

Birth Control Aspects Among Saudi Women

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Abstract

Background: In Saudi Arabia, over the years birth control has been a controversial issue by reason of several factors. Religion, wrong believes, and healthcare.

Objectives: To determine the state of knowledge, attitude, and practice of Saudi women regarding birth control (BC) in KSA.

Methodology: Cross-sectional study, by the Quota sample technique, and sample size was 715 Saudi women at childbearing age.

Results: More than half of responded were aware about BC (61%). Distributed as (70%) among (26 – 46<) age groups ($P=0.0000$), (68%) of all married participants were aware about birth control ($P=0.0003$), (64%) of them were housewives ($P=0.0000$). A total of (60%) of the participants reported their use of birth control. (84%) were among the age of (26 - 45<), (87%) were married women, (66%) who had university and above education, (84%) of housewives were using BC ($P=0.0000$).

very few of participants had shown a strong attitude toward BC (11%). (15%) of women were supportive of the use of BC among the age of (15-25) years ($P=0.0000$), and only (16%) of the single women had strong support ($P=0.0002$). Satisfaction regarding BC was (79%) in this study. Among married women it was (83%) ($P=0.0000$). (83%) of housewife ($P=0.0049$).

Conclusion: In conclusion, this study showed a high level of awareness of birth control among the majority of the participants. More than half of them were practicing BC. And most of them have moderate support for birth control. Finally, a preponderance of participants was satisfied with the use of birth control.

Introduction

Background:

Birth control is a term used regarding any practices, methods or devices to prevent pregnancy in a sexually active woman. It is also known as family planning, pregnancy prevention, fertility control, and contraception.¹ Birth control have different methods including barrier method, hormonal method and lastly the natural family planning². Birth control serves a common goal to throw multiple ways of conduct. There are more than one-factor affecting birth control such as age, health, emotional maturity, marital status, sexual relationships, and religious convictions. The earliest method of contraception was probably coitus interruptus. Barrier methods of contraception were later developed. The use of a goat's bladder as a female sheath was described in Roman literature and ancient Egyptian texts describe the use of vaginal pessaries. In the 17th century Casanova used condoms made of animal intestine. In the 1920s research confirmed the timing of ovulation and the role of the ovarian hormones, estrogen and progesterone, in reproduction. This led to the development of the rhythm method of contraception, based on the woman's monthly variation in body temperature, and the development of the contraceptive pill. The first large scale trial of the pill took place in 1956 and it has been refined since then.³ In the early part of the 20th century, the focus was on the need for married couples to space children and limit family size.

Problem Statement:

Birth control does not have an individual impact only but extends to advance the economies at community, country and global level as well. In Saudi Arabia, over the years birth control has been a controversial issue by reason of several factors. Religion is the most effective factor upon the use of BC, leading to possessing many wrong believes around it. For example, limiting children and causing infertility. Regarding health, women are afraid of using Birth Control due to side effects. For instance, Intrauterine devices cause irregular bleeding for several months interfering with women's daily life and Condoms trigger an allergy in some individuals.

Justification:

The rate of using birth control among women in KSA has been increasing remarkably over the years. Especially with health development, there are a variety of types of better methods with the least side effects possible. Birth control is also highly used by unmarried women, as some types are known to have other uses. For instance, many women choose some hormonal birth control types to regulate menstrual cycles or reduce hormonal acne.⁴ Nevertheless, despite the remarkable importance of birth control in women's life, there are still a few misconceptions assumed about it. For example, it's probability to cause sterility. This research provides information that can be useful in designing campaigns for intervention.

Hypothesis:

In this study, it is expected that women who are married, with higher education and older in age have better knowledge, attitude and more practice than single women.

Objectives:

General objective:

To determine the state of knowledge, attitude and practice of Saudi women regarding birth control in KSA.

Specific objectives:

- 1- To enumerate the commonly used methods of birth control and the reasons of their use among Saudi women in KSA.
- 2- To evaluate the awareness of Saudi women about birth control methods in KSA.
- 3- To describe attitude and satisfaction of Saudi women in KSA regarding birth control and the factors associated with their choices.

Review of literature

Skiles, 2005, Malawi, the role of the accessibility of the contraceptive methods on Malawian women's choice, Sample size was 22,480, 19% of urban women are currently using the injectable contraceptives and 96% of them are living within the area of the service delivery site. Rural women have shown a lower percentage due to the difficulty of reaching the service and the delivery, also the lack of supply in these sites. The accessibility of the local injectable services has a valid role in increasing usage of injectable contraceptives which made urban women more able to control their births and lives as well.⁵

In 2006, Stanwood NL from United States reported an article to estimate young pregnant women's knowledge of IUDs. 190 women. Half of women (95% CI 43–57%) had heard of intrauterine devices, 25% (95% CI 19–32%) knew someone using an IUD for contraception, and 20% (95% CI 14–26%) had heard of both types of IUDs. Of women who had heard of IUDs, 58% (95% CI 47–69%) did not know about their efficacy, and 71% (95% CI 60–80%) did not know about their safety. Over half (55%, 95% CI 44–65%) knew that IUDs could be used for a year or more. Women who knew of IUDs were slightly older (21 versus 19 years, P.001) and were more likely to be parous (55% versus 39%, P=.04) than those who did not know about IUDs. Young women choosing contraception after a pregnancy would benefit from counseling about the relative

safety and effectiveness of IUDs, allowing them to make fully informed contraceptive decisions.⁶

In 2007, Parveen N. from Kingdom of Saudi Arabia, reported an article to determine contraceptive consciousness in Saudi females. This article was among 500 Saudi females in Hail region The majority was between 25-34 years of age (47%), followed by 35-44 years of age (31%), then 15-24 years of age (14%), 45 years of age and above (6%) The Statistical assessment shown that most of the participants were extremely trained (82.2%), high school (12.6%) , only (3.2%) secondary school, completed main school (1.8%), analphabets (0.2%). At the end, Public health organizations should focus on raising awareness among both partners; facilitating access to the variety of contraceptive options.⁷

Lee, United States, 2008. To investigate of the effect of hormonal and reproductive lifestyle factors and oral contraceptives on breast cancer risk. (N: 1,469), 94 women had a deleterious BRCA1 or BRCA2 mutation. Number of full-term pregnancies was inversely associated with breast cancer risk regardless of the BRCA1/2 mutation status. Longer breast-feeding duration was protective among carriers but not among mutation carriers; however, this apparent effect modification was not statistically significant (P = 0.23). neither oral contraceptives use overall nor the use of low-dose contraceptives was associated with an increased risk of breast cancer in any subgroup. We found no indication that oral contraceptive use before age 30 years increases breast cancer risk in the

