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KNOWLEDGE AND ATTITUDE REGARDING VASECTOMY AND TUBAL LIGATION AMONG THE LEBANESE POPULATION

SALAH MALAS Lecturer of Obstetrics and Gynecology, Department of Clinical Sciences, Faculty of Medicine

Beirut Arab University, Lebanon, salahmalas@gmail.com

MAHDI SALAMI Medical Students, Faculty of Medicine,

Beirut Arab University, Lebanon, mahdi1salami@gmail.com

HASSAN NAHLE Medical Students, Faculty of Medicine,

Beirut Arab University, Lebanon, hassan.nahle@hotmail.com

AYA RAMADAN Medical Students, Faculty of Medicine,

Beirut Arab University, Lebanon, Ramadan-Aya@hotmail.co.uk

RAYANE SALAMEH Medical Students, Faculty of Medicine,

Beirut Arab University, Lebanon, ryan.saleme@bau.edu.lb/hwbjournal

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Abstract

Vasectomy and tubal ligation are reliable, safe, effective and permanent methods of birth control. The objective of this study is to assess the knowledge and attitude regarding vasectomy and tubal ligation among the general Lebanese population. Descriptive cross-sectional survey approach was adopted for the present study. Stratified sampling was used according to the percentage of the Lebanese population living in each governorate, in the months of September 2017 to March 2018. A self-constructed survey including 35 closed-ended questions was set up. SPSS version 23.0 was used to analyze the data. Four hundred seventy married people with at least one child were included in this study. The mean knowledge score (/10) for tubal ligation in females (2.76 ± 1.75) was better than that of males (2.12 ± 1.71). For vasectomy, the mean knowledge score (/10) was almost equal in both males (2.86 ± 1.95) and females (2.79 ± 2.16). 3.0% of males considered doing vasectomy and 17.3% of females considered doing tubal ligation. Among males who rejected vasectomy (97%), preference of other methods (30%) and religious reasons (28%) were the main causes of rejection. While for females who rejected tubal ligation (82.4%), 41% preferred using other contraceptive methods. Notable lack of knowledge and interest concerning both vasectomy and tubal ligation was found among the general Lebanese population.

Keywords

Knowledge, Attitude, Vasectomy, Tubal Ligation, Contraceptive Method, Family Planning

Authors

SALAH MALAS Lecturer of Obstetrics and Gynecology, Department of Clinical Sciences, Faculty of Medicine; MAHDI SALAMI Medical Students, Faculty of Medicine; HASSAN NAHLE Medical Students, Faculty of Medicine; AYA RAMADAN Medical Students, Faculty of Medicine; RAYANE SALAMEH Medical Students, Faculty of Medicine; ZEINAB SHAHROUR; and ALI YASSIN

KNOWLEDGE AND ATTITUDE REGARDING VASECTOMY AND TUBAL LIGATION AMONG THE LEBANESE POPULATION

SALAH MALAS¹, MAHDI SALAMI², HASSAN NAHLE³, AYA RAMADAN⁴, RAYANE SALAMEH⁵, ZEINAB SHAHROUR⁶, ALI YASSIN⁷, NOUR YAKZAN⁸

¹ Lecturer of Obstetrics and Gynecology, Department of Clinical Sciences, Faculty of Medicine, Beirut Arab University, Lebanon

² to ⁸ Medical Students, Faculty of Medicine, Beirut Arab University, Lebanon

ABSTRACT: *Vasectomy and tubal ligation are reliable, safe, effective and permanent methods of birth control. The objective of this study is to assess the knowledge and attitude regarding vasectomy and tubal ligation among the general Lebanese population. Descriptive cross-sectional survey approach was adopted for the present study. Stratified sampling was used according to the percentage of the Lebanese population living in each governorate, in the months of September 2017 to March 2018. A self-constructed survey including 35 closed-ended questions was set up. SPSS version 23.0 was used to analyze the data. Four hundred seventy married people with at least one child were included in this study. The mean knowledge score (/10) for tubal ligation in females (2.76±1.75) was better than that of males (2.12±1.71). For vasectomy, the mean knowledge score (/10) was almost equal in both males (2.86±1.95) and females (2.79±2.16). 3.0% of males considered doing vasectomy and 17.3% of females considered doing tubal ligation. Among males who rejected vasectomy (97%), preference of other methods (30%) and religious reasons (28%) were the main causes of rejection. While for females who rejected tubal ligation (82.4%), 41% preferred using other contraceptive methods.*

Notable lack of knowledge and interest concerning both vasectomy and tubal ligation was found among the general Lebanese population.

