

# Knowledge, attitudes, and perception patterns of contraception methods: Cross-sectional study among Saudi males

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## Abstract

**Purpose:** The aim of this study is to assess the knowledge, attitude, and perception pattern of contraception and family planning among males in Saudi Arabia.

**Methods:** A cross-sectional study was conducted using a self-administered questionnaire. Study sample were Saudi males who presented to the urology clinics in one tertiary center. Beside demographic data, we evaluate the responders' knowledge about types of contraceptive methods, usage of one or more methods, reasons for using contraceptives, knowledge of contraception complications, awareness of religious opinion on contraception, the ideal number of children, and birth interval between them. Statistical analysis was performed using the Chi-square and Fisher's exact tests. A value of  $P < 0.05$  was considered statistically significant.

**Results:** Two hundred and forty-three subjects filled the questioner. The participants' mean age was 42.7 years (range, 19–81); 227 (93.4%) were married. The majority of the participants were aware of the concept of contraception (79%). However, only 54% of the cohort reported using at least one type of contraception. A high percentage of the participants wanted a limited number of children with longer birth intervals. Many factors are responsible for increasing awareness and practice of contraception, additionally; there is limited knowledge and practice regarding male contraception, particularly vasectomy. Withdrawal technique and oral contraceptive pills for females were the most commonly used contraceptive methods for Saudi family planning. The most common reason for using birth control methods was having a lot of children. More than two-thirds of males believed that birth control methods are not prohibited by Islamic law.

**Conclusions:** Younger age, shorter duration of marriage, governmental employee, less number of children, higher education degree, and higher monthly income had higher impact on contraception awareness and utilization. Couples still prefer noninvasive methods for contraception. Despite the relatively low use of contraceptive methods, particularly the male methods, the majority of the participants know about contraception. Efforts to advocate and promote the effective use of reproductive and sexual health services among newly married couples are warranted.

**Keywords:** Attitude, contraception methods, family planning, knowledge, practice, Saudi Arabia

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## INTRODUCTION

Birth control or contraception refers to the methods used to prevent pregnancy. The history of contraception dates back to 1850 BC, where honey and acacia leaves were used for birth control.<sup>[1]</sup> Contraception methods were also described in early Islamic age, Muhammad al-Razi reported coitus interruptus and the use of pessaries made from cabbage, pitch, and rock salts to block the cervix.<sup>[2]</sup> Moreover, Ibn Sina described more than twenty methods of contraception in his medical encyclopedia *The Canon of Medicine*.<sup>[3]</sup>

The practice of contraception is based on couple's knowledge, attitudes, and responsible decision-making.<sup>[4]</sup> It helps couples to plan their desired family size and number of children. In the Arabian Peninsula, for hundreds of years, the concept of contraception and family planning has been marginalized due to primitive education, socioeconomic status, and the idea that a big family is important.<sup>[5]</sup> Moreover, there is a wrong preconception that a man's virility and success of his marriage are dependent on the number of children.<sup>[5-7]</sup> Factors that affect using contraception include age at the time of marriage, frequency of intercourse, level of education, effective communication between partners, access to correct knowledge regarding contraception, financial issues, and easy access to medical services.<sup>[1,3,5-12]</sup> Family planning is beneficial for child spacing, controlling financial constraints, and improving health outcomes for the mother and child, leading to overall improvements of the quality of life.<sup>[7]</sup>

During the last decade, according to our knowledge, only a limited number of studies worldwide discussed the knowledge and practice of contraception methods.<sup>[5,6,9,11,13]</sup> Recently, studies based on cross-sectional survey were inconclusive regarding perception toward family planning among males. Syahnaz *et al.* found the proportion of using modern contraception still not high,<sup>[11]</sup> while Yilmazel *et al.* found better self-perception toward family planning and contraception.<sup>[6]</sup> From these recent data, there are still lack of clarity regarding understanding of the family planning process, contraception knowledge, practice, and perception among males.

This study aims to evaluate knowledge, attitudes, and perception patterns of contraception methods and family planning among Saudi men.

