

Original article

Women's Awareness of Contraceptives in Tripoli City: A Field Study

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Abstract

Contraception or birth control is the use of one or more of many methods, devices, chemicals, drugs, or even surgical procedures to prevent pregnancy; it is also known as fertility control. It isn't easy to decide which contraceptive method is the best due to a wide variety of options. Researchers continue to work on finding the perfect convenient, effective, affordable, and safe contraceptive with the knowledge that most contraceptive methods are quite effective if used properly. This study was conducted to gain insight into women's familiarity with various contraceptive methods and to assess their awareness of the advantages, disadvantages, challenges, and proper use of each method. The study was carried out in Tripoli city by distributing a questionnaire form along with personal interview of 370 randomly selected women at one major women hospital (Al Jalaa Maternity Hospital) and three clinics (The Maltese Libyan Clinic, Al Massara Clinic, Al Mokhtar Clinic), and Fashlom public Polyclinic, the questionnaire consisted of a mix of close ended, open ended and multiple-choice questions. The study showed that 89 of the participants (38%) relied on the natural methods on the claim that no side effects are associated with them, although such methods are not highly effective in preventing pregnancy. Moreover, many of the study's participants have either wrong or incomplete information on contraceptives in general; however, others have somewhat correct information. The counseling was mostly carried out by physicians and mainly around determining the type of contraceptive used. Roles of pharmacists as counselors and drug information providers were limited or even absent in most situations.

Keywords. Birth Control, Contraceptive Methods, Pharmacists' Role, Side Effects, Women's Health.

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Introduction

Contraception or birth control is the planning of birth through using one or more of many methods, devices, chemicals, drugs, or even surgical procedures (1,2). It is also known as fertility control (2). The various mechanisms of contraception may include: preventing ovulation, preventing fertilization of the ova, or preventing the implantation of the fertilized ova into the uterine lining (3,4). Worldwide, women consider the use of contraceptives a personal decision, and an unplanned pregnancy can have an impact on many areas of a woman's life, including academics, finances, plans, relationships, and her mental and physical health. It can also have a tremendous impact on her partner's life. It is a fact that although numerous methods of contraception are available, many women are either not finding a reliable method that suits their lifestyle or are not adhering to their current birth control method. Researchers continue to work on finding the perfect contraceptive method that is convenient, effective, affordable, and safe.

The variety of available birth control options can make it difficult for women to choose the best one (1,2). In general, characteristics of an ideal contraceptive include: highly effective, minimal or no side effects, affordable, independent of intercourse, rapidly reversible, available, acceptable to all cultures and religions, administration by health care personnel not required, and easily distributed. However, no method of contraception is perfect; each woman must balance the advantages of each method against the disadvantages and then choose the most effective method that she feels could be used consistently and correctly (5,6).

Historically, the prime birth control methods were the withdrawal and periodic abstinence, dating back to around 3000 B.C (7). Condoms were made from materials as fish bladders, linen sheaths, and animal intestines. In 1960, the first steroidal oral contraceptive pills, Enovid, were approved by the Food and Drug Administration (FDA), though they had been introduced in 1957 in the USA for treating menstrual disorders (8). In 1968, the FDA approved intrauterine devices (IUDs). In the 1990s the FDA approved Norplant, the first long-acting reversible contraception (LARC), and injectable LARC called Depo Provera. In the late of 1990s the emergency contraceptive was approved by the FDA. By the 2000s the FDA had approved a levonorgestrel-releasing IUD, Mirena, as well as hormonal patches and the vaginal ring. In 2006, the FDA approves over-the-counter sales of the emergency contraception pill containing levonorgestrel (Plan B) which prevents the release, fertilization of ova or implantation of the fertilized ova (9).

Contraceptive effectiveness is determined by a combination of drug or device efficacy, individual fertility and the user adherence and continuation (10). Contraception effectiveness is measured by the number of women who become pregnant within a year of using a specific method. The effectiveness of a particular contraceptive method is affected by the user's error such as, forgetting to take a pill, failure to follow treatment recommendations or failure of the medication, device or method themselves (4) (11). However, availability and cost of services, along with the quality of counseling, also have a profound effect on how effectively (consistently and correctly) the method will be used (6). Factors that influence women's contraceptive choices include fear of side effects, cost, insufficient and/or misinformation about contraceptive methods in addition, the mechanism of action and reversibility and accessibility of the method (12,13).

Pharmacists play a crucial role in planning and preventing unintended pregnancy by providing good counseling to orient the public on family planning, to help women choose and use the most appropriate available methods, and refer them to physicians if they encounter any problem. Pharmacists should cooperate with physicians to ensure a competent and patient-friendly provision of emergency contraceptive products (14).

For the public, the involvement of pharmacists as suppliers of contraceptive products and a source of advice has several advantages, including widespread pharmacy locations allowing ease of accessibility to the majority of the population, always availability of the pharmacists, anonymity of the pharmacist-client relationship, no requirement for an appointment (15).

Methodology

This retrospective study was conducted in Tripoli city over three months in 2020, starting on January 12 and concluding on April 12. The data obtained were verified and updated in 2024 without any significant variation compared to the year 2020. It was carried out through distribution of a questionnaire form along with personal interview of 370 randomly selected women at one major women hospital (Al Jalaa maternity hospital) and three private clinics (The Maltese Libyan clinic, Al Maseara clinic, Al Mokhater clinic) as well as one public clinic, (Fashlom polyclinic), the questionnaire consisted of a mix of close ended, open ended and multiple-choice questions and classified into following categories: Age range and education level, types of contraceptive methods used, reason for choosing a particular method, side effects and unexpected pregnancy, attitude-related questions (Switching the type of contraceptive, Follow-ups), and knowledge-related questions (Background knowledge and awareness of contraceptives types, mechanism of action, complications on long term use and source for obtaining such information).

Results

The data obtained from the questionnaire and the interviews were presented either in a histogram or a table form. The results indicated that 45% of the interviewed women's age range was 30-40 years fig. (1), and 66% were highly educated, as it is shown in figure 2.

