

Awareness and actual knowledge regarding contraceptive methods among young women in Trivandrum district, Kerala, India

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Received: November 22, 2017; Accepted: December 12, 2017

ABSTRACT

Background: There are few studies on the extent of awareness regarding different contraceptive methods among young women in Kerala. **Objectives:** The main objective of this paper is to describe the gap between young women's awareness and actual knowledge regarding different contraceptive methods. In addition, the paper describes how educational attainment relates to actual knowledge regarding different contraceptive methods. **Materials and Methods:** A community-based cross-sectional survey was conducted among 18–28 years old married ($n = 203$) and unmarried ($n = 104$) women during January–March 2015. Based on participants' responses about the process involved in each method and its function to prevent pregnancy, the knowledge level was defined as knew nothing, very little, some, or good. The data analysis was mainly descriptive in nature. **Results:** All participants were aware of tubectomy, but 59.6% of unmarried and 77.3% of married women had either some or good knowledge about it. Only 18.3% of unmarried and 10.9% married women had either some or good knowledge about vasectomy though more than 60% of both groups of women were aware of it. Majority of married women had either some or good knowledge about male condoms. Women had less knowledge about intrauterine device and injectable methods, and many were confused about oral contraceptive and emergency contraceptive pills. Education level did not show much influence in determining the actual knowledge about different contraceptive methods. **Conclusion:** Awareness does not imply adequate knowledge regarding the use of contraceptive methods. The consequences of the extensive gap between awareness and the actual knowledge regarding contraceptive methods among young women can be a very low use of reversible methods of contraception and consequent low birth intervals or induced abortions that can negatively affect young women's health status. The public health efforts should focus creating adequate knowledge among young women on different contraceptive methods beyond making only awareness about contraception.


KEY WORDS: Awareness; Knowledge; Contraceptive Methods; Young People; Kerala

INTRODUCTION

Contraception indicates the intentional prevention of pregnancy using any traditional or modern contraceptive method. Modern

methods include various devices, condoms, pills, hormonal methods, and surgical methods such as tubectomy and vasectomy whereas traditional methods include sexual practices such as coitus interrupts, withdrawal, or lactational amenorrhea.^[1] As per one report in 2015, globally 19% of married women (or in union) in the reproductive age used tubectomy and 14% used intrauterine devices (IUD) but only 2.4% of men have had vasectomy.^[2] In India, female sterilization is currently the most dominated method of contraception.^[1]

Kerala is one of the states in India with lowest infant and maternal mortality and the higher proportion of educated

Access this article online	
Website: http://www.ijmsph.com	Quick Response code
DOI: 10.5455/ijmsph.2018.1131212122017	

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people. However, as in other states of India majority of women in the reproductive age uses female sterilization when their family size is complete.^[3] According to the district level household survey -4 (DLHS4), use of female sterilization among 15–49 year old currently married women in Kerala was 39.7%, but the use of male sterilization was only 0.7%.^[4] However, compared to DLHS3 there was a 10% decrease in female sterilization.^[5] Apart from female sterilization, condom was the predominant method used by women (9.4%) followed by IUD (4.3%), withdrawal method (3.1%), pills (1.2%), and rhythm method (1.1%).^[4]

The average age at marriage for women in Kerala was 22.9 years in the urban area and 22.4 years in the rural area as per DLHS4, which is higher than the national averages. Women aged 20–24 years reporting the birth order of two or above were 19.5% in urban and 21.2% in rural area and about 4.4% of 20–24 years old women and 17.6% of 25–29 years old women opted female sterilization.^[4]

DLHS4 also reported statistics on contraceptive awareness, which shows that around 91% of ever-married women of age 15–49 years were aware of any modern method of contraception, 81.6% were aware of female sterilization, and 58% were aware of male sterilization. Almost 66% of the participants were aware of IUDs and condoms, and 55% were aware of pills. Only <25% of women were aware of female condoms and injectable methods. More than 30% of participants were aware of rhythm or withdrawal method, and only 6.2% were aware of lactational amenorrhea.^[4]

The above facts suggest that women are largely aware of female sterilization, and its use is predominant even among younger women in Kerala. In contrast, more than 50% of women in the reproductive age were aware of other methods such as male sterilization, IUDs, condoms, and pills but a very low percentage of women used such methods.^[4] This signifies the need to understand whether the young women are adequately aware of the use of different methods of contraception.