## METHODS

A cross-sectional study was conducted over 6 months from January to June 2019. Two hundred and forty-three Saudi

males were randomly selected from urology clinics in one tertiary care center. The study was done by requesting subjects to fill a questioner. Exclusion criteria were: Female patients, male age <18, and singles.

We developed a self-administered questionnaire formulated in Arabic language to evaluate the knowledge about contraception. The questionnaire was reviewed by two expert Andrologist for content validity. Then, we conducted a pilot study interviewing 10 respondents. The responses were acceptable with a reliability coefficient of 0.738 (which was calculated using Kuder-richardson assessment), which indicates high internal consistency. The purpose of the study was explained to all participants, and a consent was signed before contribution to the study. The questionnaire included 23 questions and divided into two part. The first part included demographic questions. The second part, included questions regarding contraception. The questionnaire translated to English is shown in (Appendix 1). Approval was obtained from the local Institutional Research Ethics Committee.

## Statistical analysis

Data analysis was conducted using descriptive statistics. The sample size computed by using SPSS program version 25 for Windows (SPSS, Inc, Chicago, IL, USA). Chi-square test coefficient and Fishers exact test were used to assess relation between change of study variables. A  $P < 0.05$  was considered statistically significant.

## RESULTS

The participants' mean age was 42.7 years (range, 19–81); 227 (93.4%) were currently married at the time of the study. Two-thirds of our sample were governmental employee and 76% had a university degree. The average number of children was 4 (range, 0–16). Details of demographics are shown in Table 1. The number of children has significant correlation with older age, retired people, longer marriage period, lower educational degree, and lower monthly income [Table 2].

About 79% of subjects were aware of contraception. Contraception awareness was significantly associated with younger age, shorter marriage duration, governmental employee, a smaller number of children, higher education degree and higher monthly income, but not with marital status and polygamous (marrying multiple spouses). Around 55% reported using at least one type of contraception. Contraception usage was significantly associated with governmental employee, a smaller number of children, higher educational degree and higher monthly

**Table 1: Demographic and personal data**

Demographic	Results
Age (years), mean (SD)	42.7 (13.4)
Married duration (years), mean (SD)	16.3 (13.9)
Number of offspring, mean (SD)	4.02 (3.4)
Age (years), n (%)	
<35	80 (32.9)
35-45	71 (29.2)
46-55	41 (16.9)
>55	51 (21.0)
Occupation, n (%)	
Government employee	181 (74.5)
Retired	29 (11.9)
Private sector	26 (10.7)
Student	7 (2.9)
Marital status, n (%)	
Married	227 (93.4)
Divorced	16 (6.6)
Marriage duration (years), n (%)	
<10	100 (41.2)
10-20	67 (27.6)
21-30	31 (12.8)
>40	45 (18.5)
Polygamy, n (%)	
Yes	42 (17.3)
No	201 (82.7)
Number of children, n (%)	
No	42 (17.3)
1-3	84 (34.6)
4-6	61 (25.1)
7-9	38 (15.6)
>9	18 (7.4)
Educational degree, n (%)	
High school	59 (24.3)
University	144 (59.3)
Postgraduate	40 (16.5)
Monthly income (Saudi Riyals), n (%)	
<10,000	60 (24.7)
10,000-20,000	135 (55.6)
>20,000	48 (19.8)
Total	243 (100)

SD: Standard deviation

income, but not with age, duration of marriage, marital status or polygamous [Table 3]. Male condoms (73.3%) and oral contraceptive pills (OCP) (74.9%) were the most known methods for contraception. However, <10% of the sample were aware that there is a hormonal contraception method for men, and only 13% know that vasectomy is a male contraception method [Figure 1].

Only 50% of our participants believe that male contraception should be performed under medical supervision, while 16% thinks it can be done without medical supervision and 33.7% don't know. Moreover, withdrawal technique (39.1%) and OCP for female (37.4%) were the most commonly used methods for contraception [Figure 2].

Our study revealed the most common reasons for using birth control methods were: Having many children (14%), strict financial issues (8.6%), studying wife (6.2%), and working wife (5.8%) [Figure 3].

