of knowledge. Table (4) shows that most of the women who participated had poor knowledge of methods like female condom, diaphragm, cervical cap, sponge, minipill, injection, patches, ring, intradermal, emergency contraceptives and vasectomy. However, women had excellent knowledge before counseling of other types of contraceptives, such as IUDs (n = 56, 86.2%), lactational amenorrhea (78.5%), and withdrawal (72.3%). They had adequate knowledge of fertility awareness, male condom, COCs, and fallopian ligation.

Table 4: Mean knowledge score on each contraceptive before and after counseling.

Contraceptives	Before Counseling n = 65		After Counseling n = 65		P	Effect size, r
	Mean	SD	Mean	SD		
Schedule	4.26	2.27	5.48	1.51	<0.001	0.47
Withdrawal	4.17	1.61	5.4	1.4	<0.001	0.65
BF	5.69	2.27	6.72	1.22	<0.001	0.44
Male condom	3.82	2.21	6.09	1.69	<0.001	0.71
Female condom	0.74	1.73	3.52	3.3	<0.001	0.63
Diaphragm	0.22	0.87	2.83	2.4	<0.001	0.68
Cervical cap	0.08	0.62	2.63	2.43	<0.001	0.67
Sponge	4.17	1.61	1.98	2.25	<0.001	0.63
COC	9.78	5.54	13.71	4.51	<0.001	0.65
Minipill	5.02	4.13	8.02	3.47	<0.001	0.64
Injection	2.95	3.15	6.02	3.75	<0.001	0.64
Patches	2.88	2.11	5	2.05	<0.001	0.62
Ring	0.85	1.37	2.58	1.9	<0.001	0.69
Intradermal	0.42	1.21	2.32	2.26	<0.001	0.64
IUD	6.12	2.07	7	1.75	<0.001	0.41
ER	0.05	0.28	1.23	1.62	<0.001	0.55
Fallopian ligation	2.65	2.15	3.68	1.8	<0.001	0.46
Vasectomy	0.37	1.19	2.14	2.38	<0.001	0.57

Wilcoxon's signed rank test

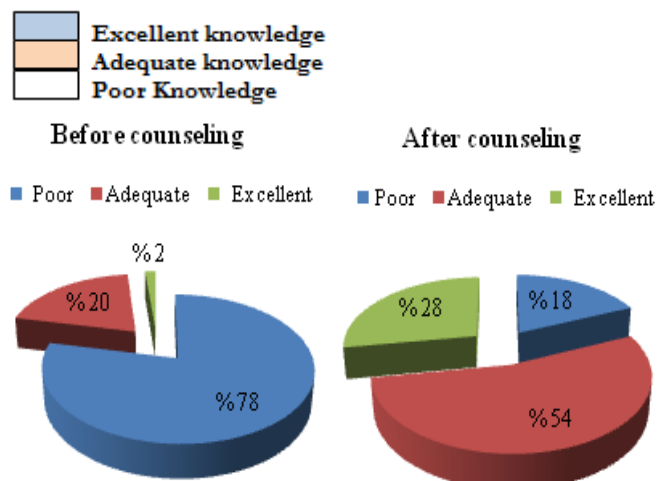


Figure 1: Category of total knowledge score before and after counseling

Most participants (n = 59, 91%) had previously used contraceptives. The most commonly used methods were lactational amenorrhea (breast feeding) (60%), followed by withdrawal and minipill (50.8%). Male condom (46.2%), COC (43.1%), fertility awareness (27.7%) and IUD (18.5%) were also used. None of the participants reported that they had used female condom, diaphragm, cervical cap, sponge or emergency contraceptives before.