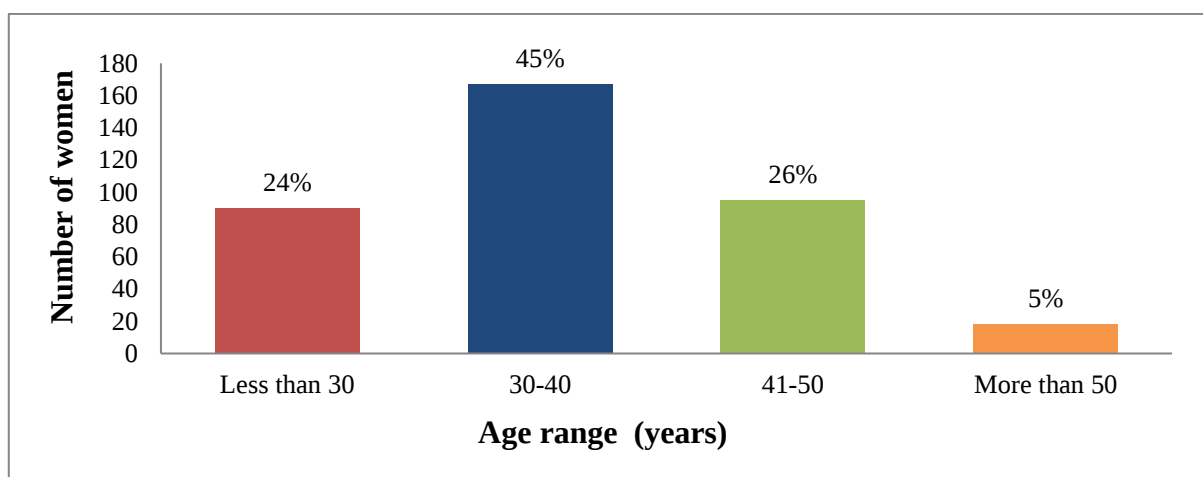


Figure 1. Age distribution of the 370 interviewed women.

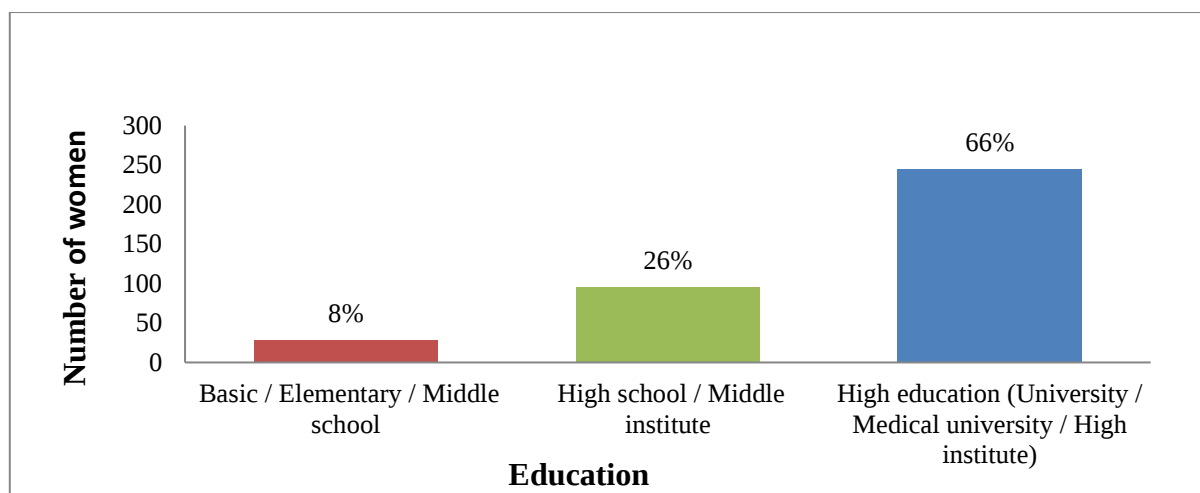


Figure 2. Education level of the 370 interviewed women.

Of the 370 interviewed women, 237 (64%) were using contraceptives including natural methods, and the remaining 133 women (36%) did not use any contraceptive at all, fig (3), the none user group were categorized into; 42 (32%) of them because of their health states, 37 (28%) because of affordability issue, 34 (25%) for religious reason, 17 (13%) fearing side effects and, 3 (2%) due to lack of sufficient knowledge on contraceptives, fig. (4).

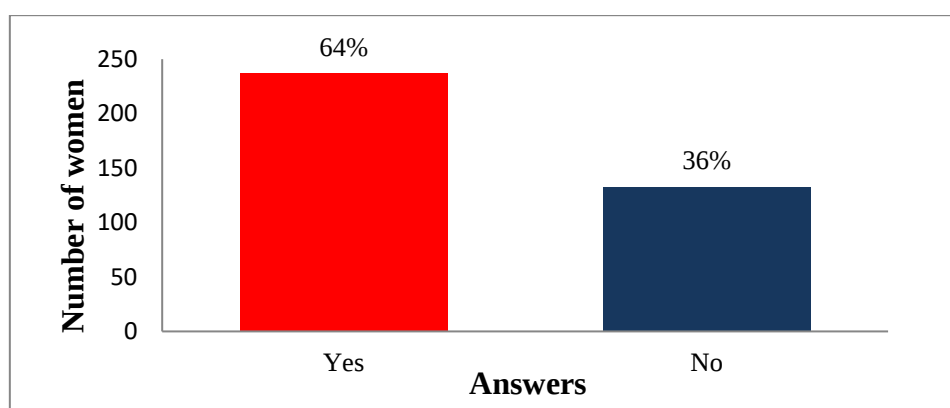


Figure 3. Using any method of contraceptive?