Most often, the terms awareness and knowledge are synonymously used. Awareness reveals whether a person is conscious about a particular matter, but it does not mean that the person has a fair amount of knowledge about it. The traditional way of measuring awareness is inadequate to understand the link between awareness and use of contraceptive methods properly.^[6] This paper describes the gap between awareness and actual knowledge regarding different contraceptive methods among young women in Trivandrum district, Kerala. The paper also describes the role of educational attainment in determining the actual knowledge regarding different contraceptive methods.

MATERIALS AND METHODS

Study Design and Sampling Methods

This paper is based on a cross-sectional survey conducted in Trivandrum district during January–March 2015. The target population was 18–28 years old married and unmarried women who reside in Trivandrum district. The participants were selected using multistage cluster sampling method. The sample size was calculated for the main objective of the survey, which was to estimate the contraceptive use among young married women. The assumptions for sample size estimation were anticipated prevalence of 15% for the use of any non-terminal modern method of contraception among young married women in Kerala,^[7] absolute precision of 7% for a 95% confidence interval, design effect of 1.5 and a maximum refusal of 25%. The estimated sample size was 200 married women. However, for studying the extent of awareness of contraceptive methods among all young women, 100 unmarried women were also decided to be included in the survey.

Trivandrum district consists of one corporation, 4 municipalities, and 73 grama panchayats. Five wards were randomly selected from each administrative area, and an equal number of participants were selected from each ward. That means, five out of 100 wards were selected from the corporation, five wards were selected from one randomly selected municipality and one ward each from the five randomly selected panchayats were included in the study. The target number of participants from each ward was 13–14 married women and 6–7 unmarried women, respectively. Before starting the survey, the two trained field investigators visited the local administrative offices to inform about the study and to seek help to identify areas in each ward. The investigators identified one point in each ward and visited the households in one direction to identify eligible women aged 18–28 years, keeping a checklist.

If a woman was available, field investigators explained the purpose of their visit and asked her willingness to participate in the study, and obtained a written informed consent if she was willing to participate. The women with any disabilities were not included in the study. The institutional, Technical Advisory Committee and the Ethical Committee approved the study protocol before conducting the survey.

Data Collection and Statistical Analysis

The investigators collected sociodemographic details of the participants, their awareness and actual knowledge related to different contraceptive methods using a structured interview schedule with closed and open-ended questions. Investigators asked the participants whether they have heard about any of the contraceptive methods. If they responded that they were aware of any particular method, the interviewer further

probed to explain whatever they knew about the method especially on what is the procedure, which part of the body is involved with and how the method prevents pregnancy. The field investigators captured the information in detail, and later the data entry personal segregated the information on each method into different subheadings and defined their knowledge level on a particular method as knew nothing, very little, some, or good.

For example, the actual knowledge related to female sterilization was defined as “good” if the participant knew about the procedure and the way that it prevents pregnancy, “some” if the participant knew either the procedure or the way that it prevents pregnancy. The knowledge level was defined as “very little” if the participant only knew that the procedure is done in the uterus, and “knew nothing” if the participant was unable to tell anything about it. Similarly, knowledge related to male sterilization and IUD was categorized. Knowledge related to condoms, pills, and injectable methods was assessed based on whether the participant knew about its usage and how the method prevents pregnancy.

Knowledge related to natural methods was assessed based on whether the participant told about withdrawal, safe period, or lactational amenorrhea. If the participant mentioned about any of the two methods mentioned above; it was considered that the participant had good knowledge, if the participant mentioned at least one method; it was considered that the participant had some knowledge and if they did not specify any of these methods; it was considered that the participant had no knowledge about natural methods. In addition, misbeliefs and other information conveyed by the participants were listed.