Eighty-three percent of subjects think that condoms are safe to use, while 62% and 69% believed that vasectomy and hormones for men is associated with complications, respectively [Figure 4]. We also found that 14% of our subjects believed methods of contraception can lead to irreversible sterility, while 38% did not think so and 48% had no idea.

More than two-thirds of the study participants think that contraception is allowed by Islamic religion, this perception is significantly correlated with shorter marriage duration, higher educational degree and higher monthly income [Table 3]. We found that 97.5% of our sample refuses any method that might lead to sterility, while 21% refuses all contraception methods.

About 84.4% of our participants think that contraception methods can be performed by either gender, while 8.6% thought it should be done by males and 7% by females. 67% believe that family planning is beneficial for raising their children, avoiding financial constraints (51%), and enjoying their lives (53%). The mean preferred number of boy offspring was 3.4 (range 1–10) and girls of 2.7 (range 1–8). The mean preferred interval between each conception was 3 years (range 1–8).

## DISCUSSION

Contraceptive methods are interventions used to prevent pregnancy. It is used for family planning to attain desired number of children or to delay pregnancy for suitable timing. However, the rate of unplanned pregnancies worldwide in 2010–2014 was 44%.<sup>[14]</sup>

In our study, only 79% of men were aware of contraception, which is lower than what is reported worldwide.<sup>[5,9,15]</sup> In our study, the awareness of contraception concept correlated more with younger age, short marriage duration, governmental employment, smaller number of children, higher education degree, and higher monthly income. Interestingly, subjects with lower income had lower rate of contraception awareness. Higher educational degree is an important predictor for contraception and family planning, as shown by our study and also reported by others.<sup>[13]</sup>

Only 13% of our sample knows that vasectomy is a contraceptive option, which is considered a very low percentage compared to males report worldwide.<sup>[15]</sup> In addition, most of our sample thinks that vasectomy and male hormonal contraception (like injectable Testosterone) is associated with complications. The lower awareness and knowledge about contraception could be explained by the lack

of sexual and contraception educational programs in Saudi Arabia. In USA, national survey of family growth showed that 96% of men received sex education at some point.<sup>[16]</sup>

In this study, only 55% used at least one type of contraceptive methods, with similar rates in North America,<sup>[8]</sup> but lower than Australia (96%) and Europe (82%).<sup>[17,18]</sup> We also found that the use of contraception was significantly associated with governmental employment, a smaller number of children, higher educational level and higher monthly income, but not with age, duration of marriage, marital status, and polygamous. Compared to a study done in Europe, the prevalence of contraception use is more in singles, highly educated participants and higher parity.<sup>[18]</sup>

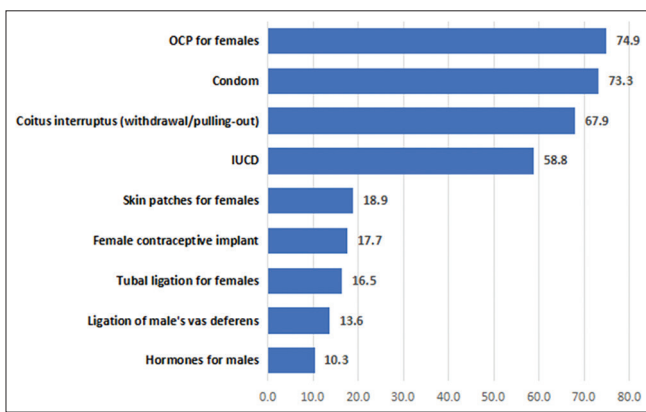


Figure 1: Methods of contraception knowledge by subjects (%)

Although coitus interruptus and condoms are not reliable methods for contraceptive,<sup>[19,20]</sup> we found that coitus interruptus (39.1%) and condoms (37.4%) are the most common contraceptive methods utilized by males. The reason is unknown, but could be due to lack of knowledge, cost of other methods or limited access to health care system. The use of coitus interrupts in our study is comparable to other studies from Greece, Australia, and Italy that were 42%, 32%, and 33% respectively,<sup>[17,18,21]</sup> while the use of condoms was lower than the reported rates from Greece and Australia that were 45% and 67%, respectively.<sup>[17,21]</sup> This difference in knowledge and practice