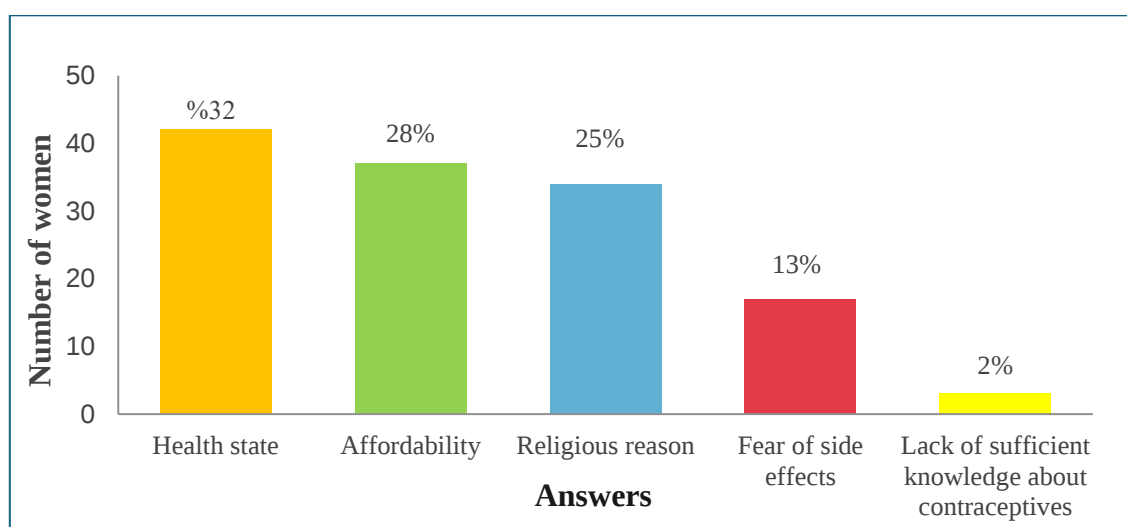


Figure 4. Reasons for not using contraceptives.

Interviewing the 237 women who were using contraceptives indicated that, 114 (48%) of them obtained contraceptives on their choice without prescription, 84 (36%) on written prescription order, 29 (12%) on verbal physician

recommendation and 10 (4%) on pharmacist recommendation, fig (5). In addition, 206 (87%) were using contraceptives for birth control, while 31 (13%) for medical reasons (polycystic ovary, irregular menstrual cycle and unwanted excessive hair growth), fig. (6).

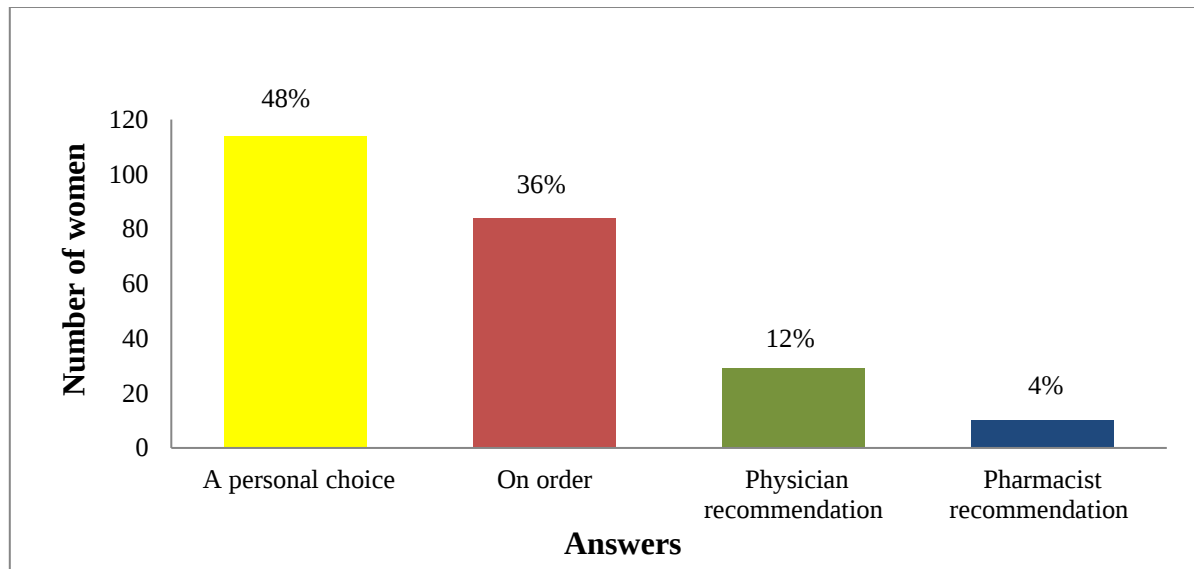


Figure 5. How did you obtain contraceptives?