BRCA1/2 mutation carriers and noncarriers (data not shown). Compared with never users, the OR (95% CI) for using oral contraceptives for >5 years before age 30 years was 0.80 (0.57-1.14) among the BRCA1/2 mutation noncarriers and 0.84 (0.40-1.78) among the BRCA1/2 mutation carriers. The protective effect of parity was similar in BRCA1/2 mutation carriers as in noncarriers, whereas the effect of breast-feeding was not. Use of oral contraceptives that were presumed to be low dose was not associated with increased breast cancer risk regardless of BRCA1/2 mutation status.⁸

In 2009, Cronin M, form Germany reported an article to determine whether prior oral-contraceptive use has a negative effect on the ability of women to conceive in both the short-term and long-term. 59,510 women. Overall, 21.1% (95% CI 19.4–23.0%) of the past oral-contraceptive users analyzed were pregnant one cycle after stopping oral-contraceptive use. After three cycles, the rate of pregnancy had increased to 45.7% (95%CI43.6–47.9%). One year (13 cycles) after stopping oral-contraceptive use, the overall rate pregnancy was 79.4%(95%CI77.6–81.1%). Approximately 45% of women who did not become pregnant in the first year after oral contraceptive discontinuation did so in the second year; 2 years (26 cycles) after stopping oral-contraceptive use, the overall rate of pregnancy was 88.3% (95% CI 86.8–89.6%). Finally, the type of progesterin received, parity, and

duration of past oral-contraceptive use does not have a major influence on the ability of previous oral contraceptive users to become pregnant.⁹

In 2011, Foster D from United States reported an article to estimate how number of oral contraceptive pill packages dispensed relates to subsequent pregnancies and abortions.84,401 women. Women who received a 1-year supply were less likely to have a pregnancy (1.2% compared with 2.9% of women getting one cycle and 3.3% of women getting three cycles; P.05). Almost one-fifth (19%) of pregnancies ended in an induced abortion. The rate of Medi-Cal-funded induced abortions ranged from 0.18% among women who received a 1-year supply to 0.63% among women who received three cycles (P<.05;). Making oral contraceptives more accessible may reduce the incidence of unintended pregnancy and abortion.¹⁰

Caruso, 2011, Italy. To avoid unwanted pregnancies and to assure the partners a free, balanced and satisfactory sexual life. Sample size 115. Group A women reported quality of life improvement during the 6th cycle on all the scales (P <0. 05). Group B women reported quality of life improvement during the 3rd and 6th cycle (P <0. 05). Satisfaction with sexual activity, arousal, orgasm, and desire increased during the 3rd cycle in women on the group B (P <0. 05). Group A women did not report any change in all SPEQ items. At the 6th cycle, group B women reported better sexual experience than baseline in all SPEQ items (P <0. 05). All subjects who were affected by dyspareunia before Oral

Contraceptive intake reported decreased genital pain associated with intercourse at the 3rd and 6th cycle of both oral contraceptive regimens ($P < 0.05$). Women could use Oral Contraceptive in a subjective flexible modality. The extended - cycle Oral Contraceptive might produce positive effects on the quality of sexual life, enforcing the concept of tailoring an Oral Contraceptive to a woman.¹¹

Frost, 2013, USA, to examine the individual-level benefits and reasons for using contraception reported by women themselves. Sample Size was 2049 Women have expressed many reasons for using contraception. The Most highly reported reasons regarding unmarried women were, being not ready to have a child (63%), to have better control over their lives (60%), and that having a child would interrupt their lives and their goals (57%). Married women said that they want to take care of themselves and their families (63%), to have control over their Financial situation (56%) and to complete their education (51%), these were the highly reported reason among married women. Women in USA have shown a verity of reasons for using contraceptives and how these contraceptives reflected in their lives, by making them more able to avoid the consequences of unintended pregnancies.¹²

Tilahun, 2013, Ethiopia. We examined knowledge, attitudes and contraceptive practice as well as factors related to contraceptive use. Sample size 811. The concept of family planning was well known in the

studied population. Sex-stratified analysis showed pills and injectables were commonly known by both sexes, while long-term contraceptive methods were better known by women, and traditional methods as well as emergency contraception by men. Formal education was the most important factor associated with better knowledge about contraceptive methods (aOR=2.07, p,0.001), in particular among women (aORwomen = 2.77 vs. aORmen = 1.49; p,0.001). In general, only 4 out of 811 men ever used contraception, while 64% and 43% females ever used and were currently using contraception respectively. The high knowledge on contraceptives did not match with the high contraceptive practice in the study area. The study demonstrates that mere physical access (proximity to clinics for family planning) and awareness of contraceptives are not sufficient to ensure that contraceptive needs are met. Thus, projects aiming at increasing contraceptive use should contemplate and establish better counseling about contraceptive side effects and method switch. Furthermore, in all family planning activities both wives and husband's participation should be considered.¹³

In 2015, Khan L from Pakistan reported an article about how to assess the quality of family planning services in the family planning center of PIMS, Islamabad, on 100 married women. The result showed that (40.27%) of the clients would like to have the next child after >5 years, while the mean age of the youngest child was 11.77 months with SD 9.850. Only 42% were provided with the information of all family planning methods, the majority 81% were provided with the information

of side effects. Out of those who respond yes about the provision of information of side effects, 83.50% knew what do in case of possible side effects. While 79% were explained verbally about how to use the methods, 3% had no explanations. It was concluded from the results of this study, that the facility was easily accessible to clients. And the information provided to the clients was inadequate, this might be due to the provider's improper training and poor interpersonal communication and technical skills. Most of the clients know when to have to follow up, but there is a significant discontinuation rate which might be due to failure of follow up and side effects of the family planning method.¹⁴

In 2015, Elgharabawy RM. From Kingdom of Saudi Arabia, reported an article about the current contraceptive choices and different types, methods, and use of Saudi women to determine the knowledge of contraceptives. this article was among sample of 287 Saudi Women. They were women in mid-age and above, and those who have higher education, and those who have a lot of children. approximately 40 (13.9%) women didn't use a contraceptive. About 247 women were using contraceptive in different ways. Oral contraceptive (49.1%), condom (17.1%) and intrauterine device (16%). Finally, lifestyle is closely linked to understanding of contraceptive methods and approach to for baby spacing.¹⁵

In 2015, Mahboub SM. From Kingdom of Saudi Arabia, was reported an article for the assessment of attitudes in Saudi Female, and study of variables influencing contraceptive use. The Socio-demographic features of 305 research respondents, most of whom were 26-35 years of age (40.9%) and the smallest proportion was over 50 years of age (5%). The bulk of respondents had bachelor or higher education rates (78.1%) and only (4.6%) had intermediate college schooling or less. Most of the sample was married (94.4%). Finally, Women's attitude to contraception has been influenced by their working status. Husband consent was also an important factor in enhancing the attitude of women towards contraceptives.¹⁶

OlaOlorun, 2016, Sub Saharan Africa. This study examined the influence of change in fertility desires on change in modern contraceptive use over time in three peri-urban communities in sub-Saharan Africa. Sample size 479. Modern contraceptive use increased in Ipetumodu, Nigeria (29.4 % to 36.7 %), but declined slightly in Sebeta, Ethiopia (66.9 % to 61.3 %) and Asawase, Ghana (12.6 % to 10.8 %). Across sites, at baseline and follow up, women who wanted no more children reported more contraceptive use, compared with those who wanted more children, and were more likely to shift to being contraceptive users in Ipetumodu [aOR(95 % CI):1.55 (1.07,2.26)]. Women's fertility desires influenced their contraceptive behavior, although there were cross-site differences.

