

ORIGINAL ARTICLE

Evaluation of current contraception methods and knowledge among females in Saudi Arabia: a cross-sectional survey

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ABSTRACT

Background: The choice of available contraceptive methods has increased in recent years; however, recent data on women's awareness and reasons for their method selection, or reasons for changing methods, are limited about Saudi females. The aim of this study was to evaluate the use of current methods and women attitudes in terms of knowledge, selection, and preference criteria's regarding contraceptive methods from all over the Kingdom of Saudi Arabia.

Methodology: A web-based survey of married women aged 14 to 55 years was conducted ($n = 3,022$). The information regarding level of education, profession, years of marriage, current usage of contraceptive method, source of information, reasons for choosing and for changing methods, most influencing individual for selection, and satisfaction level regarding selected methods was collected.

Results: The current prevalence of contraceptive use in the study population was 62% ($n = 1,873$) from all the regions of Saudi Arabia. From the respondent population, 30.5% were professional and 80.6% women were university graduates. Years of marriage were varied (0–5 years to above 11 years) among respondents. Regarding current use, contraceptive pill was the first choice (40.3%).

Conclusion: Contraceptive use was significant in educated Saudi women but due to web-based survey, data did not represent all women. More studies are required in the rural areas and among people without internet access.

Keywords: Contraception, cross-sectional, questionnaire, pregnancy.

Introduction

Improving quality of maternal health is an important issue for researchers worldwide. According to WHO, the usage rate of different tools for contraception is one of the determinants of women's health and empowerment [1–3]. Family planning through oral contraceptives has been available as a highly effective method for couples to attain a desired number of children and determining the gap of pregnancies for more than half a century. In general, contraception is achieved through several mechanisms, including mechanical, chemical, hormonal, surgical, and natural [4].

Multiple studies have been conducted to determine women's knowledge of contraception. A research conducted in Al Qassim region of Saudi Arabia in 2015 discovered that use of contraceptives had increased among 30-year old ladies, old working women with high

level of education, and those who had a large number of children [5]. A study also revealed that media exposure significantly affects family planning, and increase positive attitude on contraception [6].

Rshood Khraif et al. [7] conducted a study on a unique group of ever-married women employees of King Saud University Riyadh in 2016, with an aim of assessing its

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associates, and the determinants showed the factors that were associated with contraceptive use included age, number of marriages, age of the husband at marriage, continuing with the first marriage, type of job, and income, whereas age, continuing with first marriage, number of children, and house ownership were predictors of contraception. Aljumayan et al. [8] conducted a research in Al-Hassa region of Saudi Arabia in 2016 presented that 74.8% of couples used contraceptive methods, 56.5% of them were housewives, 35.5% of them preferred condoms, 37.3% of women preferred it because of less side effects. A study conducted in Hail region of the Kingdom of Saudi Arabia Saudi in 2017 covered women participant's ages which varied from 15 to 55 years, revealed that 93% of women were familiar to contraception before but 77.8% used it ever in their lives. Oral contraceptive pills were the most familiar method. 55.2% of respondents felt that their knowledge about different contraceptive methods was not enough and they urged on the need to provide more awareness and education about this [9].

According to the conclusion of one recent study conducted in 2018 in Jeddah, Saudi Arabia, revealed that there was a knowledge gap in the use of different contraceptive methods and the most common contraceptive methods among Saudi women in Jeddah were pills and intrauterine device. It was also found that the education played a big role to use the different types of contraceptives, and effective strategies should be implemented to raise awareness of the appropriate use of contraceptives and dispel misconceptions [10]. According to the previous research findings in Saudi Arabia as a Muslim country, the use of contraceptives is still low and this could be attributed to the tradition of Islamic society for having many children [11–13].

The aim of this study was to evaluate the current knowledge, attitudes, and practices of women toward contraception from all the regions of the kingdom of Saudi Arabia through web-based cross sectional survey.

Subjects and Methods

A web-based cross-sectional study was conducted from June to August 2018 through simple random sampling technique, which included women of 18–55 years of age who were currently or previously married, irrespective of their nationality.

The questionnaire was distributed through electronic media to the targeted population. The questionnaires were distributed in English language with Arabic translation, to be filled according to the choice of response. The questionnaire was designed to take approximately 15 to 20 minutes to complete.

The self-administered questionnaire contained 15 questions; multiple choice questions had predefined answers on 8 questions. The questionnaire was divided into two portions; one part contained 8 questions about sociodemographic status (nationality, residing region,

age, level of education, profession, and marital status), and the rest of the questions engrossed on contraceptive information. In addition, a reason for the contraceptive change, if any, was also questioned.