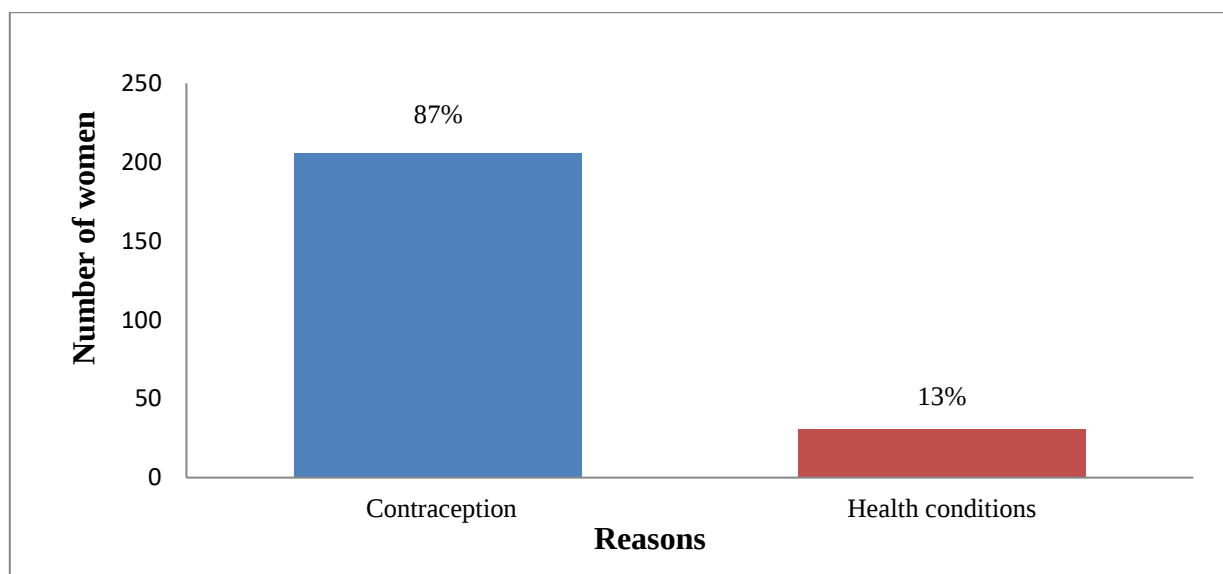


Figure 6. Reasons for using contraceptives.

It is demonstrated in the fig. (7) that, of the 237 women who were using contraceptives, 89 (38%) rely on natural method (withdrawal, breast feeding, safe period), followed by 72 (31%) on OCPs, 28 (12%) on IUDs, 15 (6%) prefer male condoms, hormonal injections used only by 8 (3%) women, while transdermal implants used by just 5 women (2%), only 3 women (1%) use transdermal patches. Additionally, 17 women (7%) reported using two methods simultaneously to increase protection and effectiveness, specifically 14 used natural methods with condoms, 2 combined transdermal patches with condoms, and 1 used transdermal patches with natural methods. None of the interviewed women used sterilization methods (female or male sterilization), diaphragms, vaginal sponges, or rings.

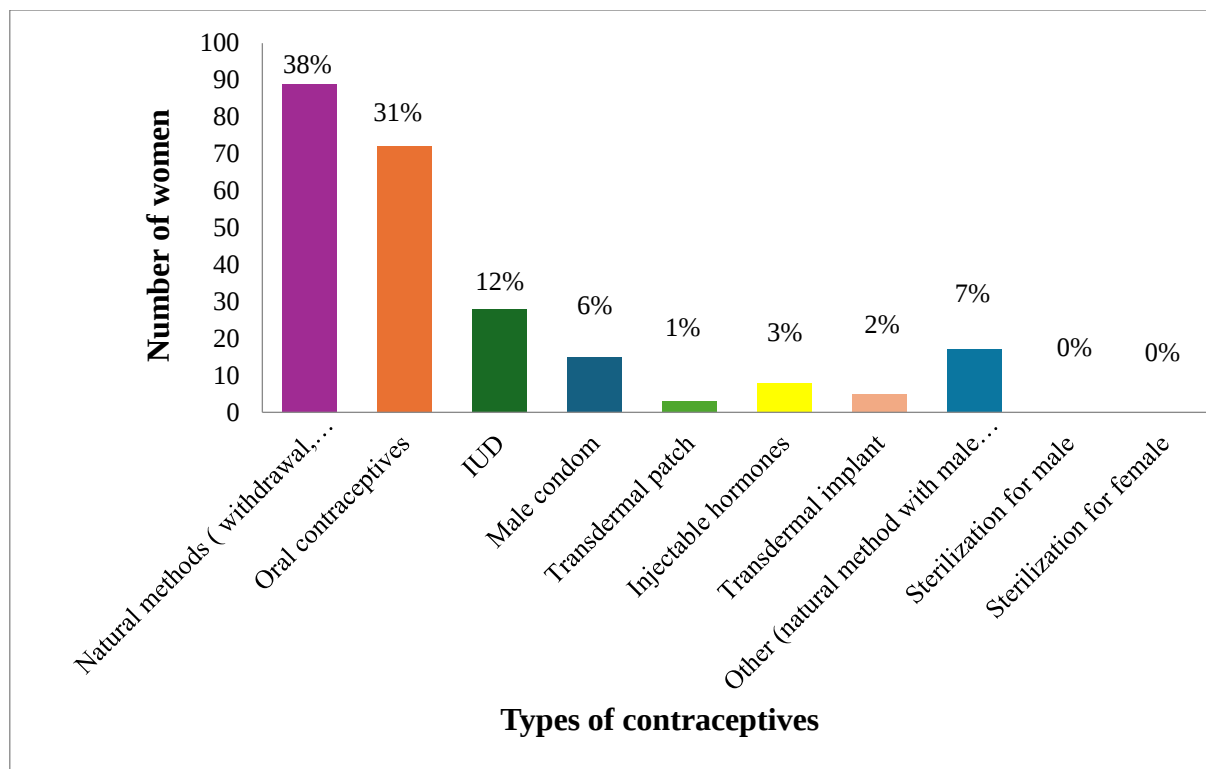


Figure 7. Types of contraceptive methods used.

The results in fig. (8) reveal that, 57 (79%) of the 72 women who were using OCPs reported that they experienced side effects although some of these claimed side effects cannot be caused by the OCPs. Regarding follow-up behavior, by interviewing them, it was revealed that, 52 women (72%) do regular follow-up with gynecologists, only 4 (6%) do follow-up with pharmacists; however, 16 (22%) do not do any follow-up. Out of 79 women who were using OCPs, 58 (81%) did not get pregnant, compared to 14 (19%) who got pregnant, mostly because of dose omission issues.