For the analysis, actual knowledge was further classified as “participant had either some or good knowledge about the method” and “participant had very little or no knowledge about the method.” Descriptive analysis was performed using the statistical software Intercooled STATA 14.1 (STATA/IC), Texas, USA.

RESULTS

Total 203 married and 104 unmarried women participated in the study. The average ages of unmarried and married women were 21.4 (SD: 2.6) and 24.9 (SD: 2.4), respectively. Unmarried women who attained graduation or above was 69% (72/104) whereas married women who attained graduation or above was only 43% (87/203). A comparison of awareness and actual knowledge regarding different contraceptive methods was shown in Figures 1 and 2. All participants were aware of female sterilization. However, 59.6% of the unmarried women and 77.3% of the married women had either some or good knowledge about female sterilization. More than 60% of both groups of women were aware of male

sterilization, but only 18.3% and 10.9% of the unmarried and married women had either some or good knowledge about it.

The gap between awareness and actual knowledge was very extensive in the case of oral contraceptive (OC) pills. Only 6.7% of unmarried women and 11.3% of married women had actually some knowledge about it, though more than 90% of participants in both groups of women were aware of OC pills. Awareness regarding IUD was less among unmarried women compared to married women. If we consider the actual knowledge, almost 60% of married women had either some or good knowledge about IUD, while 20.2% of unmarried women had either some or good knowledge about it.

Almost all participants were aware of male condoms, and the majority of married women had either some or good knowledge about it. Female condoms were not much familiar to both groups of participants; however, the actual knowledge was slightly higher among unmarried women. A relatively higher proportion of married women had either some or good knowledge about emergency contraception than unmarried women. Nearly 30% of both groups of women had awareness about injective methods, but the actual knowledge was extremely low. Almost 80% of married women had either some or good knowledge about natural methods to prevent pregnancy.

Women also had many misconceptions about different methods those are listed in Table 1. Female sterilization means “removal of the uterus” was the most reported misconception about it. Many participants confused about IUD with pills or condoms but no one reported any misinformation about male condoms. While probed about OC pills, 34% of women were talking about emergency contraceptive (EC) pills or abortion pills. At the same time, many women said that the use of emergency contraception is before sexual relation. In addition, participants reported many other natural ways to avoid pregnancy, mainly avoid sexual relationship, and eat papaya.

Table 2 summarizes the relationship between educational attainment and actual knowledge of married and unmarried women. Actual knowledge concerning vasectomy, injectable methods, and OC pills were very low among all groups of participants irrespective of educational attainment. Actual knowledge about EC pills and natural methods was significantly high among highly educated married women ($P < 0.05$). Nevertheless, knowledge regarding tubectomy was high among less educated compared to highly educated married women ($P < 0.10$).

DISCUSSION

The present study provided information on the extent of awareness regarding different contraceptive methods among young women in Kerala and shows that the gap

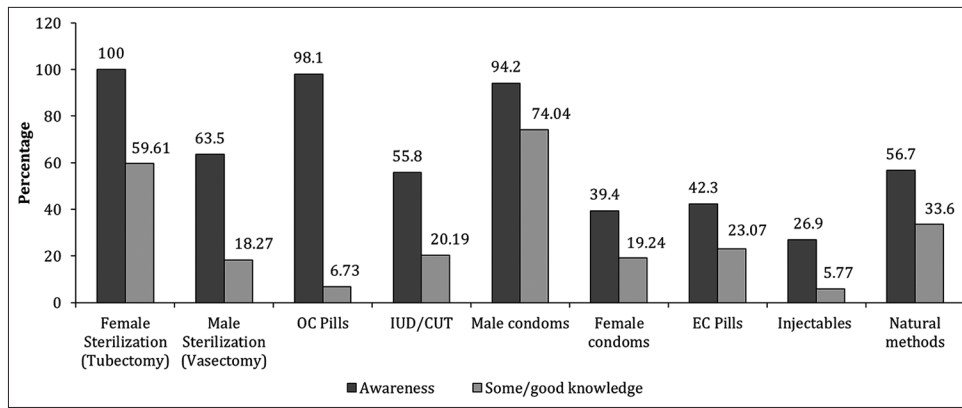


Figure 1: Awareness and actual knowledge regarding contraceptive methods among 18–28-year-old unmarried women in Trivandrum