KEYWORDS: *Knowledge, Attitude, Vasectomy, Tubal Ligation, Contraceptive Method, Family Planning*

1. INTRODUCTION

The sustained rise in the population density among developing countries (including Lebanon) through years has always been taken into consideration as a universal dilemma accompanied by universal complications. On that account, family planning methods, precisely the contraceptive category, is acclaimed for being an accessible approach that promotes the family's constitution and restricts the population's size expansion [1]. Among the annual pregnancy rate computation, 80 million unexpectedly pregnant women are added up of whom 45 million seek an abortion. As for the annual pregnancy complications, around 120 million of women worldwide end up disabled, and more than half a million cases are aggravated to death [2]. The rate of unexpected pregnancies is increasing despite the fact that large portions of the women who are at risk of being pregnant use contraceptive methods [3]. The incorrect use of contraceptive methods is a major cause of most of the unintended pregnancies [4].

Individual's point of view toward using contraceptive methods affect the propensity to use it [5]. Sterilization is a popular choice for contraception and has been shown to produce high levels of satisfaction [6]. The vasectomy system includes recognizable proof, restriction, and impediment of the respective vas deferens to inhibit sperm from being ejaculated [7]. Impediment of the vas deferens is performed with ligation, extraction, cuts, cinches, sutures or a blend of these systems [8].

On the other hand, bilateral tubal ligation is considered the most popular permanent contraceptive method all over the world [9, 10]. Despite the fact it can be sometimes unstable, it is considered as a highly efficient method. Bilateral tubal ligation could be puerperal when the procedure is done 24-48 hours after delivery; the surgery should be done at least three months after miscarriage or childbirth [9].

Statistically, female sterilization is thirty times more likely to fail and 20 times more likely to have postoperative complications than vasectomy [11].

Nowadays, “the tubal ligation and vasectomy” topic is considered of great value in family planning programs [1]. Accordingly, prior studies had been done in other countries that aimed to assess the knowledge and attitude regarding vasectomy and tubal ligation but mostly each apart (Kenya [12], Northern Ethiopia [13], Germany [14], Machakos (Kenya) [15]). There were no similar studies that have addressed either of these procedures in Lebanon. It was expected to find lack of knowledge and interest regarding these permanent contraceptive methods especially vasectomy; in developed countries, the worldwide rate of vasectomy use is reported at 3% [16], while the rate of vasectomy use is low in most developing countries including Lebanon [17].

This is a cross-sectional study. Data were collected in the form of a self-constructed questionnaire. The aim of this study was to assess the knowledge and attitude regarding vasectomy and tubal ligation among the Lebanese population.

The study findings showed that Lebanese population lacks the minimal knowledge needed concerning vasectomy and tubal ligation procedures. The two procedures received an almost complete negative attitude.

The findings of this assessment will help in designing cultural appropriate interventions (e.g., awareness campaigns) that will aid the efforts at promoting and disseminating information on vasectomy and tubal ligation to the eligible individuals and couples.

2. METHODOLOGY:

A cross-sectional study that was held among the Lebanese population.

A self-constructed survey including 35 close-ended questions was set up in English language and then was translated into the Arabic language. A pilot study was conducted among 20 subjects before the distribution of samples. A knowledge score for each of tubal ligation and vasectomy was calculated according to the number of correct answers. Each correct answer was considered as one point while the wrong answers and the questions answered by "I don't know" were not considered.