Changing contraceptive demand and program factors will be important to enable peri-urban women to frame and act on their fertility desires.¹⁷

Rizwan, 2016, Saudi Arabia (Al-Taif). the study was conducted to identify contraceptive prevalence, obstacles to use contraceptives and reasons/ methods of contraception opposed by husband. Sample size 700. The study participants perceived fear of side effects (55.7%), followed by accessibility (31.19%) and husband refusal (14.37%) as most important obstacles for contraceptive use. Hindrance from family members (10.4%) and religious beliefs (3.97%) were not identified as important obstacles in using contraceptives. Among one hundred and ninety-one women who reflected husband refusal as obstacle for contraceptive use perceived concerns for side effects of contraceptive use for wife (45.55%), desire for more children (30.89%) and religious aspects (9.42%) were the most cited reasons of husband refusal. the study concluded that married women of reproductive age group perceived fear of side effects, accessibility and husband refusal as most important obstacles or contraceptive use. Thus, it is highly recommended to educate the health care professionals and use of mass communication so that misconception and lack of reliable and authentic information prevailing related to side effects of contraceptive use could be addressed.¹⁸

In 2016, Gosavi A from Singapore reported an article about the level of awareness and knowledge of contraception among women in Singapore and identified the factors that influence their choices, on 259

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women. The results showed that awareness of women on the following methods was high: condom (100.0%), oral contraception pill (89.2%), tubal ligation (73.0%) and copper intrauterine device (IUD) (72.2%). The women were least aware of hormonal IUD (24.3%). Parous women who had a previous abortion or who have used contraception previously were more likely to have a higher awareness of contraception. 89.2% of the women had good knowledge about condoms, among those, only 46.0% had good knowledge of hormonal IUD. Women who had used hormonal IUD ($p = 0.042$) and the condom ($p < 0.001$) were more likely to have good knowledge of them. Much rated efficacy (90.5%) and a healthcare professional's advice (90.1%) are important in contraceptive choice. Few considered peer influence (21.0%) and cultural practices (16.3%) to be important. It was concluded that women in Singapore have poor awareness and knowledge of contraception, especially long-acting reversible methods.¹⁹

Ndikom, 2016, Nigeria, investigation the Satisfaction, and Compliance with Contraceptive Methods among women in Nigeria, sample size was 290, More than 80% of women were satisfied with their contraceptive methods. The common satisfaction point was the convenience 46%, partner tolerance 45 %, and accessibility 37%. on the other hand, women complained about several things first no pregnancies with the adherence of the method 96% lack of satisfaction toward the used method 96% the effectiveness only appear with the proper use 95%. compliance P value =0.0388. satisfaction P value = 0.04. The findings

showed high rate of compliance related to partner approval and lesser rate for not being satisfied with their current methods.²⁰

Birnbaum, Israel, 2016. To compare the health of children born to parents who met while the mother was on the pill with that of children whose parents met when the mother was not on the pill. (N:192), Children to mothers who were on the pill are more infection prone, require more medical care, suffer from a higher frequency of common sicknesses, and are perceived as generally less healthy than children whose parents met on non-pill circumstances. As predicted, children born to couples who met during regular contraceptive pill use had poorer overall health ($M = 0.21$, $SD = 1.20$) than children whose parents met under natural non-pill circumstances ($M = -0.14$, $SD = 0.85$), ($P=0.036$).²¹

Charlton, 2016, Denmark. Is oral contraceptive use around the time of pregnancy Onset associated with an increased risk of major birth defects. (N: 22013). (25, 1), (25. 0) No increased risk of any major birth defect associated with oral contraceptive exposure, Pregnancies ending as stillbirths and induced abortions to the cohort, were consistent (0. 95 (0. 89 to 1. 02) and .99 (0. 84 to 1. 16), respectively, no significantly increased risk of any subgroup of major birth defects associated with oral contraceptive exposure, Never use of oral contraceptives was associated with a slight increase in risk of any major birth defect, never use of oral contraceptives was associated with increased risk of genital defects as

well as those in the nervous and digestive systems and with increased RISK Of abdominal wall defects. We assessed the association between maternal oral contraceptive exposure shortly before or during.²²

Alfadeel, 2016, Saudi Arabia (Al-Qatif, Al-Ahsa). To describe the awareness and practices of women regarding their reproductive health, and to identify women reproductive health problems. Sample size 250, It was found that about 79% were interested in reading topics and articles about their health. About 65% knew how to perform self-examination of the breast. About 60% of women did not perform exercise at all. Seventy five percent of women used to eat fast food at least once a week. About 24% reported family history of breast cancer. Those who had health problems during pregnancy or at delivery amounted to 27.2%. About 12% of women took the contraceptive pills for birth spacing. Most women were interested in reading about reproductive health. Most of women knew how to do breast self-examination. A high proportion of them did not follow healthy diet or exercise.²³

Alsulaiman, 2017, Saudi Arabia. This study is to assess knowledge on combined oral contraceptives use among young females in Riyadh, Saudi Arabia, the sample size was 426, they found out a total of 426 females living in Riyadh completed our survey during the month of September 2016, of those, 67.1% were aged between 18 and 30 years old, 64% were married, 81.46% of them had a university degree, and

60% were current or previous users of contraceptive pills, our sample scored well below average for all of the five domains in the questionnaire, and poor knowledge level was noted across all domains of the questionnaire $p=0.00$, this survey clearly indicated a poor level of knowledge on combined oral contraceptive uses among young females in Riyadh, Saudi Arabia.²⁴