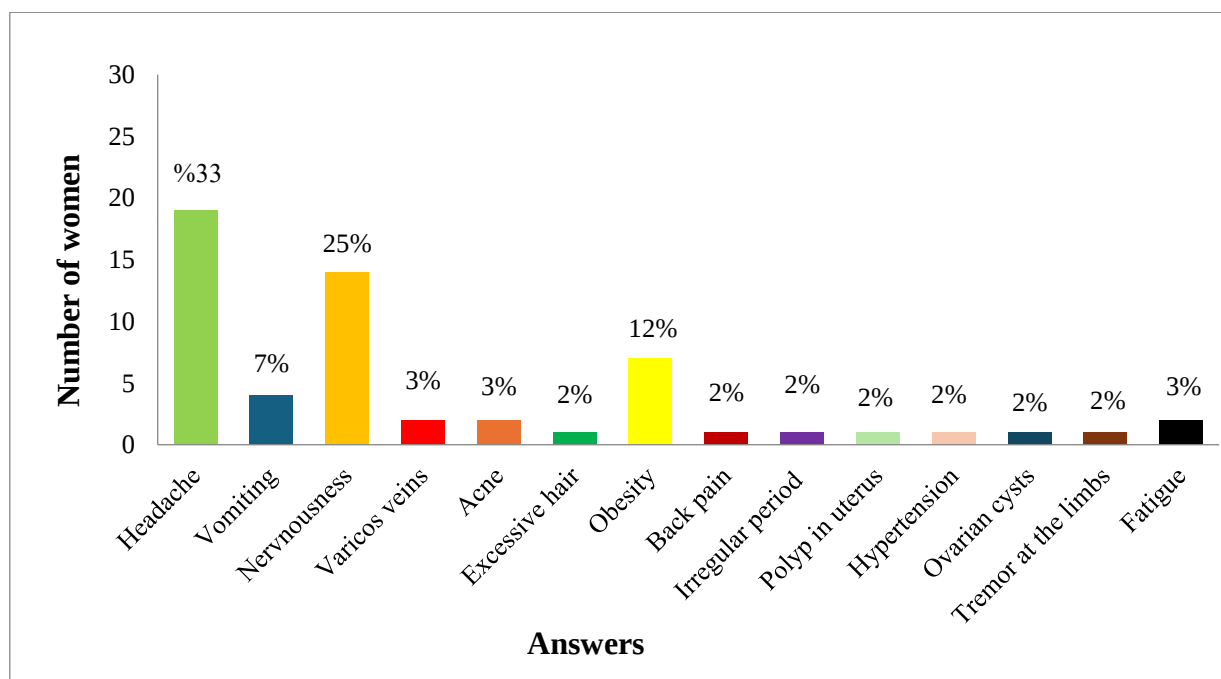


Figure 8. Claimed side effects encountered while using OCPs.

Fig. (9) indicates that, 15 (54%) women out of the twenty eight who were using IUDs at the time of interview stated, they used them to avoid the necessity of scheduling time table for OCPs and fear of the consequences with missing

doses, while 12 (43%) women stated that, they were safer and more effective than OCPs. One woman (3%) felt this was the most appropriate method of contraception for her because she previously had brain stroke, she claimed long use of OCPs may increase her risk of recurrence (15,20). In addition, through the interview most of the IUDs users (93%) do follow-up regularly with gynecologists.

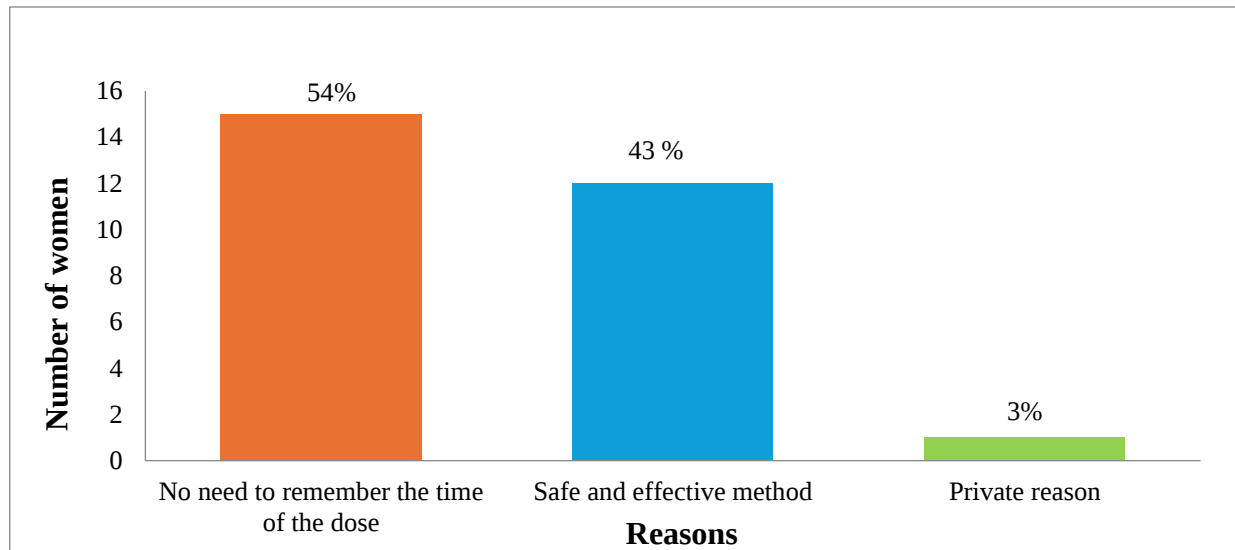


Figure 9. Reasons of using IUD.

According to fig (10), 24 (77%) women out of the 31 who were using male condoms stated that the main reasons behind their use were no side effects or fear of side effects of other contraceptive methods, easy to use for 6 women and, protects from STD for one woman.