The sample included married people between 18 and 60 years old having at least one child. People who already did vasectomy or tubal ligation were excluded.

Samples were divided on each governorate according to the percentage of the Lebanese population living in each of them and depending on the Statistical Bulletin (2016) by the ministry of public health. The samples were collected from public streets, public gardens, touristic places, and amusement parks. These places were chosen according to the variety of social and economic classes that could be found there 447 questionnaires were collected from public places randomly across Lebanon.

People voluntarily agreed to participate after they were informed about the purpose of the study and the participants were asked to sign a consent form before filling the questionnaires.

Meetings were held at Beirut Arab University (BAU). The meetings' objectives varied from writing the abstract and the proposal, setting up the questionnaire, keeping updated with the data collection, building up SPSS template, Data entry, and writing the manuscript.

A statistical analysis was performed using SPSS (Statistical Package for the Social Science Version 23.0 for Windows).

Pearson Chi-square test and independent t-Test were used to compare frequencies and significances between different variables.

Statistical results were considered significant if $p < 0.05$.

The IRB approval was obtained at 29/9/2017 (2017H-0064-M-R0-0233).

3. RESULTS

Four hundred seventy married people (age range: 18-60) with at least one child participated in this study. Most of people who participated in this study were in the age between 33 and 46 years (44.6%). The percentage of males and females who participated in this study were almost equal (males 45.2%, females

54.8%). Participants had varied marriage periods and number of children with almost equal proportions (Table I).

Table 1: Socio-demographic Variables in the Study Population

Socio-demographic Variables	Percentage (%)
Age	
18-32	30.7
33-46	44.6
47-60	24.7
Gender	
Male	45.2
Females	54.8
Region	
North Lebanon	20.4
South Lebanon	19.6
Bekaa	14.0
Beirut	11.7
Mount Lebanon	34.3
Number of children	
One	20.5
Two	32.2
Three	25.5
More than three	21.8
Marriage Period	
Less than 5 years	23.9
5-10 years	20.1
10-15 years	19.6
More than 15 years	36.3

Table 2: Knowledge about Vasectomy among the Lebanese Population

Questions	Correct	Wrong	I don't know
Will a man be able to ejaculate after vasectomy?	25.1%	27.3%	47.7%
Will a man lose his masculine features after vasectomy?	45.0%	25.9%	29.1%
Will vasectomy decrease a man's sex drive?	32.4%	33.6%	34.0%
How long would it take for vasectomy to work?	8.8%	30.6%	60.6%
Is there a need to use other contraceptive methods right after vasectomy?	19.8%	52.4%	27.9%
Is it mandatory to make sperm analysis after vasectomy?	42.8%	22.2%	35.0%
Does vasectomy increase risks of heart disease and prostate cancer?	20.2%	29.0%	50.8%
Will there be bleeding and pain right after vasectomy?	12.8%	31.3%	55.9%
How long would you need to recover after vasectomy?	31.8%	19.8%	48.4%
Do you think vasectomy is protective against sexually transmitted diseases (ex: AIDS)?	50.1%	15.5%	34.4%

The most correctly answered questions were those regarding the loss of man's masculine features and if vasectomy is protective against sexually transmitted diseases with 45.0% and 50.1% respectively. The most incorrectly answered questions were the questions regarding the need for contraceptives right after vasectomy and if vasectomy would decrease man's sex drive with 52.4% and 33.6% respectively (Table I).

Table 3: Knowledge about Tubal Ligation among the Lebanese Population

Questions	Correct	Wrong	I don't know
Do you think you can have kids after vasectomy or tubal ligation by assisted reproductive techniques?	31.1%	37.2%	31.8%
Tubal ligation would affect a woman's period?	32.9%	31.8%	35.4%
Will tubal ligation affect menopause?	32.0%	24.9%	43.1%
Will tubal ligation affect female sexual hormones?	32.4%	34.6%	33.0%
Do you think tubal ligation would make the woman weaker and fatter?	32.7%	35.0%	32.7%
Do you think tubal ligation may cause ectopic pregnancy?	32.9%	27.9%	39.2%
Do you think tubal ligation may cause ovarian cancer?	27.5%	21.2%	51.2%
Do you think tubal ligation is protective against sexually transmitted diseases (ex: AIDS)?	53.1%	12.9%	33.9%

The most correctly answered question was if tubal ligation is protective against sexually transmitted diseases which recorded 53.1%. On the other side, the most incorrectly answered question (37.2%) was if a woman would be able to have kids after vasectomy (Table II).

