

ORIGINAL RESEARCH

Knowledge, awareness and practices regarding contraception among young college going students: An observational study

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ABSTRACT

Introduction: The practice of contraception remains an important problem in the society as many unintended pregnancies each year have been reported. The present study aimed to assess the knowledge, attitude and practice of contraception among the college students. **Material and Method:** After approval from IEC, a questionnaire based cross sectional descriptive study was conducted in the Department of Obstetrics & Gynecology, Index Medical College Hospital & Research Center, Indore to evaluate the knowledge, attitude and practice of contraception among 468 college going students enrolled in the first-year bachelor course in the university over a period of four months from October 2023 to January 2024. Self-administered questionnaire consisted of 32 questions divided in four sections, socio-demographic profile, the knowledge, awareness and perception on contraception was used in this study. Data were statistically analyzed using SPSS version 20.0. Descriptive statistics was used for data analysis. **Aims & Objectives:** The aim of the present study was to assess the knowledge, attitude and practice of contraception among the college students.

Objectives

- To assess the gap between knowledge, perception and practice of contraception among young college going students.
- To educate the young college going students to implement the knowledge into practice.

Results: The response rate was 66.7%. Out of 312 students who responded, 83.3% were female and 16.7% male. Age ranged from 18 to 28 years old and the mean age was 21 years old (SD: 1.57). 98% (306/352) of the students had knowledge about family planning and 86% (268/312) of them had heard about contraceptives. Most of them knew about condoms (85%) and contraceptive pills (40%) but knowledge about permanent methods and Cu-T was poor (average 12%). Most students thought contraceptives were to be used to prevent unwanted pregnancy (35%) and for birth spacing (30%). 11% of students had used some form of contraceptive in the past and 7% were currently users. The most commonly used contraceptives were condoms, followed by combined use of OCP and condom. **Conclusion:** The study highlighted the need to motivate the youth for effective and appropriate use of contraceptives when required and arrest the trend towards unwanted pregnancy.

Keywords: contraception, knowledge, practice, family planning

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INTRODUCTION

India, contributing one-sixth of the global population of over 6 billion, faces significant challenges due to uncontrolled population growth. Despite being the first to implement a national population control program in 1952, India struggles to contain the baby boom. The National Family Welfare Programme, which targets eligible couples, has not yielded the expected results. Despite efforts, the returns on investment are not commensurate with the inputs. [1]

The United Nations Fund for Population Activities (UNFPA) predicts that future population trends will depend on fertility decisions made by men and women aged 15-24, and their ability to act on those decisions. [2] Adolescent fertility is of concern due to its health implications, demographic implications in rapidly growing societies, and social development implications.

Contraception has become a widely discussed issue around the world. Family planning services and supplies currently prevent 187 million unintended

pregnancies each year including 60 million unplanned births and 105 million abortions.[3] About one-third of pregnancies in South and Southeast Asia are unintended due to low contraceptive use, method failure, and high unmet contraceptive needs. [4] Additionally, 70% of maternal deaths are due to lack of knowledge and awareness about family planning and contraception. [5]

Emergency contraceptives (ECPs) should be accessible and included in all family planning programs, especially for adolescent girls due to the negative impact of unwanted pregnancy. Research shows that adolescent girls and young women are the primary users of emergency contraceptives, often due to condom accidents, with a small percentage not using other contraception methods. Also, there is an increased prevalence of pre-marital pregnancies leading to an increased rate of abortions. Despite frequent use, adolescents have limited knowledge about EC. [6] Experts advocate for ECPs to be easily accessible and provided with proper information about their use.

In India, 78% of pregnancies are unintentional, with 25% being unwanted. About 11 million abortions occur annually (6.7 million being induced and 4 million spontaneous), with 10-11 illegal abortions occurring against each legal one. About 20,000 women die annually due to abortion complications, most of which are preventable. Preventing unwanted pregnancies is crucial for improving women's reproductive health. Adolescents in developed countries have high awareness about emergency contraceptives, but in developing countries, they lag behind in knowledge about these contraceptives, increasing the risk of unwanted pregnancies. 40–80% of the females are reported to be sexually active by the age of 18 years.[7]

Because of the young age-structure of India's population, the reproductive attitude and behaviour of teenagers are likely to have an important impact on overall reproductive health, demographic and social outcome. Adolescent sex and exposure to the risk of pregnancy has attracted considerable research attention to understand its magnitude and address it as a problem. Studies in developed countries have shown a high level of such exposure, as also developing countries like India. [8,9] The lack of knowledge and awareness as well as false perceptions of healthcare workers could be the contributing factor toward malpractice of contraception in society.