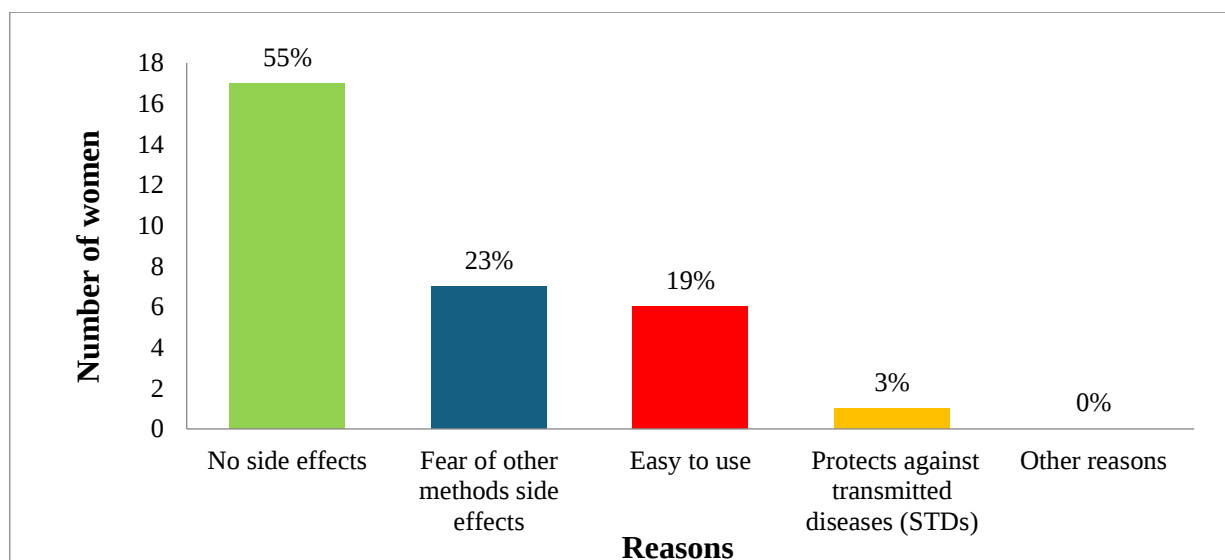


Figure 10. Reasons for using male condoms.

Fig. (11) shows that, 104 women were using natural methods, 88 (84%) of them reasoned their use on the absence of side effects or, fear of other methods' side effects [21], although the success rate of these methods was only 67%, since 70 women out of the 104 did not experience unexpected pregnancy, while 34 (33%) got pregnant.

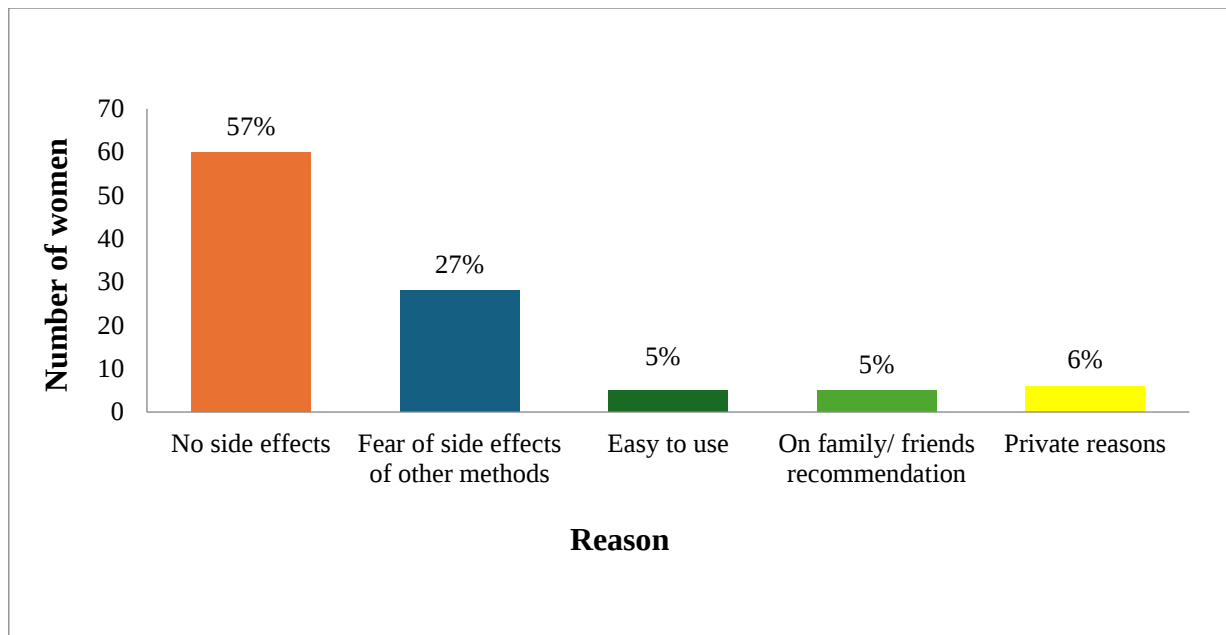


Figure 11. Reasons for choosing natural methods.

As shown in fig. (12), all of the 370 (100%) interviewed women knew the natural methods, such as breastfeeding, withdrawal and safety period methods, while 98% knew the male condom method, 96% OCPs, 82% IUDs, and 34% injectable methods. Interestingly, some women have heard about other methods of contraception such as female condoms, cervical caps, sponges, vaginal rings, and male or female sterilization, even though some of those methods were not widely used, or not available in the country at the time of the study.