In 2018, Smith K from the USA reported an article about potential mood-related side effects of oral contraceptives, on 29 women. Based on the participants, Hamilton Depression Rating Scale (HAM-D) scores, we found that out of 29 women, 23 (79%) women were not depressed ($\text{HAM-D} < 19; 8.0 \pm 1.09$) and six (21%) were depressed ($\text{HAM-D} > 19; 20.22 \pm 1.3$). ANOVA (Analysis of variance) assessing the core symptoms of depression on the HAM-D scale demonstrated significant differences in the following parameters: Insomnia early, ($F [2,21] = 3.88$, $p = 0.03$); insomnia middle, ($F [2,21] = 6.55$, $p = 0.006$); psychological anxiety, ($F [2,21] = 6.12$, $p = 0.008$); somatic anxiety, ($F [2,21] = 4.16$, $p = 0.03$); and somatic symptoms, ($F [2,21] = 5.16$, $p = 0.01$). Post-hoc analysis revealed that women in the progestin-only contraceptives (POC) group had significantly higher scores for the following characteristics: Insomnia early ($p = 0.04$), insomnia middle ($p = 0.01$), psychological anxiety ($p = 0.02$), and somatic symptoms ($p = 0.02$) compared to women in the no contraceptives (NC) group. Women in the POC group also had significantly higher scores for insomnia middle ($p = 0.02$) and psychological anxiety ($p = 0.01$), than women in the combination-oral

contraceptives (COC) group. This pilot study pointed to the use of POC as a potential risk factor for developing depressive symptoms. It can be assumed that not all depressive symptoms experienced by POC users are drug related.²⁵

Al-Mass, 2018, Saudi Arabia, this study is to estimate the prevalence of use of oral contraceptives and assess the knowledge, behavior and practice of oral contraceptives among women living in Riyadh, Saudi Arabia. Sample size was 462. The majority (76.4%) of the respondents were in the age group of 21-30 years and nearly half (52%) of the respondents were married. Most of the respondents (~78%) had good knowledge about OCs. However only 31.6% females knew the use of OCs for menstrual cycle regulation. More than half of the respondents (57.1%) use OCs. 62.1% use OCs as a contraceptive pill, 25.75% use OCs for menstrual cycle delay, 9.1% use OCs for therapeutic purposes. (OR=2.4; p= 0.005) and headache (OR=1.86, p=0.045) in comparison with unmarried OC users. This study provides valuable evidence and suggests that by improving the knowledge and dispelling common misconceptions can help in changing Saudi women's behavior and attitude.²⁶

Cansino, United States, 2018. To investigate if women desire talking to a counselor or physician about contraception when seeking first-trimester medical or surgical abortion. (N:3041), Among the 3041 women, 1959 (64.4%) completed surveys. Overall, 1208 (61.7%) preferred not discussing contraception prior to having an abortion,

mostly due to intent for a desirable method. No association was found between the desire to discuss contraception and age, race, planned abortion method, clinic site and number of unplanned pregnancies. Subjects who desired to talk about contraception, wanted to discuss easier and more effective contraceptive methods as compared to previously used methods. Regardless of their desire for a discussion about contraception, 1386 (70.8%) of subjects wanted to leave the clinic with a specific method, including a long-acting reversible method [intrauterine device or implant (190, 13.7%)] or other hormonal method [pills, patch, ring or injectable (680, 49.1%)]. Subjects with no interest in talking about contraception due to content with the method used at the time of conception, were more likely to have been using either a short-acting hormonal method ($p=.01$) or no contraception ($p<0.001$). Subjects with no plan of using immediate post abortion contraception or a plan of a soon pregnancy were more likely to report that they were no contraception was used leading to the current pregnancy ($p<0.001$ for both). Most women seeking first-trimester abortion seldom come to the clinic for discussing contraceptive, mostly due to choosing of a specific method in advance.²⁷

Skogsdal, 2019, Sweden. To evaluate the effect of using the reproductive life plan counseling among a representative sample of Swedish - speaking Women visiting registered nurse - midwives for contraceptive counseling. Sample size 1946. Women in the intervention group increased their knowledge about all aspects of fertility. They also

increased their awareness after interview of factors affecting preconception health, such as to stop using tobacco ($p = .019$), to refrain from alcohol ($p = .001$), to be of normal weight, and to start with folic acid before pregnancy ($p = .001$). The most commonly used contraceptive method was combined oral contraceptives, followed by long - acting reversible contraception. Three out of four women (76%) in the intervention group stated that the reproductive life span counseling should be part of the routine in contraceptive counseling. P-value F0.001. Knowledge about fertility and awareness of preconception health increased after the intervention.²⁸

Alhusain, 2019, Kingdom of Saudi Arabia. This study is to assess knowledge on contraceptive pills and use among women in Jeddah, Saudi Arabia. Sample size was 979 females. The prevalence of contraceptive use among Saudi women living in Jeddah was 67.7%. Preventing pregnancy was the most frequent reason for using contraception (69.7%). Oral contraceptives were the most commonly used contraceptive type used (31.8%) followed by intrauterine devices (21%). Almost 16.4% used the withdrawal method, and the male condom method was used by 13.6%. Mood swings and depression were the most common side-effects encountered (34.6%) Age, years of marriage, and number of children were not shown to have any significant effects on contraception use among the participants. $P=0.03$, the study showed knowledge gaps in the use of different contraception

methods. The most common contraceptive methods used among Saudi women are pills and intrauterine device. Education played a big role to use the different type of contraception.²⁹

Methodology

1. Study approach:

1.1 Study Design:

This is a cross-sectional study.

1.2 Study area / population:

Kingdom of Saudi Arabia is a country in Western Asia, With a land area of approximately 2,150,000 km². Population of 34.14 million, 19.6 million males and 14.54 females. The area of modern-day Saudi Arabia formerly consisted of mainly four distinct regions: Hejaz, Najd and parts of Eastern Arabia (Al-Ahsa) and Southern Arabia (Asir). Riyadh is the capital of Saudi Arabia and the largest city on the Arabian Peninsula, with a population of 6.9 million people. It is located on the eastern part of the Najd.

This study comprises women at childbearing age.

Inclusions: Saudi women

Exclusions: Non-Saudi women

1.3 Sample size: 715

1.4 Technique: Quota sample.

2. Data need tools:

2.1 Instrumental questionnaire:

A specific questionnaire was designed for this study. It included section: personal information, knowledge, attitude, satisfaction and practice.

2.2 Definition and procedure:

Scoring of attitudes: ≥ 4 Strong support, 2-3 Moderate support, < 2 Poor support.

Scoring of satisfaction: 2-3 Satisfied, < 2 Not satisfied.

2.3 Data collection:

Data was gathered directly from the respondents online.