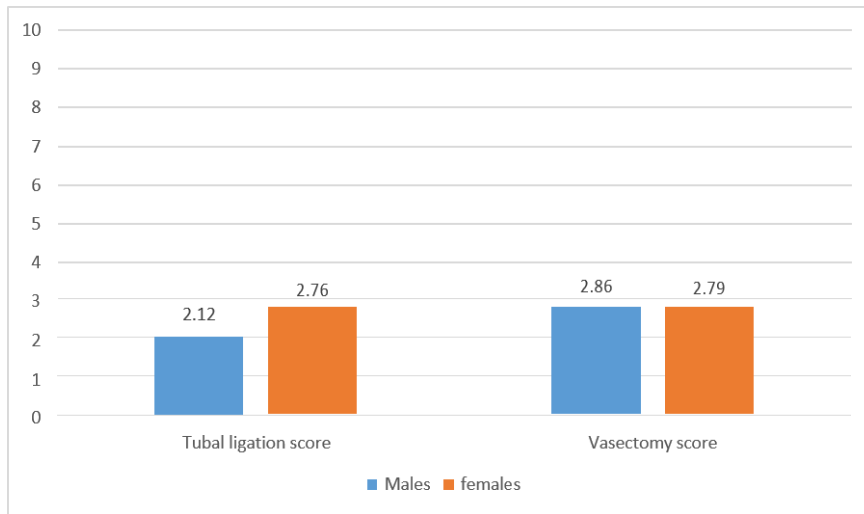


Fig. 1: Tubal Ligation and Vasectomy Knowledge Score (Males versus Females)

A knowledge score for each of tubal ligation and vasectomy was calculated according to the number of correct answers, each correct answer was considered as one point. There was a significant association between tubal ligation knowledge score and gender ($p < 0.001$). However, vasectomy knowledge score wasn't statistically significant in association with gender ($p = 0.72$). The average females tubal ligation score (2.76/10) was higher than that of males (2.12/10), while the average males vasectomy score (2.86/10) was higher than that of females (2.79/10). Results showed that both males and females had minimal knowledge about vasectomy and tubal ligation (Figure 1).

Table 4: Consideration of Vasectomy and Tubal Ligation among the Lebanese Population

Would you consider doing	Vasectomy (males)	Tubal Ligation (females)
Yes	3 %	% 17.3
No	97 %	%82.7

Among male participants, 3% would consider vasectomy. While among females, 17.3% would consider tubal ligation (Table III).