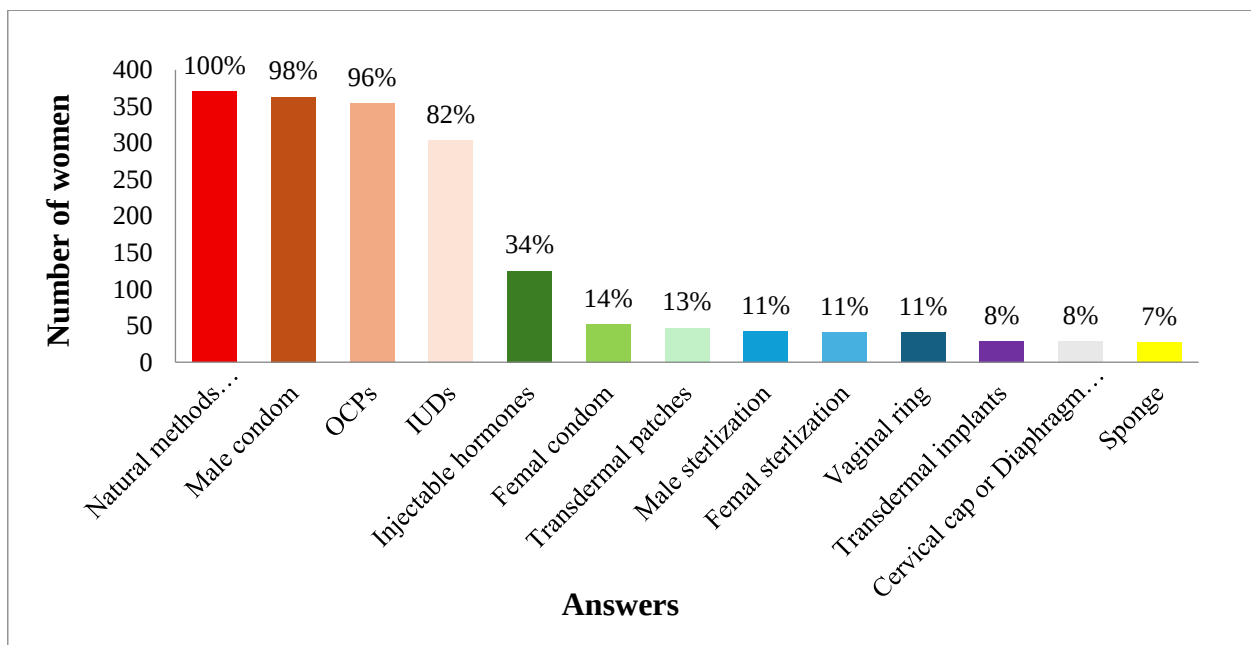


Figure 12. Types of contraceptives known by the participants.

Out of the 370 women surveyed, 140 (38%) reported that, their information about contraceptive methods was obtained from their gynecologist, followed by 123 (33%) from family and friends and, 107 (29%) from internet, prints, televisions and radios and, social communication media fig. (13). This in another word means that 230 (62%) out of the 370 women relied on unsatisfactory and unreliable sources of information.

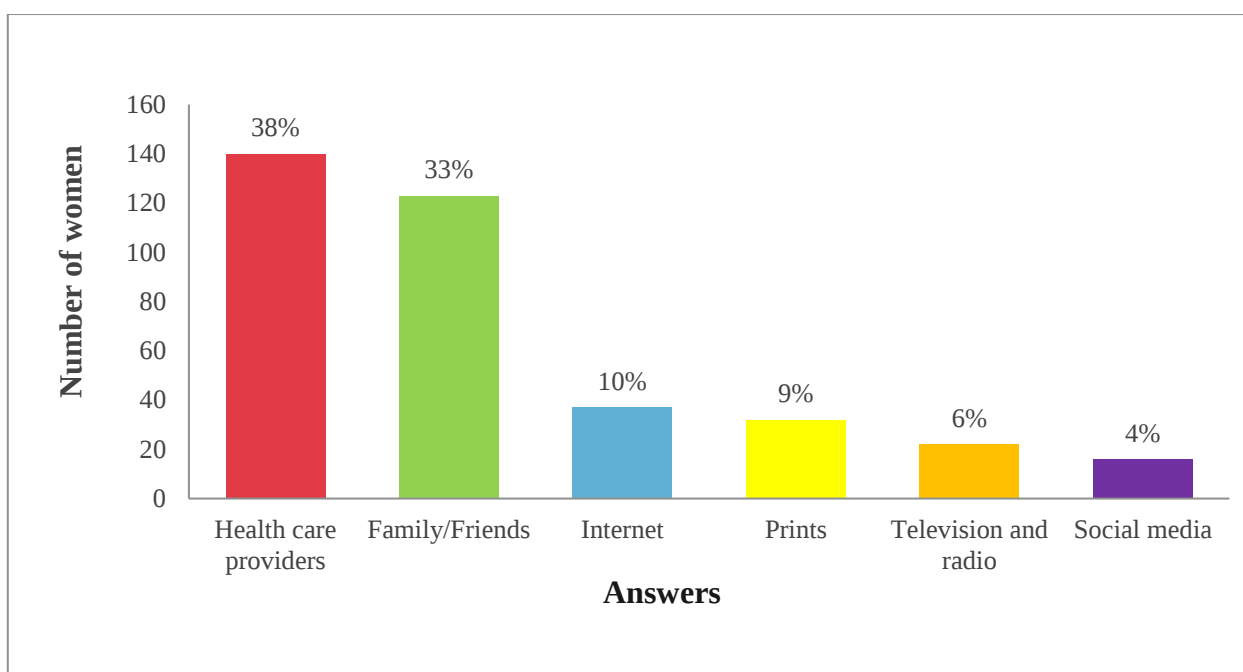


Figure 13. Sources of information about contraceptives.

In order to investigate the extent of women's backgrounds on contraceptives, a collection of knowledge questions was introduced to the participants; the results were presented in table 1.

As shown in the table; 160 (43%) women wrongfully said that, all contraceptives kill sperms in addition, 241 (65%) incorrectly think that, OCPs protect from STDs, in addition, 109 (29%) women had no idea, 200 (54%) said the statement "OCPs do not interact with other medications" is incorrect; of whom 69% of them gave the antibiotics as an example of drugs which interact with OCPs.

For the fourth statement "There are other uses of OCPs other than birth control", 43 (12%) women disagree, 99 (27%) did not know whether it is true or false while, 228 (62%) women agreed and stated that they may manage menstrual irregularity, stop bleeding, treating polycystic ovaries and, acne.

For the fifth statement "Male condoms protect from STDs", 243 (66%) Women agreed, 54 (15%) disagreed and 73 (20%) were undecided (20) (22). Of the participants 84 (23%) agreed with the statement "The OCPs use causes breast /ovarian /uterus cancer"; 97 (26%) disagreed, while 189 (51%) undecided, however, for the statement "the use of OCPs increases risks of breast /ovarian /uterus cancer", 119 (32%) agreed, 72 (19%) disagreed and, nearly half of the women 179 (48%) could not decide, keeping in mind that, OCPs do not cause any types of cancer, on the contrary the long term use of OCPs can reduce the risk of ovarian and uterine cancers (23) (24), although, they can increase the risk of breast cancer especially if it is hereditary (19) (25).