All statistical analyses were performed by using SPSS (Statistical Package for social sciences version 21.0). Descriptive analyses were carried out by calculating the frequencies and percentages for the categorical variables. Inferential statistics and univariate logistic regression analysis were conducted to investigate the factors affecting contraceptive use. The differences between groups of categorical data were assessed with Chi square test, Fisher exact test, and through odds ratios. The prevalence was reported as a percentage with 95% confidence interval (CI). $p < 0.05$ was considered to indicate statistical significance.

Results

In this survey, the questionnaire was randomly distributed to around 6,940 females inside Saudi Arabia by research team and 3,022 complete responses were attained, yielding a 43.5% response rate.

Among the participants, a majority of respondents were Saudi Arabia nationals (94.9%), while expatriate respondents from different countries, such as India, Pakistan, Sudan, and Philippines were 153 (5%) individuals. The maximum respondents, i.e., 1,129 (37.6%) were found to be from Eastern region. A good proportion of respondents i.e. 775 (25.6%) belonged to Middle region (Najd Region). Respondents from Western region (Hijaz region) and Southern region were around 657 (21.7%) and 358 (11.8%), respectively. The minimum participation was recorded from the Northern region of the Kingdom with 103 (3.4%) respondents.

Working women respondents who contributed in research were around 921 (30.5%) in which highest number of women (425/921) were found to be working as teachers in educational institutes while respondents working in offices and health-care setups were also among participants with 270 (29%) and 226 (24.5%) respondents from total working women, respectively. Majority of the respondents were housewives, comprising 1,603 (53%) of study participants. A considerable number of respondents, i.e., 474 were students currently studying in different universities.

1,940 (64.2%) participants belonged to age group 30 years and below, followed by age groups between 31 and 40 years, and above 40 years with 878 (29.1%) and 204 (6.8%) respondents, respectively.

Maximum number of study participants held bachelor's degree or above with 2,436 (80.6%) respondents while those participants who completed high school was 528 (17.1%). Participants with only intermediate level completion were 47 (1.6%), whereas 11 (0.4%) participants had accomplished primary school education only.

Marital status of around 97% study participants was married. From these, 2,931 married participants, 1,424 (48.5%) participants answered that their duration of marriage ranged from 0–5 years, followed by 846 (28%) of participants whose marital duration was 6–10 years and 752 (24.9%) respondents informed that their marriage had completed more than 11 years. There were 83 divorced respondents as well as 21 documented widows.

On questions regarding first choice of contraception, 1,430 (47.3%) of the women answered Oral Contraceptive Pills (OCP), followed by condom with 505 (16.7%) participants, while intrauterine devices (IUDs), abstinence, and transdermal patch were responded by 485 (16%), 366 (12.1%), and 84 (2.8%), respectively. Tubal ligation, vaginal ring, and injection choices were almost merely recorded from the participants. Moreover, 140 (4.6%) participants did not answer this question during the survey.

Around 2,421 (80.11%) study participants had heard or read about contraceptive pills. Almost 66% of study respondents had heard or read about condoms. Awareness for abstinence was responded by 1,771 (58.6%) participants, while knowledge regarding use of transdermal patch, copper IUDs, hormonal intrauterine device, and hormonal injection was reported by 1,655 (54.76%), 1,422 (47.05%), 1,351 (44.73%), and 1,027 (33.95%) respondents, respectively. The contraceptive methods which the participants had less awareness about included subdermal implant, vaginal ring, tubal ligation, female condoms, and emergency contraception by 897 (29.68%), 719 (23.79%), 703 (23.26%), 646 (21.37%), and 517 (17.10%), respectively.

Current study showed that the choice of method of contraception was usually adopted on advice/consultation with partner/spouse. This option was responded by 1,195 (39.5%) participants. The choice of contraception, based on doctor's recommendation was agreed by 1,028 (34%) respondents, whereas almost one fourth of the respondents revealed that their choice of contraception was based on the information of family members or friends.

Information available on internet via websites or YouTube was found to be the most common source of information about different contraceptive methods as reported by 1,700 (58.6%) participants. Almost half of the respondents reported that they only learnt about contraceptive methods by the information provided by health care professionals. It was also disclosed that around 165 (45.16%) respondents gained information about contraceptive methods by their close friends or family members. Social media tools, such as twitter, WhatsApp, and Facebook have also contributed to enhance the knowledge of people about contraceptive methods and reported to be an important source of information by 516 (17.07%) respondents. Mutual sharing of information between couples was also reported

as source of information by 328 (10.85%). Other sources of information which were reported by small number of study participants were brochures in doctor's waiting room and books/articles by 434 (14.36%) and 201 (6.65%), respectively.