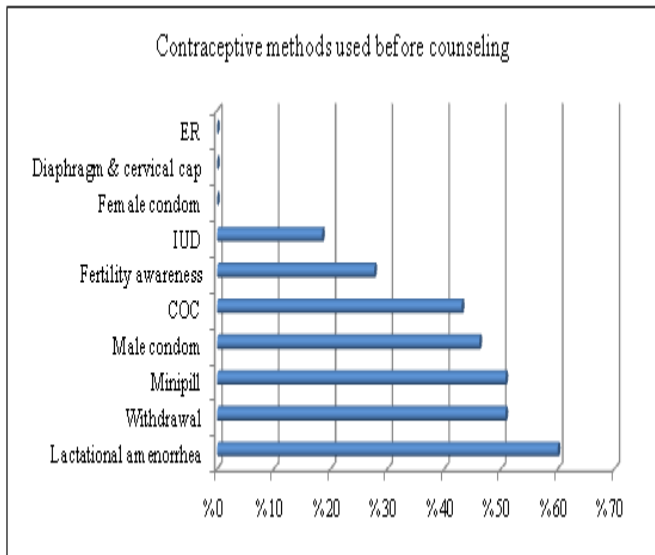


Figure 2: Contraceptive methods used before counseling

The dedicated counseling session significantly improved women’s total knowledge of contraceptives. After counseling, (28%) of participants scored in the excellent knowledge range, and (54%) scored in the adequate knowledge range (Figure 1). Women’s knowledge after counseling increased significantly for all types of contraceptives ( $p < 0.001$ ). Participants demonstrated excellent knowledge of lactational amenorrhea (96.9%), withdrawal (95.4%), IUD (93.8%), fallopian tube ligation (80%), male condom (73.8%), fertility awareness (72.3%), patches (66.2%), and COC (64.6%). Moreover, knowledge about methods like minipill and injections improved to adequate levels (Table 3).

When the participants were contacted six weeks after the counseling session, the contraceptive methods currently being used were lactation amenorrhea (40%), IUD (20%), COC (18.5%), minipill (16.9%), withdrawal (15.4%), fertility awareness (12.3%) and male condom (10.8%) as shown in (Figure 3). The majority of women (91%) were very satisfied with the counseling provided; the mean satisfaction score was 4.53 out of 5.

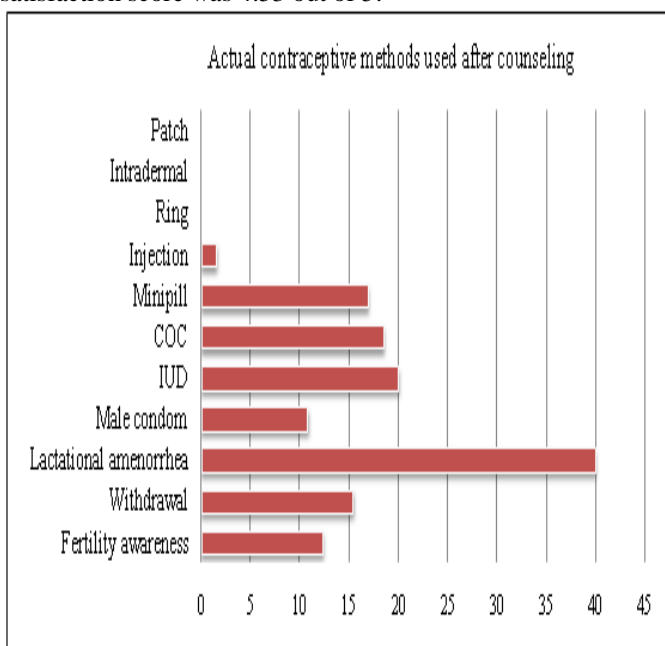


Figure 3: Actual contraceptive methods used after counseling

## DISCUSSION

All women who participated in this study reported that they are aware of the meaning of contraception. Similarly, several recent studies have reported that most women have heard of contraceptives [14, 15, 16, 17, 18, 20, 21]. Thus, these studies concluded that the concept of contraception is known in Saudi society. Women’s increased awareness is likely due to the Saudi lifestyle which encourages women to get better information through reading and Internet searching. In recent years the Saudi community has changed rapidly, particularly regarding women’s education and employment; many consider these factors to be important in determining women’s beliefs, attitudes and practices towards contraceptives [22]. These changes were reflected in the present study, which found that ( $n = 35, 53.8%$ ) of participants had higher education. Likewise, a study conducted in Qatar revealed that knowledge of family planning increased significantly as education levels increased [23]. In addition to women’s education, mass media and TV programs likely play a role in raising awareness about family planning. Many channels and TV programs depict medical topics that discuss women’s and family issues, such as Kalam Nawaem, The Doctors and Green Apple.