AIMS & OBJECTIVES

The aim of the present study was to assess the knowledge, attitude and practice of contraception among the college students.

Objectives

- To assess the gap between knowledge, perception and practice of contraception among young college going students.

- To educate the young college going students to implement the knowledge into practice.

MATERIAL AND METHODS

This questionnaire based cross sectional descriptive study was conducted in the Department of Obstetrics & Gynecology, Index Medical College Hospital & Research Center, Indore to evaluate the knowledge, attitude and practice of contraception. Using purposive sampling technique, 468 college going students enrolled in 1st year in various medical and paramedical courses (MBBS, Nursing & BPT) in the university were selected in this study which was conducted over a period of four months from October 2023 to January 2024.

Inclusion Criteria: 1st year Students enrolled in 1st year in various medical and paramedical courses (MBBS, Nursing & BPT) who were willing to participate in the study.

Exclusion Criteria: Students who were not willing to participate in the study.

The questionnaire was designed by the authors after an extensive review of available literature, and the questionnaire was pretested. After obtaining written informed consent, Self-administered questionnaire consisting of 32 questions divided in four sections, socio-demographic profile, the knowledge, awareness and perception on contraception was administered for data collection.

Ethical committee clearance and permission from the Institutional ethical committee. The students were assured regarding the confidentiality and secrecy of the information provided by them. The data was collected through the questionnaire which was voluntarily filled out by the students. *Variables* were knowledge, attitude, and practice of students regarding family planning and contraception.

Statistical Analysis: The data were entered and analyzed using IBM Statistical Packages for Social Science (SPSS) for Window, version 20.0 and descriptive analyses were executed for each variable. The collected data was analyzed with regard to the information given by the subjects according to the set questionnaire items and the analyzed data is presented in the following tables.

RESULTS

A total of 468 questionnaires were distributed, and 312 were returned. A response rate of 66.7% was achieved. Out of 312 students who responded, majority of the participants in this study were females [260(83.3%)] and [52 (16.7%) males. Age ranged from 18 to 28 years old and the mean age was 21 years old (SD: 1.57). Most of the respondents in this study had an experience of hospital and community settings. All the demographic data are tabulated in Table 1.

73% (230/312) had gained information about family planning and contraception from the media, 33% from newspapers, 32% from friends and 21% from health personnel. Mean knowledge score of the participants was 4.44 ± 1.68 . Professional course stream, marital status, and elective course were significantly associated with the knowledge of the participants ($P < 0.001$) as presented in Table 1.

Knowledge of contraception among participants:

The study showed that 40.3% (126/312) responded that they were sexually active, 98% (306/312) of the students had knowledge about contraception method, 91.7% (286/312) were aware of types of contraception, 86% (268/312) of them had heard about contraceptives. 98.4% (307/312) were aware of the side effects of contraception, 72.1% (225/312) were aware of the benefits of contraception and 74% were aware till what time it can be used. Almost 65% (203/312) believed that Women will not be able to conceive after taking pills is a Myth and 74% of the participants ($n = 232$) were aware of risk of cancer with OC pills. The majority of the students [199 (63.8%)] believed that use of contraception, affect/damages future fertility. The complete response of participants toward knowledge questions is presented in Table 2.

Awareness on contraception among participants:

Table 3 represents the participants' responses toward the questions regarding awareness of contraception. A large number of participants disagreed or strongly

disagreed [277(88.7%)] that only women are responsible to use contraceptive methods. Furthermore, only 27.8% (87) agreed that Use of contraception causes reaction whereas 37.17% thought that it is complicated to use contraception. Medical Students were more aware about the contraception methods. Overall, awareness score of participants was 23.88 ± 3.06 .

Perception on contraception among participants:

More than half of the students [194(62.2%)] agreed that they felt guilt of having sex whereas majority [162 (51.9%)] disagreed on having any guilt of using contraception. It was also observed that [90(28.8%)] of students agreed that Use of contraception affect pleasure in male/female. The perception of participants is summarized in Table 4.

Reasons for not using contraceptives: The most common reasons (23%) cited for not using contraceptives were that it was against their religious beliefs to use a contraceptive and that it would interfere with sexual pleasure.

The most preferred contraceptive method among the college students:

The most common methods of contraception used by the students were condoms (past users 70% and current users 81%), followed by combined OC pills and condoms (17%). Of those students who had used some method of contraception, 6% had used OC pills; however, in the current user group about 9% were using OC pills.