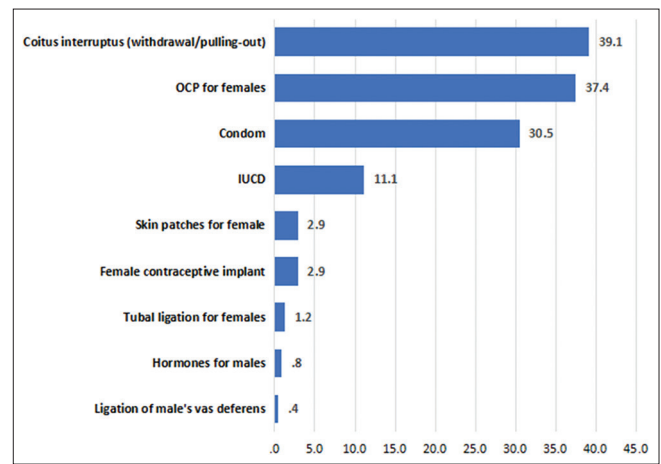


Figure 2: Methods of contraception used by subjects (%)

Table 2: Correlation between number of children and subject's characteristics

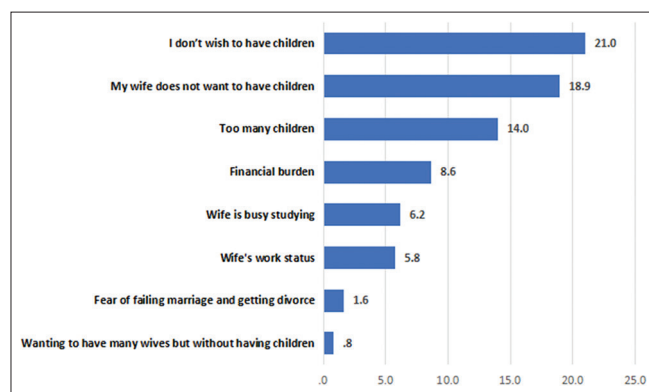
	Number of children					P
	No children	1-3	4-6	7-9	>9 children	
Age category (years)						
<35	29 (36.3)	48 (60.0)	3 (3.8)	0 (0.0)	0 (0.0)	<0.001*
35-45	11 (15.5)	24 (33.8)	30 (42.3)	6 (8.5)	0 (0.0)	
46-55	1 (2.4)	8 (19.5)	17 (41.5)	12 (29.3)	3 (7.3)	
>55	1 (2.0)	4 (7.8)	11 (21.6)	20 (39.2)	15 (29.4)	
Occupation						
Government employee	33 (18.2)	72 (39.8)	47 (26.0)	23 (12.7)	6 (3.3)	<0.001**
Retired	0 (0.0)	2 (6.9)	6 (20.7)	11 (37.9)	10 (34.5)	
Businessman	5 (19.2)	7 (26.9)	8 (30.8)	4 (15.4)	2 (7.7)	
Student	4 (57.1)	3 (42.9)	0 (0.0)	0 (0.0)	0 (0.0)	
Marital status						
Married	39 (17.2)	76 (33.5)	57 (25.1)	37 (16.3)	18 (7.9)	0.488**
Divorced	3 (18.8)	8 (50.0)	4 (25.0)	1 (6.3)	0 (0.0)	
Marriage duration (years)						
<10	39 (39.0)	57 (57.0)	4 (4.0)	0 (0.0)	0 (0.0)	<0.001*
10-20	2 (3.0)	21 (31.3)	34 (50.7)	9 (13.4)	1 (1.5)	
21-30	1 (3.2)	5 (16.1)	13 (41.9)	9 (29.0)	3 (9.7)	
>40	0 (0.0)	1 (2.2)	10 (22.2)	20 (44.4)	14 (31.1)	
Educational degree						
High school	6 (10.2)	18 (30.5)	11 (18.6)	13 (22.0)	11 (18.6)	0.006*
University	27 (18.8)	49 (34.0)	40 (27.8)	21 (14.6)	7 (4.9)	
Postgraduate	9 (22.5)	17 (42.5)	10 (25.0)	4 (10.0)	0 (0.0)	
Monthly income Saudi Riyals)						
<10,000	17 (28.3)	21 (35.0)	10 (16.7)	4 (6.7)	8 (13.3)	0.021*
10,000-20,000	20 (14.8)	48 (35.6)	35 (25.9)	26 (19.3)	6 (4.4)	
>20,000	5 (10.4)	15 (31.3)	16 (33.3)	8 (16.7)	4 (8.3)	