In the present study, the researcher discussed the advantages, side effects and mode of action for each contraceptive method and classified them according to their scores. In the present study, the overall mean level score before counseling was 49.94, which indicates a poor level of knowledge. A study conducted in SA by Alsheeha, noted that half of the women had low levels of knowledge regarding contraceptive methods [16]. Similarly, studies conducted in India found that the majority of participants had poor knowledge of contraceptive methods [4, 24]. These previous results might indicate that there is no open discussion or counseling regarding the advantages and side effects of contraceptives by healthcare providers.

Moreover, most of the participated women who participated in the current study had poor knowledge before counseling in the following methods of the female condom, diaphragm, cervical cap, sponge, minipill, injection, patches, ring, intradermal, emergency contraceptives and vasectomy. Similarly, a study found very low knowledge of diaphragms, cervical caps and tubal ligation among single and married women [10]. Furthermore, a study in Egypt revealed that most women (75.5%) lacked knowledge of emergency contraception methods [25]. That finding corresponds with a study conducted in India which reported that none of the couples were aware of the injection and emergency contraception methods [24]. A Saudi study found that the cervical diaphragm was the least known method; it was known by only 9.7% of the women. Also, knowledge of male or female sterilization was reported by only a few of the study participants [16].

After counseling, the knowledge levels improved significantly for all contraceptive types ( $p < 0.001$ ). A study show significant differences in knowledge scores before and after counseling [4]. Moreover, another study showed that overall knowledge levels improved to adequate levels after contraceptive counseling [24]. Another study found that women who received contraceptive counseling improved their mean knowledge scores from 11.40 to 21.20 [5]. These results indicate that with increased awareness of

contraceptives, women are more likely to make sound and logical decisions about their contraceptive methods. In addition, letting women control their fertility and, consequently, prevent short intervals between pregnancies will likely enhance women's health.

In the current study, it was found that women had excellent levels of knowledge after counseling about lactational amenorrhea (n = 63, 96.9%), withdrawal (n = 62, 95.4%), IUDs (n = 61, 93.8%), fallopian tube ligation (n = 52, 80%), male condoms (n = 48, 73.8%), fertility awareness (n = 47, 72.3%), patches (n = 43, 66.2%) and COC (n = 42, 64.6%). Moreover, women's knowledge levels improved to the adequate range for certain methods like the minipill and injections after counseling. This outcome is supported by another study that found that married women's knowledge levels improved after education for female sterilization (100%), by condom (99%), skin implants (86%), oral pills (85%), and emergency contraceptives (85%) [4].

In the current study, the most common sources for contraceptive information were friends and relatives (64.6%). In fact, many Saudi studies reported similar results. Al-Shamrani, Tayeb, Alsaggaf, and Alafif's study reported that the main sources of women's contraceptive knowledge (53.7%) were friends and family members [22]. A study by Abdel-Fattah *et al.* conducted in Taif found that parents and family were the primary sources of knowledge [12]. It seems that family and friends are the most common source of information due to Saudi cultural norms. In Saudi society, women stay in the family home for the first forty days postpartum, a period called "nefess." It is common during the "nefess" period for friends and relatives to visit postpartum women and shared their experiences about the contraceptives they have used or heard about. Thus, friends and family are the main sources of information about contraception. In fact, lack of school curriculum to educate women about contraceptives and reproductive health. Even if the level of education in SA has improved, still there is no reproductive health education curriculum in schools or universities [26]. None of the participants in the present study reported receiving information about contraceptives from school curriculum; two participants studied contraceptive curriculum because they are in the medical field. This finding highlights the need to develop a school curriculum that provides more reproductive health information to students [27].