3. Data presentation and analysis:

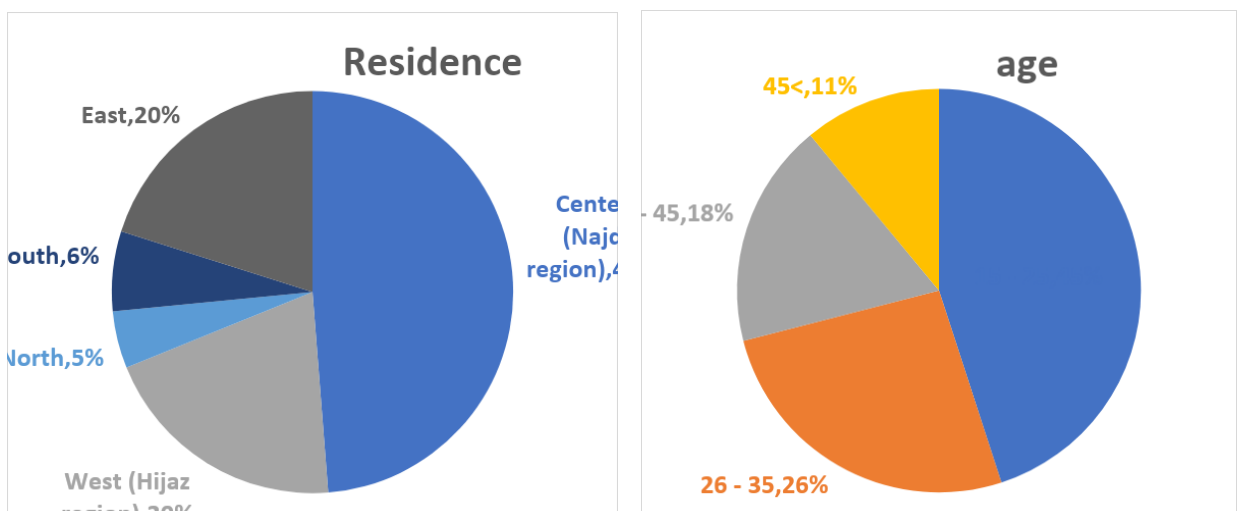
The data was cleaned, coded and entered using SPSS. The data was presented in tables and graphs. The suitable statistical test was used for bivariate analysis.

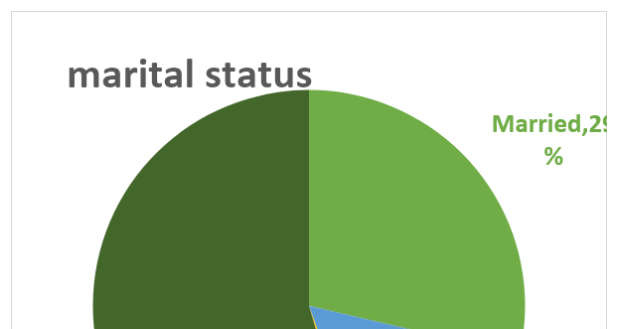
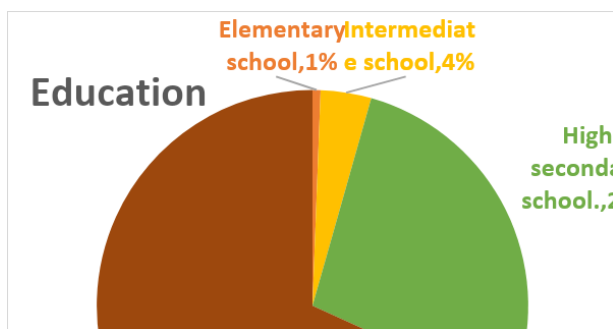
4. Ethical consideration:

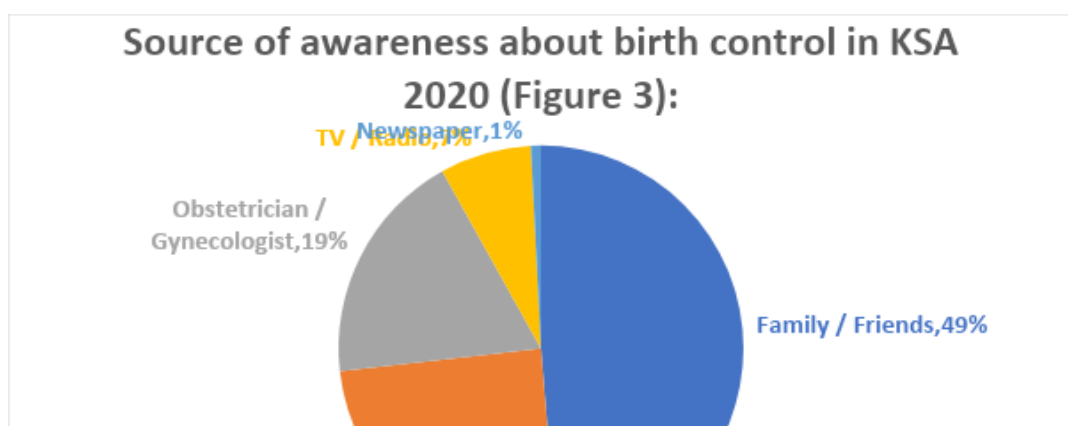
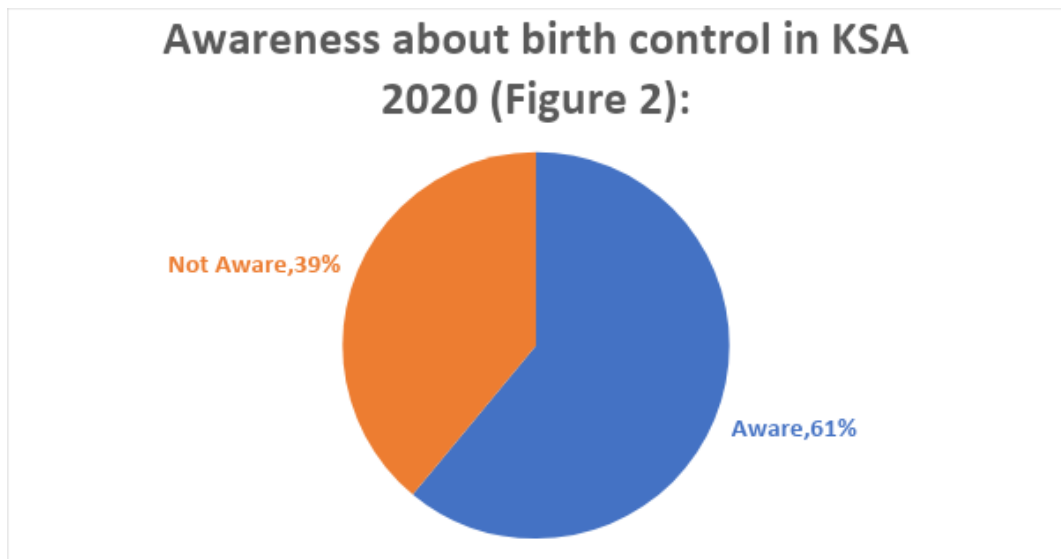
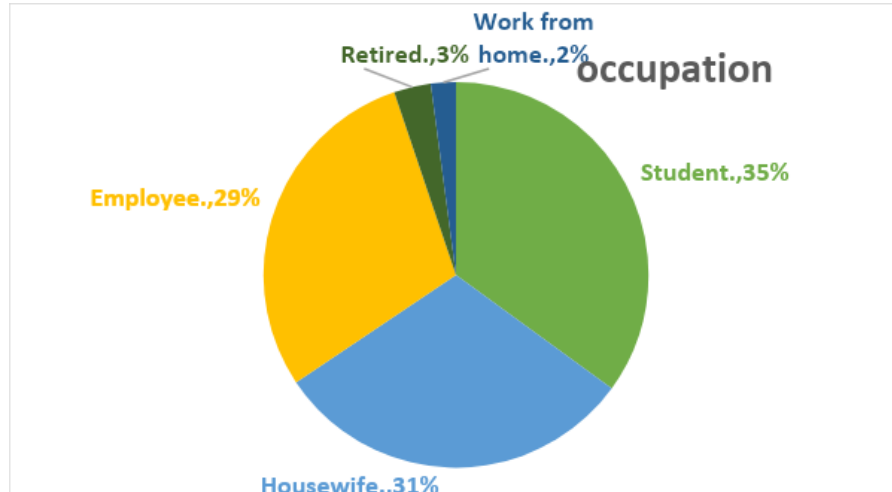
An online informed consent was given to the participants, if they accept, they will proceed with the survey. The data was confidential and anonymous and was used for study purposes.