A total of 1,873 (62%) participants reported that they were currently using contraceptives. Among these 1,873 participants, the most common method stated was use of contraceptives pills which was reported by 755 (40.3%) participants. The other common methods stated by participants include use of male condoms, copper intra uterine device (IUD) and abstinence by 309 (16.5%), 224 (12%), and 407 (21.7%) respondents. Use of hormonal therapy, such as hormonal IUD and hormonal injection, was reported by 57 (3%) and 11 (0.6%) study enrolled participants. The other contraception methods, such as transdermal patch, subdermal implant, vaginal ring, tubal ligation, and female condom, were reported by 68 (3.6%), 23 (1.2%), 8 (0.4%), 4 (0.2%), and 4 (0.2%) respondents, respectively. A total of 1,149 (38%) participants reported that they were not using any method of pregnancy prevention currently.

Among the participants who were currently using contraceptives, 667 participants stated that their rationale of using the method was based on the efficacy and reliability of the method as per their knowledge, while 485 participants stated that the lack of side effects was the main reason of choosing their current contraception method. Ease of compliance of using the current method was reported by 399 participants, while the use of method due to doctor's recommendation was reported by 244 respondents.

Among 1,873 respondents who used different types of contraception methods, 794 (42.3%) respondents stated that they would stop using contraceptives when they feel the desire for pregnancy. Side effects of usage of current contraception method were stated as main reason for withdrawing the current method of contraception. Around 101 (5.3%) participants answered that they will change the current method only on the doctor's recommendation. In contrast, 105 (5.6%) responded that they will change the current contraceptive method without doctor's recommendation but based on their experience if at any point of time they felt that the method was not suitable for them.

The most commonly encountered side effects were mood swings and depression (34.6%), with 48.6% of participants were aware of these possible side effects. Other side effects encountered by the participants included weight gain (23.3%), metrorrhagia (10.5%), menorrhagia (10.2%), decreased libido (9.7%), and acne (6.3%). There was some level of knowledge regarding most side effects. Among the participants, 42.5% were aware of weight gain as a side effect, while fewer were aware of metrorrhagia (20.4%), menorrhagia (17.1%), and unplanned pregnancy (13.6%).

Discussion

All study participants had heard or read about contraceptives and were also aware that contraceptives are used for family planning and prevention of unwanted pregnancy. Out of 3,022 participants, three quarter of the women (80.1%) had heard or read about contraceptive pills. More than half of them (66.2%) had heard or read about condoms, followed by abstinence 58.6%, transdermal patch 54.7%, copper IUDs 47.05%, hormonal intrauterine device 44.73%, hormonal injection 33.95%, subdermal Implant 29.68%, vaginal ring 23.79%, sterilization (tubal ligation), 23.26%, condom (female) 21.37%, and emergency contraceptive 17.10% rated the least method that was heard or read among participants. The level of knowledge and awareness reported in this study was higher than those reported by others. However, a study conducted in 2012 reported that knowledge regarding contraceptive methods was poor in 68.3% Saudi women as compared to 31.7% with good knowledge [14]. Another cross-sectional survey conducted in 2015 disclosed good knowledge of contraceptive methods among Saudi women (79.4%) as compared to (20.5%) with poor knowledge. Most of the participants of that study read about oral contraceptive (pills) before using it (39.01%), followed by women who use IUDs (13.6%), then participants who used condoms (13.2%) and transdermal patch (3.8%) [5]. Furthermore, a cross-sectional study conducted in 2017 reported a high level of knowledge and awareness toward OCP use [15].

Although nowadays women have knowledge and access to wide range of contraceptives, however, on question for first choice of contraceptive, 47.3% rated OCP, followed by condom with rate of 16.7%, IUDs 16.0%, abstinence 12.1%, and transdermal patch 2.8%. Tubal ligation, vaginal ring, and injection choices were almost rarely recorded from participants. Furthermore, 4.6% of participants did not answer this question during the survey. Several recent studies have also reported that most commonly used contraceptive in SA are OCPs [5,9,11,13,16–24]. Based on previous studies, it seems that popularity of OCP and IUD is because women look for contraceptives which provide highly effective protection against pregnancy.