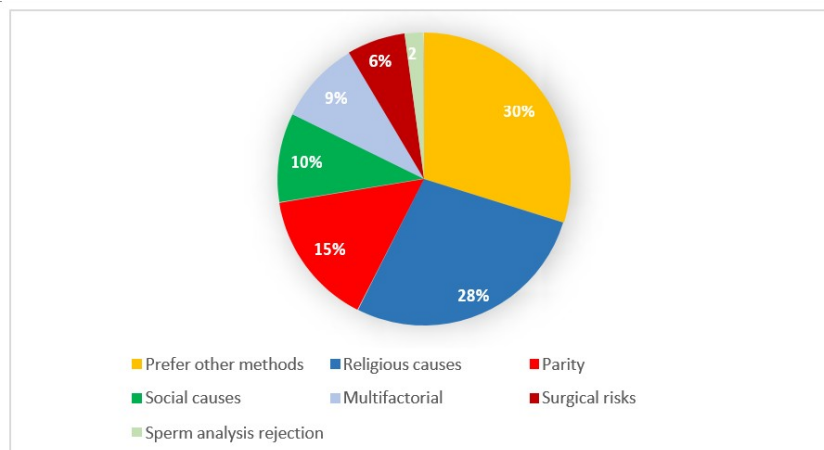


Fig. 2a: Causes of Vasectomy Rejection

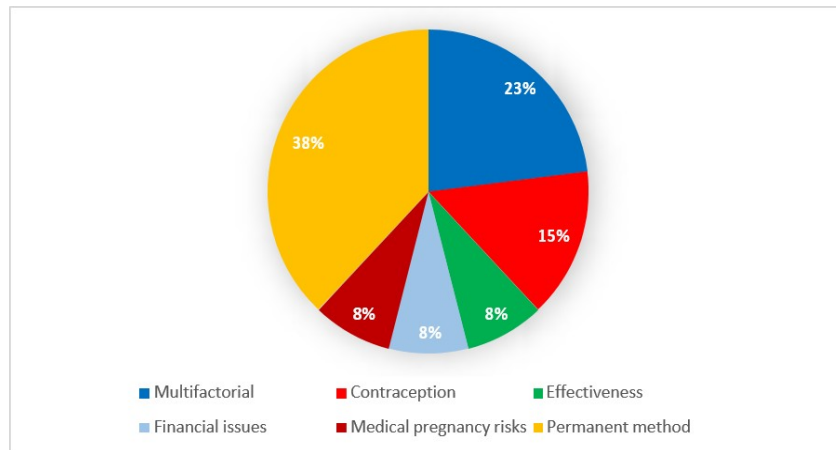


Fig. 2b: Causes of Vasectomy Acceptance

Among the males that rejected vasectomy (97%), 30% preferred other contraceptive methods, 28% had religious causes, 15% want more children and 10% had social reasons (Figure 2a).

Among men who considered doing vasectomy (8.5%), 38% preferred it because it is a permanent contraceptive method (Figure 2b).