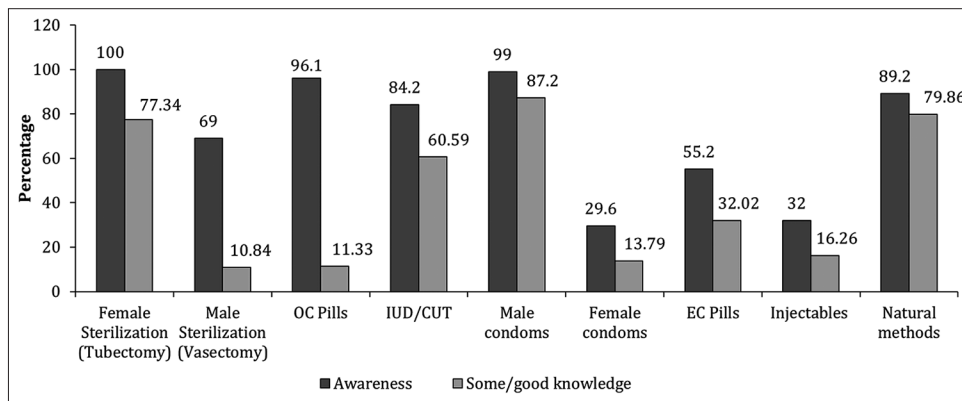


Figure 2: Awareness and actual knowledge regarding contraceptive methods among 18–28-year-old married women in Trivandrum

between awareness and actual knowledge regarding many contraceptive methods are extensive. Even though all women reported that they were aware of female sterilization, 40% of unmarried and 23% of married women had very little knowledge about it, and some of them had serious misconceptions about the method. A number of women said that pregnancy is prevented by removing the uterus during the process of female sterilization. Regarding vasectomy, the actual knowledge was extremely poor among participants. However, the majority of married and unmarried women had either some or good knowledge about condoms, and no one reported any misconception about it. The observations also show that women are so much confused about OC pills and EC pills. Married women had relatively better knowledge about IUD and natural methods compared to unmarried women. Nevertheless, women were generally less aware of injectable methods and use of female condoms. The participants reported many serious misconceptions about natural methods of contraception. Many women considered eating papaya as a natural method of contraception rather than emphasizing on the precaution to avoid the use of papaya in pregnancy. In addition, educational status did not relate with actual knowledge regarding most of the contraceptive methods except knowledge about EC pills and natural methods among married women.

Vasectomy and male condoms are the two modern contraceptive methods where men are directly involved with.

Male condoms are much familiar to people because of the social promotion through televisions and other media as a dual method for protecting unwanted pregnancies as well as sexually transmitted infections especially HIV.^[8,9] However, the knowledge regarding vasectomy even among men is very poor in India. In a cross-sectional study conducted in Bengaluru rural population in 2015, only 7.4% of the participated men had heard about vasectomy.^[10] Another cross-sectional study in 2014, among community health workers in Jharkhand, revealed that community health workers are less informed about vasectomy and because they cannot provide proper information regarding vasectomy they mainly target women and provide information on contraceptive methods for women.^[11] The extent of knowledge regarding male-oriented methods among young women in the present study also reflects the general trend of knowledge regarding male-oriented methods in the community.