Condoms and IUDs were the second most common choice of contraceptives in the present study. However, several studies disclosed IUDs as the second most commonly used contraceptive in Saudi Arabia [11,13,15,17–19,22]. One study noted that working women preferred the use of IUD as a contraceptive [11]. Other contraceptive methods such as abstinence, transdermal patch, tubal ligation, vaginal rings and injections were less known by women and less used [25].

The study showed that participants' choice of the method of contraception was most commonly based on the advice of partner/spouse with rate of 39.5%, followed by doctor's recommendation 34.0%, and family or friends 25.7%. Very few participants were influenced

by pharmacists and nurses. A study conducted in Taif found that parents and family were the primary sources of knowledge [19]. Friends and family were also found to be the main sources of information about contraception [25].

However, the major source of information about contraceptive methods was found to be internet (58.5%), followed by healthcare professionals (49.6%), family or friends (45.1%), social media (17%), partner (10.8%), brochures in doctor's waiting room 14.36%, and articles/ advertisements/ books (6.6%). These results were different than the cross-sectional study that was conducted in between 2007 to 2008, which reported that main source of women's knowledge was the family members (32.9%), television (TV) and press media came next (26.3% and 21.5 % respectively). Health workers were reported by 17.3% of the participants, while internet was the least source of information reported by 2% [13]. However, another cross-sectional study conducted in 2016 reported major sources of knowledge about contraceptives were doctors and the internet [26]. Women's increased awareness is likely due to the Saudi lifestyle which encourages women to get better information through reading and surfing internet [25]. In recent years the Saudi community has changed rapidly, particularly regarding women's education and employment; many considered these factors to be important in determining women's beliefs, attitudes and practices toward contraceptives [27].

Among 69.7% participants, preventing pregnancy was the most frequent reason for using contraceptives, while 20.1% reported using contraceptives for medical issues. Concern about side effects and complications was reported (10.8%) as the most frequent reason for not using contraception. Concern about upper-genital-tract infection related to IUDs limits their wider use [28]. A retrospective cohort study revealed serious complications of IUDs such as ectopic pregnancy, pelvic inflammatory disease, and perforation which were infrequent in all age groups [29]. A multi-center retrospective study concluded that similar to adults, IUD use in adolescents and nulliparous women is effective and associated with low rates of serious complications. Health practitioners should therefore consider IUDs for contraception in all females [30].

Around 62% of participants were currently using contraception methods while others were not due to certain reasons. A survey conducted in 2008 in Al-Khobar and Dammam of the eastern province of Saudi Arabia, reported that 73.9% of women with an average age of 33.23 ± 7.3 years said they used different modes of contraception and it was reported that OCP were used by 36.6%, IUD by 19.9%, while the rest used other methods like condoms, calendar, external ejaculation, and breast feeding [20]. Another study found that contraceptive use had been found to be high (74.9%) among Saudi Arabian women: oral and intra-uterine contraceptives were used for birth spacing, and the former is especially popular [7].

Women's satisfaction with their contraception method has remained important for its long-term use to prevent unplanned pregnancies. On question about experience with the selected method, majority of participants (38%) did not respond, however, 26.2% of participants were highly satisfied and 13.9% were satisfied with current method of contraception they were using. Similarly, 14.9% of participants were fine with the method they were using, on other hand 3.6% were not satisfied and 3.3% were strongly not satisfied with their current method of contraception. Some reports indicate that satisfaction versus dissatisfaction depended on proper and thorough counseling to lower discontinuation rate [20]. Contraceptive satisfaction is an important reason why women initiate, change, or discontinue contraceptive methods. Understanding women's satisfaction with their contraceptive method may facilitate improvements in both short- and long-term reproductive health outcomes.

Mood changes during use of contraceptives are often reported as side effects and reasons for dissatisfaction and discontinuation. Recent register-based studies showed associations between contraceptive use and risk of depression and attempted suicide, especially in adolescents and during the first months of use [31].

Conclusion

Contraceptive use was significant in educated Saudi women population, but since it's a web-based survey, its data did not represent all the women. More studies are recommended to cover the rural areas and not limited to technology users. Additionally, this study emphasizes the need to increase the awareness about the new types of safe and effective contraceptive methods which have improved results on compliance.

List of Abbreviations

IUD Intra uterine device
OCP Oral Contraceptive Pill

Conflict of interest

The authors declare that there is no conflict of interest regarding the publication of this article.

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Consent for publication

Informed consent was obtained from all participants.

Ethical approval

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