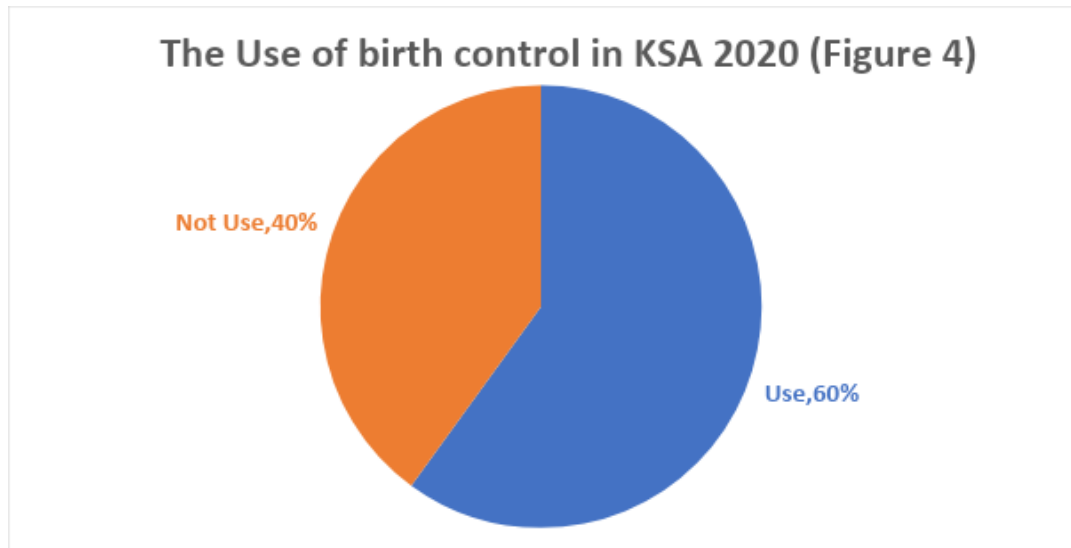
Results

Demography in birth control in KSA 2020 (figure 1):









The Use of birth control in KSA 2020 (Table 1):

| Practice | | Number | Percentage |
|----------------------------------|--------------------------------|--------|------------|
| The used types of .birth control | Pills / Injections | 225 | % 31.5 |
| | Implant / intrauterine .device | 117 | % 16.4 |

| | | | |
|--|------------------------------------|-----|--------|
| | Condom / Diaphragm or Cervical Cap | 46 | % 6.4 |
| | Natural Isolation | 30 | % 4.2 |
| | Emergency Contraceptives | 13 | % 1.8 |
| | Patches | 12 | % 1.7 |
| | .Tubal Ligation | 2 | % 0.3 |
| | Not applied | 270 | % 37.8 |
| Reasons behind the use of birth control | .Preventing pregnancy | 382 | % 53.4 |
| | .Regulate menstrual cycle | 72 | % 10.1 |
| | .Reduce ovarian cyst | 4 | % 0.6 |
| | .Reduce anemia | 2 | % 0.3 |
| | Not applied | 255 | % 35.7 |

A total of 715 Saudi women were approached to take part in the study. (45%) of them were between the age of (15 -25) years. Around (63%) were married. Near (49%) lived in Najd region, and (69%) had university and above educational level. Among the study group (35%) were student as shown in (Figure 1). In terms of awareness, (61%) of the women were aware about Birth control (Figure 2). In (Figure 3), (49%) of women mentioned "family and friends" as source of knowledge. Figure 4 shows that (60%) of women were using Birth Control. The most common used methods were pills and injection (32%) followed by implant and

intrauterine device (16%). (53%) of the women has chosen preventing pregnancy as their reason to use BC (Table 1).

Level of Awareness Regarding Demography in KSA 2020 (Table 2):

| Awareness | | Yes | No | Total | P value |
|----------------|---------|-------------|-------|-------|---------|
| Demography | | (438) (61%) | (177) | (715) | |
| Age | 15 – 25 | 164 (51%) | 159 | 323 | 0.0000 |
| | 26 – 35 | 106 (56%) | 83 | 189 | |
| | 36 – 45 | 100(80%) | 25 | 125 | |
| | > 46 | 68(87%) | 10 | 78 | |
| Marital status | Single | 122(48%) | 129 | 251 | 0.0003 |
| | Married | 304(68%) | 144 | 448 | |

| | | | | | | |
|-------------------|---------------------------|---------------|-----|-----|-----|--------|
| | Divorced | 11(73%) | | 4 | 15 | |
| | Widowed | 1(100%) | | 0 | 1 | |
| Education | University/ Above. | 305(62%) | | 183 | 488 | ----- |
| | High secondary school. | 110(56%)) | 59% | 86 | 196 | |
| | Intermediate school | 19(58%) | | 8 | 27 | |
| | Elementary school | 4 (100%) | | 0 | 4 | |
| Occupation | Student. | 122 (49%) | | 128 | 250 | 0.0000 |
| | Housewife. | 140 (64%) | | 79 | 219 | |
| | Employee. | 149 (74%) | | 60 | 209 | |
| | Retired. | 19 (86%) | | 3 | 22 | |
| | Work from home. | 8 (53%) | | 7 | 15 | |