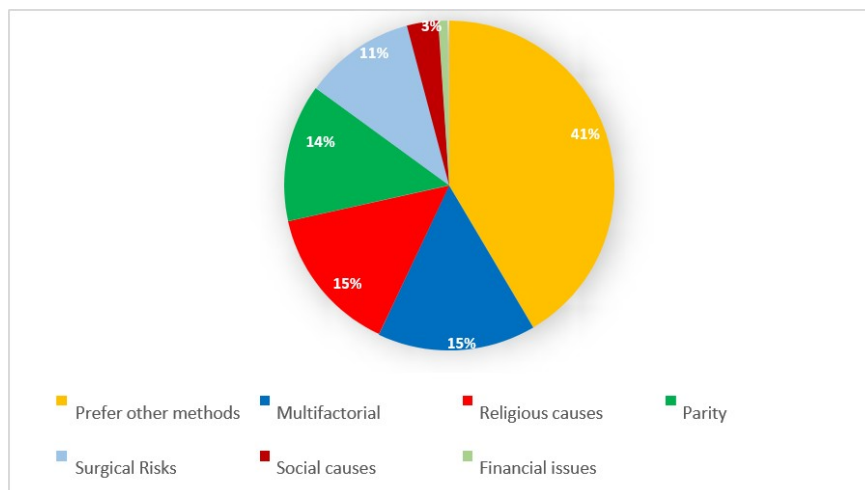


Fig. 3a: Causes of Tubal Ligation Rejection

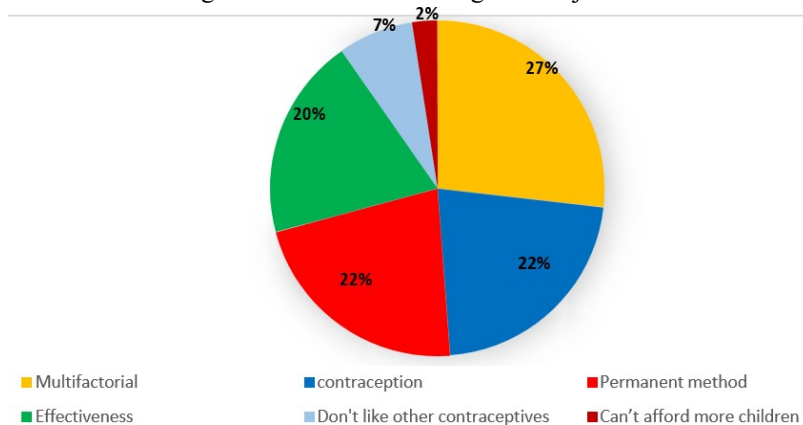


Fig. 3b: Causes of Tubal Ligation Acceptance

Among the females that rejected tubal ligation (82.4%), 41% preferred other methods followed by 15% who had religious causes (Figure 3a).

While among those who considered tubal ligation (17.6%), 22% did not want more children, 22% considered doing it because it is a permanent method and 20% preferred it because it is the most effective contraceptive method. 27% chose more than one cause (Figure 3b).

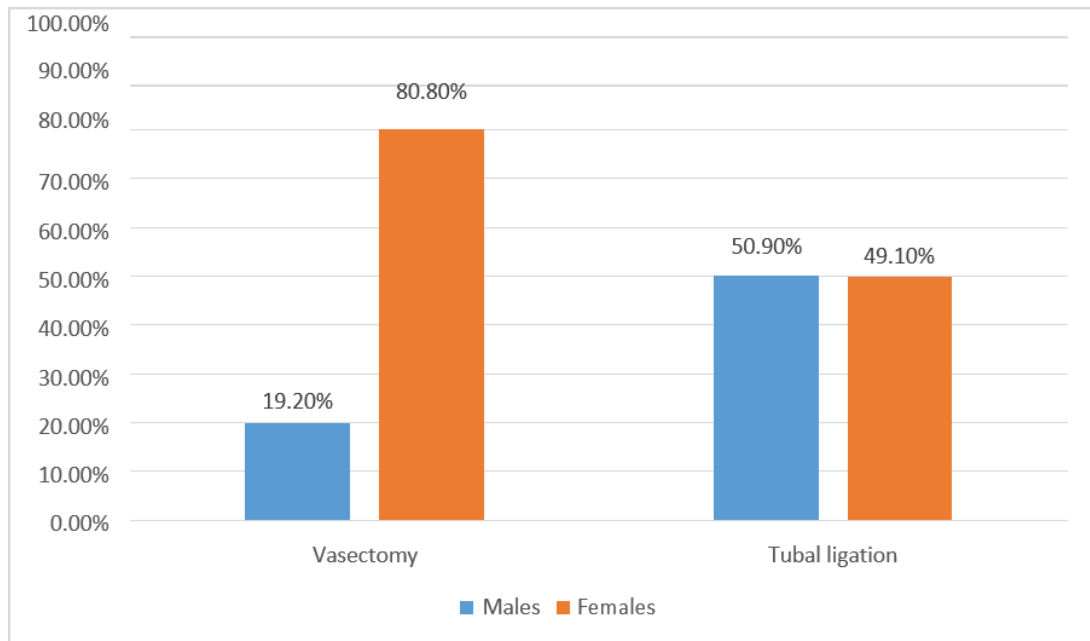


Fig. 4: Preference of Vasectomy and Tubal ligation as a Couple According to Gender

Results showed a significant association between gender and preference of permanent contraceptive method (p value=0.014). Of those who preferred vasectomy, 19.2% were males, and 80.8% were females. On the other hand, of those who preferred tubal ligation, 50.9% were males, and 49.1% were females (Figure 4).