For the eighth statement (An omitted pill can be taken any time within 24 hours after forgetting it), 130 (35%) women agreed, 86 (23%) disagreed and 154 (42%) un decided, this means that 240 (65%) of the women either did not know what to do, or took wrong measures in case of a missed pill. For combination pills, the missed pill should be taken as soon as possible and return to the normal schedule, taking the next pill at the usual time; meaning two pills might be taken in 1 day.

For progestin-only pills, as soon as possible, return to the normal schedule, taking the next pill at the usual time (26).

For the ninth statement on the identification of fertile period for women, 194 (92%) were right and 176 (47%) were either wrong or had no idea.

According to the American College of Obstetricians and Gynecologists (ACOG), since most women ovulate between days 11 and 21 of their cycle, women whose menstrual cycle is between 26 days and 32 days long will be most fertile between days 8 and 19 of their cycle (27).

Table 1. Perception of Participants on Contraceptives

Statements	Yes		No		Don't know	
	Number	%	Number	%	Number	%
All contraceptives kill sperm	101	27.30	160	43.24	109	29.46
OCPs protect from STDs	20	5.40	241	65.14	109	29.46
OCPs do not interact with other medications	49	13.25	200	54.05	121	32.70
There are other uses of OCPs other than birth control	228	61.62	43	11.62	99	26.76
Male condoms protect from STDs	243	65.68	54	14.59	73	19.73
The OCPs cause breast /ovarian /uterine cancer	84	22.70	97	26.22	189	51.08
Use of OCPs increases the risk of breast /ovarian/uterine cancer	119	32.16	72	19.46	179	48.38
An omitted pill can be taken any time within 24 hours after forgetting it	130	35.14	86	23.24	154	41.62
Fertile time starts on the 10 th day of the cycle until the start of the next one.	194	52.43	145	39.19%	31	8.38%

Discussion

The findings indicate that almost all of the participants were within the category of childbearing age, except for about 20 participants aged above 50; moreover, two-thirds of them with high education levels. The results highlight that a significant proportion of the study population was actively using contraception; however, the reasons reported by non-users reveal important barriers to contraceptive use. Health conditions and affordability were the most commonly reported obstacles.

The data reveal a notable degree of autonomy among women in accessing contraceptives, as nearly half obtained them independently without a prescription. This may reflect the ease of over-the-counter availability and growing confidence in self-directed reproductive health.

Nonetheless, a significant proportion of women still relied on health care professionals, highlighting the continued importance of medical guidance in contraceptive use. Furthermore, the use among a subset of women for managing medical conditions such as menstrual irregularities and polycystic ovary syndrome indicates awareness of the broader health application of these methods. The data show that the natural contraceptive methods were the most used among the participants, followed by OCPs and IUDs. This preference may reflect concerns over hormonal side effects, lack of access to other methods, or limited awareness of available options. The use of dual contraceptive methods among some women reflects an increased concern for maximizing protection and ensuring contraceptive effectiveness to prevent unintended pregnancies. It was observed that a significant number of women on OCPs report side effects, although some may be based on misconceptions. Regular follow-up with healthcare providers- particularly gynecologists is common, but 22% do not seek any follow-up may be at risk, especially given the known side effects and potential long-term risks associated with OCPs, such as cardiovascular diseases and breast cancer.

The study highlights that a significant proportion of women prefer IUD due to concerns about OCP and perceived safety and effectiveness. The high rate of follow-up among IUD users may reflect awareness of potential side effects such as dysmenorrhea and increased blood loss in the first few cycles with their use, particularly associated with copper IUD (4). This suggests that healthcare providers play an essential role in monitoring and managing these effects, thereby encouraging continued use and adherence to follow-up protocols. The findings indicate that concerns about side effects play a major role in contraceptive choice, with the majority of condom users preferring this method due to its safety. The results suggest that, a high level of general awareness among participants regarding common contraceptive methods, especially natural methods, male condoms, and OCPs. This may reflect the influence of cultural familiarity and public health messaging focused on these options. However, the significantly lower awareness of injectable methods and the limited knowledge of less common or unavailable methods like female condoms and sterilization techniques highlight ongoing gaps in comprehensive contraceptive education. The Participants' perception on contraceptives, indicate that in average, about 174 (47%) women have somewhat correct information on the most common contraceptive methods they were using (natural and/OCPs) however, in average about 196 (53%) have false

information in addition, about 118 (32%) could not decide whether the statements were correct or wrong, and when adding them to the wrong background information group, it would indicate that, about 85% of the women either have wrong or little true information on the contraceptives they were using. Such results warrant the necessity for thorough social educational and awareness programs on contraceptives at all levels and with all means by health professionals, the pharmacists are among them to correct many false myths and information that are circulating among women in society.

Conclusion

It's difficult for women to decide which contraceptive method is the best due to the variety of options available. This study showed that fear of side effects, affordability, health state, and product availability were the primary factors for not using contraceptives by some participants. Natural methods, oral contraceptive pills, and intrauterine devices were the most commonly utilized methods among participants. Notably, many participants preferred natural methods, citing the perceived absence of side effects, despite their lower effectiveness compared to other methods. The study also showed that the counseling was carried out mainly by physicians and mostly was around determining the type of contraceptive to be used by participants. However, the pharmacists' role, as drug information providers and counselors, is limited or absent. False or exaggerated beliefs about contraceptive side effects and risks were prevalent among participants, necessitating the need for reliable counseling from knowledgeable healthcare providers. Pharmacists should talk with patients in a private place (to assure the patient that this is a private conversation), listen carefully (to give correct therapeutic information), and help each patient feel at ease by encouraging them to explain their particular needs, express their concerns, or ask questions that may guide them to good communication.

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