The present study shows that young women are generally aware of contraceptive pills but not having enough knowledge with regard to the use of different pills such as OC pills, EC pills, and abortion pills. The data show that 33% of the unmarried and 34% of the married women were talking about EC pills or abortion pills while the interviewer probed about OC pills. The frequent advertisements of EC pills in magazines and other media make people alert about EC but make them confused about different kinds of other contraceptive pills. One study in Puducherry showed that

Table 1: Other information/misbelieves reported by the participants

Information about	Unmarried women	Married women
Female sterilization (Tubectomy)	Removing uterus (7), it is an injection (1), it prevents the expansion of uterus (1)	Removing uterus (4)
Male sterilization (Vasectomy)	It is an injection (1), it is an injection done in male reproductive organ (1)	Something done in stomach (1), something done in naval (1)
OC pills	Talking about EC pills or abortion pills (34), if you miss one pill take two pills on the next day to compensate it (1)	Talking about EC pills or abortion pills (70), it is a method used by males (1), these are medicines used at the time of menstrual periods (1), take these pills 1 day before sex (2), take these pills once in a week (1), take these pills on the day of sexual relation (1), the tablet may stay in the uterus and closes it (2), these pills help to avoid menstrual periods (1), continuous use leads to infertility (1)
IUD/CUT/Loop	It is like pills used at the time of (or before) sexual relation (2), it is available in medical store and insert by self (3), it is inserted through an operation (1), it is a rubber material inserted inside vagina (1), those who have illegal sexual relationship use this method (1)	It is like pills used at the time of (or before) sexual relation (2), it will close the uterus (2), it is used by males/ confused with condoms (4), sometimes it will enter inside - it is very harmful (1), it is not good to discuss about these matters, so I did not try to understand about these matters (1)
Female condoms	It is used to make harm for the males if the women are raped (1), it can be used with the help of a doctor (1), It is CUT (1)	
Emergency contraception	Is contraception contraction of the uterus (1), it is used before sexual relationship (3)	It is used before sexual relationship (11), talking about abortion pills (1), talking about OC pills (2), it is a method of testing pregnancy (1)
Injectables	It is used after sexual relationship (2), it is used for abortion/to destroy the fused sperm or ovum/for not becoming pregnant if the women are raped (4), taking the injection in the backbone (1), injection is to become pregnant (1)	It is used after sexual relationship (1), it is used for abortion (1), taking the injection in the backbone (1), Injection is to become pregnant (1), taking this injection will make growth problems to the baby and also we will not become pregnant if we wish to (1)
Natural methods	Eat papaya (17), avoid sex (14), Eat sweets/jaggery (1), do hard physical activities (1)	eat papaya (25), avoid sex (18), eat sweet/jaggery/hot food/ sesame/leafy medicines (6), do hard physical activities (1)

NB: The numbers given in brackets represent the number of participants reported the given information. IUD: Intrauterine devices, OC: Oral contraceptive, EC: Emergency contraceptive

Table 2: Educational attainment of participants versus actual knowledge about different contraceptive methods

Participants with either some/good knowledge about	Unmarried women		Married women	
	plus 2/diploma or below (n=32)	graduation and above (n=72)	plus 2/diploma or below (n=116)	graduation and above (n=87)
	n (%)	n (%)	n (%)	n (%)
Tubectomy	18 (56.3)	44 (61.1)	95 (81.9)	*62 (71.3)
Vasectomy	5 (15.6)	14 (19.4)	9 (7.8)	13 (14.9)
Male condoms	21 (65.6)	56 (77.8)	99 (85.3)	78 (89.7)
Female Condoms	9 (28.1)	11 (15.3)	13 (11.2)	15 (17.2)
Injectable methods	1 (3.1)	5 (6.9)	18 (15.5)	15 (17.2)
IUD	5 (15.6)	16 (22.2)	66 (56.9)	57 (65.5)
OC pills	3 (9.4)	4 (5.6)	10 (8.6)	13 (14.9)
EC pills	5 (15.6)	19 (26.4)	28 (24.1)	**37 (42.5)
Natural methods	1 (3.1)	8 (11.1)	25 (21.6)	**37 (42.5)

*P-value<0.10, **P-value<0.05. IUD: Intrauterine devices, OC: Oral contraceptive, EC: Emergency contraceptive

even nurses had many misconceptions regarding the use of emergency contraception especially on its mode of action, indications, and timing of administration.^[12] In the present study, women were generally less aware of other modern reversible methods. One hospital-based study in 2015 among antenatal women revealed that knowledge regarding

postpartum insertion of IUD was very poor among antenatal women and the erroneous and incomplete information regarding family planning hold back women to accept family planning methods.^[13] One interesting example for serious misconceptions regarding natural methods of contraception in the present study is the perception of eating papaya.