\*Chi-square test, \*\*Fisher's exact test

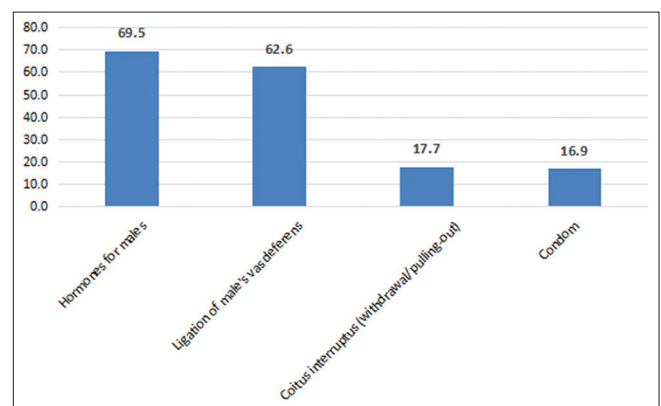
**Table 3: Correlation between subject's characteristics and knowledge of contraception, use of contraception and perception of religious position**

Demographic	Variables					
	Knowledge of contraception		Use of contraception		Perception of religious position	
	Number of yes (%)	P	Number of yes (%)	P	Number of allowed (%)	P
Age (years)						
<35	68 (35.4)	0.022*	46 (34.6)	0.236*	58 (34.9)	0.106**
35-45	60 (31.3)		44 (33.1)		52 (31.3)	
46-55	31 (16.1)		20 (15.0)		28 (16.9)	
>55	33 (17.2)		23 (17.3)		28 (16.9)	
Marriage duration (years)						
<10	83 (43.2)	0.024*	55 (41.4)	0.487*	72 (43.4)	<0.001**
10-20	55 (28.6)		41 (30.8)		45 (27.1)	
21-30	26 (13.5)		16 (12.0)		28 (16.9)	
>40	28 (14.6)		21 (15.8)		21 (12.7)	
Occupation						
Government employee	152 (79.2)	<0.001*	108 (81.2)	0.036**	129 (77.7)	0.126**
Retired	15 (7.8)		14 (10.5)		14 (8.4)	
Businessman	19 (9.9)		9 (6.8)		17 (10.2)	
Student	6 (3.1)		2 (1.5)		6 (3.6)	
Marital status						
Married	177 (92.2)	0.113**	125 (94.0)	0.694*	157 (94.6)	0.441**
Divorced	15 (7.8)		8 (6.0)		9 (5.4)	
Are you a polygamous?						
Yes	32 (16.7)	0.621*	21 (15.8)	0.498*	30 (18.1)	0.624*
No	160 (83.3)		112 (84.2)		136 (81.9)	
Number of children						
0	34 (17.7)	0.005*	16 (12.0)	<0.001*	30 (18.1)	0.660**
1-3	70 (36.5)		55 (41.4)		58 (34.9)	
4-6	51 (26.6)		40 (30.1)		43 (25.9)	
7-9	29 (15.1)		17 (12.8)		24 (14.5)	
>9	8 (4.2)		5 (3.8)		11 (6.6)	
Educational degree						
High school	33 (17.2)	<0.001*	20 (15.0)	<0.001*	27 (16.3)	<0.001**
University	122 (63.5)		83 (62.4)		108 (65.1)	
Postgraduate	37 (19.3)		30 (22.6)		31 (18.7)	
Monthly income (Saudi Riyals)						
<10,000	40 (20.8)	<0.001*	21 (15.8)	<0.001*	33 (19.9)	0.002**
10,000-20,000	106 (55.2)		73 (54.9)		91 (54.8)	
>20,000	46 (24.0)		39 (29.3)		42 (25.3)	

\*Chi-square test, \*\*Fisher's exact test



**Figure 3: Reasons to start contraception methods (%)**



**Figure 4: Perception of male contraception methods complications (%)**

use of condoms could be attributed to the commercial prices of condoms in some countries.