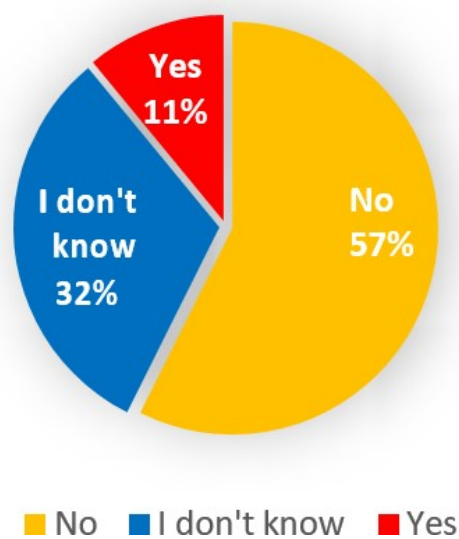


Fig. 5: Partner's Acceptance of Tubal Ligation and Vasectomy as a Contraceptive Method

The implementation of vasectomy & tubal ligation as a permanent contraceptive methods had been mostly rejected by 57% of the participants' partners, accepted by only 11%, and was even unnoticed by 32% (Figure 5).

Table 5: Contraceptive Methods Preferred by the Lebanese Population

Contraceptive Methods	Preference Percentages
IUD	16.8%
Male Condom	16.4%
Pills	14.0%
Don't like using contraceptive methods	12.9%
Rhythm Calendar Method	8.5%
Other methods	4.6%
Tubal Ligation	1.6%
Diaphragm	1.2%
Vasectomy	0.5%
Vaginal ring	0.5%
More than one method	23.0%

The most common used methods were IUD (16.8%), male condom (16.4%) followed by oral contraceptive pills (14.0%). 23.0% preferred more than one method. However, 12.9% did not prefer using contraceptive methods (Table VI).

Table 6: Methods of Contraception Preferred According to the Number of Children

	Number of Children			
	1	2	3	>3
Vasectomy	0%	0.7%	0.9%	0%
Tubal Ligation	1.1%	1.4%	1.8%	2.2%
Pills	11.1%	10.1%	10.8%	26.1%
Male condom	18.9%	21.7%	10.8%	12.0%
IUD	10.0%	17.4%	22.5%	15.2%
Calendar Rhythm	8.9%	10.9%	3.6%	10.9%
Others	2.2%	2.9%	9.9%	10.9%
Multiple methods	28.9%	23.2%	27.9%	12.0%
Don't like contraceptives	18.9%	11.6%	11.7%	10.9%

There was a significant association between the number of children and contraceptive methods preference (p -value < 0.001). People who had one child preferred mainly to use the male condom (18.9%) or did not like to use contraceptives at all (18.9%). People who had two children preferred mainly to use the male condom (21.7%). People who had three children preferred mainly to use IUD (22.5%), while those who had more than three children preferred to use pills (26.1%). Vasectomy and tubal ligation were the least preferred despite the number of children. Most people preferred more than one method (Table V).

4. DISCUSSION:

The general Lebanese population showed remarkable lack of knowledge and interest concerning permanent contraceptive methods.

Regarding vasectomy and tubal ligation, results showed that there is a remarkable lack of knowledge about these procedures in both genders (Figure 1). Specifically, in tubal ligation, the knowledge mean score of females was higher than that of males. A similar study conducted in Ethiopia showed a lack of knowledge as well regarding these procedures, most of the participants were not able to identify permanent procedures as a method of contraception, they lack basic information on how these methods work and how they can use it. Furthermore, in other countries as India (Raipur) and Nigeria, studies showed a lack of knowledge regarding vasectomy.

Results showed that more than half of the sample had correct knowledge concerning the non-protective effect of vasectomy and tubal ligation against sexually transmitted diseases (STDs). This may be due to several campaigns and articles targeting STDs topic in Lebanon [18].

Tubal ligation knowledge questions showed higher percentage of correct answers than those of vasectomy. This may be because tubal ligation is more familiar than vasectomy; fifteen females who had done tubal ligation were encountered, whereas only two males who had done vasectomy were encountered during data collection; these were excluded during analysis.

The lack of knowledge of both procedures may be due to rare campaigns and articles discussing these procedures. The uncommon practice of vasectomy in Lebanon may be an additional cause that contributes to the lack of knowledge.