The study showed that (61%) of the participants were aware about birth control, distributed as (51%) among (15-25) age group and (70%) among the older age groups. This difference was statistically significant ($P=0.0000$), the older age group showing better awareness about birth control. It was also found that (68%) of all married participants were aware about birth control compared to (48%) of the single participants. This difference was statistically significant as well, the awareness about

birth control being better in the married ($P=0.0003$). Sixty two percent of the participants who had “university and above” education and (59%) of whose education was “below university” were aware of birth control. This difference did not attain statistical significance. Among the participants, (49%) of students, (64%) of housewives and (71%) of other occupation were aware about birth control. This difference was statistically significant ($P=0.0000$). (Table 2)

Use of BC Regarding Demography in KSA 2020 (Table 3):

| Demography | | Use of BC | Used (429) (60%) | Not used (286) | Total (715) | P value |
|------------|---------|-----------|---------------------|-------------------|----------------|---------|
| Age | 15 – 25 | | 99(30.6%) | 224 | 323 | 0.0000 |
| | 26 – 35 | | 152(80.4%)) | 37 | 189 | |

| | | | | | |
|----------------------|---------------------------|-----------------|-----|-----|--------|
| | 36 – 45 | 106(84.8%)) | 19 | 125 | |
| | >46 | 72(92.3) | 6 | 78 | |
| Marital state | Married | 391(87%) | 57 | 448 | 0.0000 |
| | Single | 24 (9.5%) | 227 | 251 | |
| | Divorced | 13(86%) | 2 | 15 | |
| | Widowed | 1(100%) | 0 | 1 | |
| Education | University/ Above. | 325(66%) | 163 | 488 | 0.0000 |
| | High secondary school. | 84(42%) | 112 | 196 | |
| | Intermediate school | 16(59%) | 11 | 27 | |
| | Elementary school | 4(100%) | 0 | 4 | |
| Occupation | Student. | 60 (24 %) | 190 | 250 | 0.0000 |
| | Housewife. | 186 (84.9%) | 33 | 219 | |
| | Employee. | 154 (73.6%) | 55 | 209 | |
| | Retired. | 19(86%) | 3 | 22 | |
| | Work from home. | 10(66%) | 5 | 15 | |

: (Level of Awareness Regarding the Use of BC in KSA 2020 (Table 4

| Awareness The Use | Yes | No | Total (715) | P value |
|----------------------|-----------|-----|----------------|---------------|
| .Use | (67%) 287 | 142 | 429 | 0.0001 |
| .Not use | (53%) 151 | 135 | 286 | |

A total of (59%) reported their use of birth control. (30%) were using BC were among the age of (15 -25) and they are marked as the least use, while others (84%) were among the age of (26 - 45<). (P=0.0000). (87%) of married women and (10%) of single women were using BC (P=0.0000). On the other hand, in Education, about (66%) of the participants who had university and above education were using BC, whereas (42%) at high secondary school did (P=0.0000). (24%) of students reported using birth control, and (84%) of housewives were using. (P=0.0000). Apparently, there was strong association between (age, marriage, education and occupation) factors and the use of BC which was statistically significant (Table 3)

67% of those who use BC were aware about it. (P = 0.0001) The difference in the use of BC among women was statistically significant. (Table 4)

The Attitude of BC Regarding Demography in KSA 2020 (Table 5):

| Demography | | Attitude | | Strong support (80) | Moderate Support (458) | Poor Support (177) | Total (715) | P value |
|---------------|------------------------|----------|----------|---------------------|------------------------|--------------------|-------------|------------|
| Age | 15 – 25 | 51(15%) | | 7% | 212(65%) | 60(18%) | 323 | 0.000 0 |
| | 26 – 35 | 21 (11%) | 125(66%) | | 43(22%) | 189 | | |
| | 36 – 45 | 5(4%) | 82(65%) | | 38(30%) | 125 | | |
| | >46 | 3(3%) | 39(50%) | | 36(46%) | 78 | | |
| Marital state | Single | 41(16%) | | 8% | 165(65%) | 45(17%) | 251 | 0.000 2 |
| | Married | (8%)36 | 285(63%) | | 127(28%) | 448 | | |
| | Divorced | 3(20%) | 7(46%) | | 5(33%) | 15 | | |
| | Widowed | 0(0%) | 1(100%) | | 0(0%) | 1 | | |
| Education | University/ Above. | 53(11%) | | 12% | 319(65%) | 116(23%) | 488 | ----- |
| | High secondary school. | 26 (13%) | 123(62%) | | 47(23%) | 196 | | |
| | Intermediate school | 1(3%) | 15(55%) | | 11(40%) | 27 | | |
| | Elementary school | 0(0%) | 1(25%) | | 3(75%) | 4 | | |
| Occupation | Student. | 45(18%) | | 8% | 161(64%) | 44(17%) | 250 | ----- |
| | Housewife. | 16(7%) | 132(60%) | | 71(32%) | 219 | | |
| | Employee. | 17(8%) | 144(68%) | | 48(22%) | 209 | | |
| | Retired. | 1(4%) | 11(50%) | | 10(45%) | 22 | | |

| | | | | | | | |
|--|-----------------|-------|--|---------|--------|----|--|
| | Work from home. | 1(6%) | | 10(66%) | 4(26%) | 15 | |
|--|-----------------|-------|--|---------|--------|----|--|

Fifteen percent of women were supportive of the use of BC among the age of (15 -25) years, compared to (7%) among the rest of age groups. This difference was statistically significant ($P=0.0000$). The younger participants had better attitude. Only (8%) of the married women had strong support to birth control, while only (16%) of the single women had strong support. This difference was statistically significant ($P=0.0002$). The support of birth control was better among the single women. About (11%) of women who had “university and above” education and (12 %) of those “below university” education mentioned strong support to BC. There was no association between the education level of women and their attitude toward birth control. Same goes for occupation, where (18%) of students reported strong support to birth control, and only (8%) of housewives, employees, retired and who “worked from home” did report strong support. These differences were not statistically significant. (Table 5)

Satisfaction of BC Regarding Demography in KSA 2020 (Table 6):

| Demography | | Satisfaction | Satisfied (370) (79%) | Not Satisfied (98) | Total (468) | P value |
|---------------|---------------------------|--------------|--------------------------|--------------------------|----------------|---------|
| Age | 15 – 25 | | 93(76%) | 29(23%) | 122 | ----- |
| | 26 – 35 | | 125(77%) | 36(22%) | 161 | |
| | 36 – 45 | | 90(81%) | 20(18%) | 110 | |
| | >46 | | 62(82%) | 13(17%) | 75 | |
| Marital state | Married | | 344(83%) | 68(16%) | 412 | 0.0000 |
| | Single | | 18(43%) | 24(57%) | 42 | |
| | Divorced | | 8(61%) | 5(38%) | 13 | |
| | Widowed | | 0(0%) | 1(100%) | 1 | |
| Education | University/ Above. | | 278(78%) | 75(21%) | 353 | ----- |
| | High secondary school. | | 75(80%) | 19(20%) | 94 | |
| | Intermediate school | | 13(76%) | 4(23%) | 17 | |
| | Elementary school | | 4(100%) | 0(0%) | 4 | |
| Occupation | Student. | | 49(65%) | 26(34%) | 75 | 0.0049 |
| | Housewife. | | 167(83%) | 34(17%) | 201 | |
| | Employee. | 128(79 %) | 80 % | 33(20%) | 161 | |
| | Retired. | 17(85%) | | 3(15%) | 20 | |

| | | | | | | |
|--|-----------------|--------|--|--------|----|--|
| | Work from home. | 9(81%) | | 2(18%) | 11 | |
|--|-----------------|--------|--|--------|----|--|