In our study, OCP (37.4%) was the most common contraceptive methods for females, similar results were found in USA,<sup>[22]</sup> but different rates were reported from

Australia (49%) and Europe (22%).<sup>[17,18]</sup> Only 11% used Intrauterine Contraceptive Device compared to studies from Australia (57%), Europe (14%), and USA (3.6%).<sup>[17,18,22]</sup> Tubal ligation was the least method used by our participants similar to other studies from other Islamic countries,<sup>[5,13]</sup>

but lower than the reported rates from Europe (5.7%) and Australia (6%).<sup>[17,18]</sup>

Surgical contraception was the least practiced and known method by participants. Only 13.6% and 16.5% are aware of vasectomy and tubal ligation, respectively. Moreover, only 0.4% of our cohort had vasectomy, and 1.2% had partner tubal ligation as contraception. This findings are similar to other studies conducted in Asia;<sup>[5,13]</sup> however, they are lower than reported western countries that were ranging from 4% to 9%.<sup>[17,18,22]</sup>

About 62.6% of participants thinks that vasectomy is associated with complications, and 62.1% either think or do not know whether contraceptive methods in general can lead to sterility, a rate that is higher than other studies.<sup>[6,13]</sup> These findings emphasis that our community is poorly educated in contraception and family planning.

We found several reasons for using contraception, which include: Too many children (14%), financial constraints (8.6%), working or studying wife (12%). In a study by Frost and Lindberg, 56% of the study sample were using contraception to avoid financial constraints, 51% to complete the female partner education and 50% to keep partner job or get a better job.<sup>[23]</sup>

There is also unclarity of the religious position with regard to contraception, with various interpretations across Islamic countries. This could explain our finding that third of our participants either think that contraception is prohibited by Islam or do not know the religious position. A systematic review for factors influencing sexual and reproductive health of Muslim women revealed a similar difference in religious views.<sup>[7]</sup> Moreover, we found that 21% refuses any method of contraception and 97.5% refuses any method that will lead to sterility, similarly to the mentioned systematic review by Alomair *et al.*<sup>[7]</sup> This indicates that contraception education and counseling should be handled differently in Muslim communities.

Most of our participants (84.4%) thought that contraception should be performed by either partner. Similarly, in USA, the majority (78%) of men believe that both partners share an equal responsibility for family planning.<sup>[24]</sup>

In the current study, we found that most of our participants desired more boys than girls with a mean number of 3.4, and 2.7, respectively. Although this was not statistically significant, it is interesting to observe that in other studies the children's gender influenced the type of contraceptive

method used, and couples tended to use temporary methods if they have fewer boys than girls.<sup>[7,25]</sup>

Education is a corner stone in family planning programs. The CHOICE project showed that after enrolment in the project, African-American women tend to choose more effective long acting contraception compared to before enrolment.<sup>[26]</sup> Subjects education was the main reason for the CHOICE project success. In addition, failure of family planning programs in many countries could be attributed to the lack of husband's involvement in the program.<sup>[27]</sup> It is important to take note that, in many countries, men are still the main decision-makers and have the authority to decide or share on matters involving the wife, such as family planning and contraception use.<sup>[7]</sup> However, our study and other studies showed that men have poor knowledge in contraceptive knowledge or their options.<sup>[28]</sup>

## CONCLUSIONS

Males in our community are poorly educated in contraception goals, methods, and religious views. National programs on contraception education could help target people to attain the goals of contraception. In addition, a clear statement from the concerned authorities with regard to each contraceptive method will alleviate any confusion or misinterpretation of religious view.

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## Conflicts of interest

There are no conflicts of interest.