Usually, married young women get advice from friends and elder women in the family to avoid eating papaya if she is trying to conceive. Besides that, pregnant women are getting advice to avoid unripe or semi-ripe papaya during pregnancy, especially in the first trimester. However, many women in the present study perceived eating papaya as a natural method of contraception.

Measuring knowledge about contraceptive methods seek attention. One cross-sectional study from rural Jammu reported that all the study participants heard about family planning. Rather than that, they explored the extent of awareness regarding family planning method by asking the meaning of family planning, and 58% of women reported that family planning means birth limiting. Around 49% said it means planning for better future and 42% reported that meaning of family planning is pregnancy prevention.^[14] Another study among married women in rural Karnataka reported that knowledge of contraceptive methods was very good among participants. More than 80% of women had knowledge about male sterilization, OC pills, and IUD. The knowledge about female sterilization was 100%, and male condom was 77%.^[15] However, it is not clear from the paper how they measured knowledge and whether it captured only the awareness. It is very common that the terms awareness and knowledge are synonymously used, but simply the awareness does not imply that the people have adequate knowledge regarding the contraceptive methods.^[6]

Hence, the major strength of the present study is that the open-ended questions helped to capture the extent of awareness regarding contraceptive methods and it helped clearly establish the gap between awareness and actual knowledge. Such data are very rare from Kerala. The study indicates that measuring the awareness regarding contraceptive methods is not sufficient to capture the actual knowledge of young women, and it can be a serious matter of concern especially in studies assessing the relationship between contraceptive awareness and its use. One of the limitations of the study may be a bias in the information provided by the participants for analyzing the extent of awareness. However, to reduce the possible bias to a minimum, the field investigators probed all the participants in a similar way to get the required information, and later the first author segregated the information entered in the Excel sheet into different headings and subheadings and recoded it.

CONCLUSION

In spite of having a good level of education, young women have inadequate knowledge about the use of different contraceptive methods. As the average age at marriage for women in Kerala was 22.6,^[4] and high fertility is concentrated in the age group of 20–29 years,^[16] it is important to ensure adequate knowledge about different methods of

contraception in young women who need contraception the most. Communication with the study participants revealed that many women were not conscious of the intention of contraceptive methods to avoid the chance of pregnancy but they spoke about methods that help to expel pregnancy, which needs special attention of providers who educate people on different contraceptive methods. A very low use of reversible methods of contraception and consequent low birth intervals and induced abortions can be a consequence of inadequate knowledge on contraceptive methods among young women, which will affect women's health status. It is required serious efforts for creating sufficient knowledge among young women on different contraceptive methods beyond making only awareness about contraception.

ACKNOWLEDGMENT

“Greatly acknowledge the financial support of Ford Foundation to conduct this survey as a small activity of the larger project “research initiative on factors influencing women's reproductive choices”. Professor Sundari Ravindran is acknowledged for her generous support in planning and conduct of this study. Acknowledge the sincere efforts of Mrs. Geethu and Mrs. Anupama for data collection, Mr. Prejith Chandran for data entry and Ms. Pritty Titus for providing her help in data coding.

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How to cite this article: Thulaseedharan JV. Awareness and actual knowledge regarding contraceptive methods among young women in Trivandrum district, Kerala, India. *Int J Med Sci Public Health* 2018;7(2):103-109.

Source of Support: Nil, **Conflict of Interest:** None declared.