The satisfaction regarding BC was (79%) in this study. It showed that (76%) women among the age of (15-25) years were strongly satisfied compared to (77%) among the age of (26-35) years. The difference was not statistically significant. Satisfaction regarding BC among married women was (83%) compared to (43%) of single women, the difference was statistically significant ($p = 0.0000$). Seventy eight percent of the participants who had university and above education level compared to (80%) at high secondary school were strongly satisfied, the difference was not statistically difference. Satisfaction regarding BC was (65%) among students, and (83%) of housewife, the difference was statistically significant ($P=0.0049$). (Table 6)

Discussion

Knowledge: there is a variation in knowledge of BC. this result indicated that more than half of the participants had good awareness about birth control. This goes in contrary with a research conducted in Nigeria 2016³⁰

, which showed that the participants of the research had good awareness (36%). The difference might be because that the research was conducted in a peri urban community and most participants had secondary school educational level.

Practice: Strong supportive system and educated environment contribute to good practice of using BC. More than half of the participants were using birth control. This contradicts with the research that was conducted in Al-Taif, Saudi Arabia 2016³¹, where they had moderate practice of BC (43%) and most of their participants were housewives, in addition to another study in Al-Ahsa 2016³² where the utilization of BC was much less (32%) as well. This contrast might be because of the conservative difference between the two cities. In our research the participants have reported having good accessibility and strong husband support. To increase the practice of BC among youth and new generation, the MOH in cooperation with Ministry of Islamic Affairs, Dawah and Guidance should provide educational programs about BC in schools and universities.

Attitude: The majority of our participants had shown a moderate attitude. On the other hand, a research that was conducted in Ethiopia 2013³³ had shown a greatly strong attitude (91%). The moderate support in our research most likely went by reason of solid focus on having big families. The attitude about BC use among Saudi women must be

increased by focusing more on aspects of health of the women and children as well. Different studies showed that participant had different attitude toward BC may contribute to many factors. Such as, culture, religion and the number of family members.

Satisfaction: The satisfaction was strongly dependent on accessibility and partner support of using BC. most of our participants were strongly satisfied with birth control In line with another study conducted in Nigeria 2016³⁴. Both of researches had shown strong satisfaction (80%) towards accessibility to BC, Partner support, and convenience of BC as well.

Conclusion: In conclusion, this study showed a high level of awareness of birth control among the majority of the participants. More than half of them were practicing BC. And most of them have moderate support for birth control. Finally, a preponderance of participants was satisfied with the use of birth control.

Recommendations:

These findings can provide insights into available opportunities for improving BC services in KSA. We recommend for

1. The Ministry of Health to provide health educational programs toward rising the awareness of the younger age group, student and single women about BC.

2. To emphasize the importance of family planning and its impact on women's life as well as their families.

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Annex

Questionnaire

We are medical students of - Almaarefa University - in Riyadh. We are working on a study to determine the knowledge, behaviors, and practices of Saudi women on Birth Control.

We appreciate your participation in completing this questionnaire. Note that all information will be confidential and will be used only for the purposes of this scientific research.

1- Age:

Years.

2- Nationality:

- Saudi.
- Not Saudi.

3- Marital state:

- Single.
- Married.
- Divorced.
- Widowed.

4- Number of births:

- Births.
- No births.

5- Residence:

- Center (Najd region).
- West (Hijaz region).
- North.
- South.
- East.

6- Education:

- Elementary school
- Intermediate school
- High secondary school.
- University/Above.

7- Occupation:

- Housewife.
- Student.

- Employee.
- Retired.
- Work from home.
- Others (specify)

8- From where did you know about birth control?

- TV/Radio.
- Newspaper.
- Social media.
- Family / friends.
- Obstetrician / Gynecologist.

9- Are you aware of the Islamic perspective on birth control?

- Yes.
- No.

10- Your use for birth control can be described as:

- Previous use.
- Current use.
- Occasional use.
- Never.

11- The types of birth control you used:

- Implant / intrauterine device.
- Pills / Injections

- Condom / Diaphragm or Cervical Cap.
- Emergency Contraceptives.
- Tubal Ligation.
- Others (specify)
- Not applied.

12- What was your reason to use birth control?

- Regulate menstrual cycle.
- Preventing pregnancy.
- Reduce hormonal acne.
- Reduce ovarian cyst.
- Reduce anemia.
- Other (specify)
- Not applied.

13- Did it achieve the purpose of use?

- Always.
- Sometimes.
- Never.
- Not using.

14- Did you face any difficulties in using birth control?

- Yes, mention.....
- No.
- Not using.

- 15- What was the most convenient type in your personal experience?
- Implant / Intrauterine device.
 - Pills / Injections
 - Condom / Diaphragm or Cervical Cap.
 - Emergency Contraceptives.
 - Tubal Ligation.
 - Other (specify)
 - Not using.
- 16- Which of the following health problems made you prefer certain type of birth control?
- Irregular menstrual cycle.
 - Headache / migraine.
 - Abnormal uterine bleeding.
 - A prior abortion.
 - Others (specify)
 - Not using.
- 17- According to the used type of birth control, is it available when you need it?
- Yes.
 - No.
 - Not using.

- 18- According to the used type of birth control, how do you find the cost?
- Cheap.
 - Affordable.
 - Expensive.
 - Not using.
- 19- Do you receive support from family/husband to use birth control?
- Yes.
 - No.
 - Not using.
- 20- Birth control is helping women improve their life:
- Strongly agree.
 - Agree
 - Disagree
 - Strongly disagree.
- 21- Advising others to use birth control is recommended:
- Strongly agree.
 - Agree
 - Disagree
 - Strongly disagree.

22- Birth control is a disaster to women:

- Strongly agree.
- Agree
- Disagree
- Strongly disagree.

23- There should be an easy access to birth control:

- Strongly agree.
- Agree
- Disagree
- Strongly disagree.

24- Birth control should be strictly prescribed by physicians:

- Strongly agree.
- Agree
- Disagree
- Strongly disagree.

Thank You for Your Cooperation