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## APPENDIX 1. QUESTIONNAIRE

### Part 1: Demographic and personal data

1. What is your age?
  - a. Less than 35 years
  - b. 35-45 years
  - c. 46-55 years
  - d. More than 55 years
2. What is your occupation?
  - a. Governmental employee
  - b. Retired
  - c. Private work
  - d. Student
3. What is your marital status?
  - a. Married
  - b. Divorced
4. How long have you been married?
  - a. Less than 10 years
  - b. 10-20 years
  - c. 21-30 years
  - d. More than 30 years
5. Are you a polygamous?
  - a. Yes
  - b. No
6. What is your number of offspring?
  - a. 0 offspring
  - b. 1-3 offspring
  - c. 4-6 offspring
  - d. 7-9 offspring
  - e. More than 9 offspring
7. What is your educational degree?
  - a. High school
  - b. University
  - c. Postgraduate
8. What is your monthly income?
  - a. < 10000 SR
  - b. 10000-20000 SR
  - c. > 20000 SR

### Part 2: Knowledge about contraception

9. Do you have any knowledge about methods of contraception?
  - a. Yes
  - b. No
10. If you answered yes to the previous question, which of the following contraceptive methods you are familiar with?
  - a. Coitus interruptus (withdrawal/pulling-out)



- Yes
- No
- b. Condom
  - Yes
  - No
- c. Ligation of male's vas deferens
  - Yes
  - No
- d. Hormones for males
  - Yes
  - No
- e. OCP for females
  - Yes
  - No
- f. IUCD
  - Yes
  - No
- g. Female contraceptive implant
  - Yes
  - No
- h. Skin patches for females
  - Yes
  - No
- i. Tubal ligation for females
  - Yes
  - No

11. Do you know that contraception for male has to be performed under medical supervision?

- a. Yes
- b. No
- c. I don't know

12. Have you and your wife ever tried any contraception methods before?

- a. Yes
- b. No

13. If you answered yes to the previous question, which method from the list was used?

- a. Coitus interruptus (withdrawal/pulling-out)
  - Yes
  - No
- b. Condom
  - Yes
  - No
- c. Ligation of male's vas deferens]
  - Yes
  - No
- d. Hormones for males
  - Yes
  - No
- e. OCP for females
  - Yes
  - No

- f. IUCD
  - Yes
  - No
- a. Female contraceptive implant
  - Yes
  - No
- g. Skin patches for females
  - Yes
  - No
- h. Tubal ligation for females
  - Yes
  - No

14. If your answer to Question 12 is yes, what was your reason to start contraception methods?

- a. Too many children
  - Yes
  - No
- b. Financial burden
  - Yes
  - No
- c. Wife is busy studying
  - Yes
  - No
- d. I don't wish to have children
  - Yes
  - No
- e. My wife does not want to have children
  - Yes
  - No
- f. Wife's work status
  - Yes
  - No
- g. Fear of failing marriage and getting divorce
  - Yes
  - No
- h. Wanting to have many wives but without having children
  - Yes
  - No

15. Do you support contraception in family planning?

- a. Yes
- b. No

16. Do you support contraceptive methods that can cause sterility?

- a. Yes
- b. No

17. Are aware of any complications or risks from the following contraceptive methods for males?

- a. Condom
  - Yes
  - No

- b. Ligation of male's vas deferens
    - Yes
    - No
  - c. Hormones for males
    - Yes
    - No
  - d. Coitus interruptus (withdrawal/pulling-out)
    - Yes
    - No
18. Do you think that using contraceptive methods will lead to irreversible sterility?
- a. Yes
  - b. No
  - c. I don't know
19. From religious point of view, what do you think about birth-control?
- a. Allowed
  - b. Prohibited
  - c. I don't know
20. In your opinion, contraceptive methods should be done by which gender?
- a. Male only
  - b. Female only
  - c. Either
21. Do you think that contraceptive methods will help in the following?
- a. Focusing in raising children
    - Yes
    - No
  - b. Avoiding financial problems
    - Yes
    - No
  - c. Enjoying life and avoiding pressure as general
    - Yes
    - No
22. In your opinion, what is the ideal number of offspring?
- a. Boys .....
  - b. Girls .....
23. What is the ideal time period to have between each conception?
- a. 1 year
  - b. 2 years
  - c. 3 years
  - d. 4 years
  - e. 5 years
  - f. 6 years
  - g. 7 years
  - h. 8 years
  - i. 9 years
  - j. 10 years
  - k. More than 10 years