In the current study, the second most common source of information was doctors, which was reported by 35.4% of the participants. It is disappointing that none of the women mentioned a nurse having a role in contraceptive education. This result is similar to other studies conducted in Jeddah which found that nurses have limited roles in contraceptive and family planning education [20, 26, 28]. Many factors hinder nurses from conducting contraceptive counseling. Some nurses working in SA are non-Arabic speakers. Other factors may be shortness of nurse staff and they focused on other nursing care. Most importantly was that the lack of policy that allows nurses to take role in contraceptive counseling.

In the present study, the most frequently used contraceptives were lactation amenorrhea (breastfeeding) (60%), followed by withdrawal and minipill (50.8%). In contrast, other studies found that the oral pill was the most commonly used

contraceptive [4, 16, 19, 22]. The reason for the differences between the current study and these studies may be attributable to the form of the question asked of the women. The researcher in the present study asked women about the type of contraceptives they used between their pregnancies. The researcher also marked all the contraceptives that women used, even if they shifted to other types of contraceptive or combined methods. Other studies focused only on the contraceptive method currently used.

Regards of the use of contraceptive in this study, the majority of women 91% have used contraceptive methods. This finding corresponds with other studies which reported that the majority of their study participants had used contraceptive methods [19, 22, 29]. The likely reason for the increased use of contraceptives in recent years is due to the education level of the study participants; the majority hold university degrees. These findings are supported by Khraif *et al.* study which noted that the educated, urban population of Middle East countries frequently use contraceptives [30]. He reported higher rates of contraceptive practices among educated women, even in traditional and religious Islamic societies. Moreover, other factors that may increase women's use of contraceptives (and that are compatible with education level) are family income and urbanisation. A study by Al-Shamrani, Tayeb, Alsaggaf, & Alafif emphasised that women who live in urban communities and have higher incomes are more exposed to new ideas and are more willing to try them [22].

In the present study, the most frequently used contraceptives before counseling were lactation amenorrhea (breastfeeding) (60%), followed by withdrawal and minipill (50.8%). In contrast, other studies found that the oral pill was the most commonly used contraceptive [4, 16, 19, 22]. Surprisingly, the results showed that 46.2% of the participants stated that their husbands used the male condom. In contrast, another study conducted in Riyadh found that only 11% used condoms [31]. Another study carried out in Al-Qassim found that only 17% of women used the male condom as their contraceptive [32]. The differences between the results of this study and others studies are likely because Riyadh and Al-Qassim are known to be closed and conservative societies. Jeddah, meanwhile, is considered an advanced city with a multicultural background, which may increase the acceptance of condom use. Six weeks after the counseling, the women were contacted and asked which method of contraceptive they were currently using. The actual methods used were lactational amenorrhea (40%), IUD (20%), COC (18.5%), minipill (16.9%), withdrawal (15.4%), fertility awareness (12.3%) and male condom (10.8%).

In the current study, a 5-point Likert scale was used to assess the satisfaction level of the study participants with the contraceptive counseling. The vast majority of women (91%) were very satisfied with the counseling provided to them. The mean satisfaction score was 4.53 out of 5. Moreover, 78% of the women participants strongly agreed that counseling about contraceptives is interested to them. Similarly, a study conducted in Mozambique noted that 86% of respondents were satisfied with family planning services, including counseling [33]. A study conducted in Ethiopia also found that 93.7% of participants were satisfied with family planning services that include contraceptive counseling [34]. These results indicate that women are interested and in need of contraception counseling. These

results also indicate that women in religious countries are willing to discuss contraception to improve their health.

## CONCLUSION

Contraceptive counseling provides education, dispels misconceptions, helps select which contraceptive method is appropriate, and encourages women to be involved in decisions. Indeed, education concerning the efficacy and side effects of various methods is an important determinant for whether a woman will use a method consistently and correctly, thereby obtaining effective contraception.

Based on the results of this study, several recommendations would enhance the knowledge and use of contraceptives among women in SA. Improving women's contraceptive awareness about various methods of contraception is necessary. Moreover, empower nurses, midwives, and healthcare providers to take an educational role in services that provide contraceptive counseling. Improving family planning services that provide suitable cultural contraceptive education is required.

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