As a permanent contraceptive method, tubal ligation was shown to be the most popular choice among the sample population although vasectomy, an easier and more successful option, is available with much less postoperative complications [11]. In Nigeria, results showed negative attitude toward vasectomy where they believed that vasectomy should not be done by males and that females should be responsible for family planning.

Among the males who were asked if they would consider vasectomy, 97% rejected the procedure (Table IV). This high percentage was attributed to various causes, mainly preference of other familiar methods taking into consideration their extreme lack of knowledge concerning vasectomy. Religious causes come next as a major rejection factor, which along with social causes was an expected finding among the Lebanese population. On the other hand, the rest considered vasectomy mainly due to its permanent effect (Figure 2b).

In contrast, among females who were asked if they would consider tubal ligation, 82.7% rejected the procedure (Table IV). Preference of other methods was the main cause of rejection of tubal ligation. This can be linked to the fear of the surgical risks and postoperative complications associated with this procedure. Religious causes and operation fees were considered as further factors for rejection of Tubal ligation (Figure 3a). Females who considered tubal ligation (17.3%) had various reasons, mainly limitation of children number and the procedure's permanent effect. Some females considered tubal ligation as the most effective contraceptive method. This can be related to unintended pregnancies associated with other contraceptive methods usage [4] (Figure 3b).

Concerning participants' attitude, most people who preferred vasectomy were females. However, the percentage of males preferring vasectomy was very low. This can be related to the lack of knowledge and misconceptions concerning vasectomy as a contraceptive method. Results showed that the majority of participants had lack of knowledge regarding vasectomy's effect on man's sex drive and its complications (Table II). These misconceptions create a taboo regarding vasectomy. This taboo is quite clear in the Lebanese population which makes these results expected. Nevertheless, there was no significant difference in the percentages of males and females preferring tubal ligation. This may be attributed to the fact that tubal ligation is more accepted in the Lebanese population than vasectomy (Figure 4).

Most people stated that their partner would not accept them doing vasectomy or tubal ligation. These results were expected because of the preference of the Lebanese population for other contraceptive methods. Results showed that most people preferred to use IUD, male condom and contraceptive pills (Table V). Moreover, about one-third of participants stated that they do not know if their partner would accept them doing vasectomy or tubal ligation. This means that they did not even discuss these methods of contraception with their partner, which shows lack of interest and knowledge regarding these methods (Figure 5).

As in Lebanon, there was a negative attitude regarding vasectomy in both Nigeria and India. In contrast, there was a difference between results obtained in this study and those obtained from developed countries. A study of knowledge and attitude regarding tubal ligation among females in Germany [14] showed that majority of women had positive attitude toward tubal ligation as a contraceptive method. Moreover, this study showed 16% of females used tubal ligation as a contraceptive method. This difference in results may be due to the cultural difference between Lebanon and Europe.

This discrepancy in knowledge between developing and developed countries can be linked to socio-economic factors, and this was reflected as opposite attitudes toward permanent contraceptive methods among each society.

Thus, the choice of contraceptive methods and attitude toward this topic is influenced by the cultural and traditional impact on individuals.

The most commonly preferred contraceptive methods in the Lebanese population were IUD, male condom and contraceptive pills while vasectomy and tubal ligation were rarely considered (Table V). This may be because these methods are easily accessible, less expensive and easily reversible.

There was an association between the increase in number of children and the preference of usage of pills as a contraceptive method (Table VI). This may be due to the feasibility of its use and its cheap cost.

5. LIMITATIONS:

The research has reached its aims, however it was difficult to find individuals willing to talk about their perspective to permanent contraceptive methods.

6. CONCLUSIONS

The study findings showed that Lebanese population lacks the minimal knowledge needed concerning vasectomy and tubal ligation procedures. In the light of this disorientation, these two procedures received an almost complete negative attitude, especially concerning vasectomy. These findings suggest the necessity for initiating awareness programs all over Lebanon to break the inherited taboo regarding these topics and to close the gap in male and female sterilization rates.

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