Table 1: Association of mean knowledge scores with demographic variables

Characteristics	Number (%) of respondents	Mean (SD) of knowledge score	P value
Gender			0.702*
Male	52 (16.7)	4.26 (1.81)	
Female	260 (83.3)	4.52 (1.60)	
Marital status			<0.001
Single	125 (96.9)	4.43 (1.52)	
Married	4 (3.1)	4.20 (3.10)	
Stream			<0.001*
1 st year Nursing	88(28.2%)	3.35 (1.41)	
1 st year MBBS	120 (38.5%)	5.51 (1.32)	
1 st year BPT	104 (33.3%)	3.60 (1.46)	
Elective subject			<0.001**
Hospital attachment	250 (80.1%)	4.22 (1.54)	
Community attachment	62 (19.9%)	5.26 (1.62)	

Calculated by independent sample t-test. ** Calculated by one-way ANOVA knowledge was assessed by giving 1point to the correct answer and 0 to the incorrect answer. The Scale measured knowledge from maximum 9 to minimum 0. A score of > 5 was taken as good knowledge while score of < 5 termed as poor knowledge. Mean knowledge score of participants was 4.44 ± 1.68 . ANOVA+Analysis of variance

Table 2: Knowledge of contraception among participants

Statements	Yes	No
Are u sexually active?	126 (40.3%)	186 (59.7%)
Are you aware of contraception method?	306 (98%)	6 (2%)
Types of contraception (specify the method)?	286 (91.7%)	26 (8.3%)
Are you aware of emergency contraception and till what time it can be used?	268 (86%)	44 (14%)
Are you aware of side effects of contraception (Weight gain/Nausea/Vomiting/Bloating/Bleeding/Irregular period) and what side effects you faced?	307 (98.4%)	5 (1.6%)

Are you aware of Benefits of contraception (unwanted pregnancy/Condom protection against STD's)?	225 (72.1%)	87 (27.9%)
Are You aware of risk of cancer with OCPills?	232 (74.4%)	80 (25.6)
Women will not be able to conceive after taking pills (Myth/Facts)	203 (65.1)	109 (34.9)
You need a prescription letter for contraception/ emergency contraception	232 (74.4)	80 (25.6)
Use of contraception, affect/damages future fertility	199 (73.8%)	113 (36.2%)

Table 3: Awareness on contraception among participants

Question	Participants' response					P value*			
	Strongly agree	Agree	Not sure	Disagree	Strongly disagree	Stream	Gender	Marital status	Elective subject*
Only women are responsible to use contraceptive method	5 (1.6%)	15 (4.8%)	15 (4.8%)	145 (46.5%)	132 (42.3%)	0.142	0.359	0.912	0.704
Discussion about contraception with spouse is embarrassing	5 (1.6%)	17 (5.4%)	32 (10.3)	121 (38.8)	137 (43.9%)	0.119	0.721	0.348	0.381
Use of contraception causes reaction	10 (3.2%)	77 (24.7%)	99 (31.7%)	101 (32.4%)	25 (8%)	0.000*	0.853	0.508	0.065
Is it complicated to use contraception	3 (0.9%)	113 (36.2%)	82 (26.3%)	90 (28.9%)	24 (7.7%)	0.001*	0.452	0.513	0.298

Table 4: Perception on contraception among participants

Questions	Participants' response					P value*			
	Strongly agree	Agree	Not sure	Disagree	Strongly disagree	Year	Gender	Marital status	Elective subject*
Guilt of having Sex	34 (10.9%)	160 (51.3%)	74 (23.7%)	36 (11.5%)	8 (2.6%)	0.305	0.265	0.712	0.351
Guilt of using contraception	10 (3.2%)	65 (20.8%)	75 (24%)	143 (45.8%)	19 (6.2%)	0.092	0.504	0.518	0.727
Use of contraception affect pleasure in male/female	36 (11.5%)	54 (17.3%)	200 (64.1%)	17 (5.4%)	5 (1.6%)	0.005*	0.865	0.653	0.021*
It is embarrassing to buy condom/OCP from pharmacy/courage is needed to buy	44 (14.1%)	157 (50.3%)	48 (15.4%)	44 (14.1%)	19 (6.1%)	0.362	0.921	0.312	0.389
Sex education and contraception education given at an early age	46 (14.8%)	128 (41%)	68 (21.8%)	46 (14.7%)	24 (7.7%)	0.410	0.039*	0.751	0.348
Use of contraception will improve women health and pursuing in career	53 (17%)	155 (49.7%)	22 (7.1)	80 (25.6)	2 (0.6)	0.227	0.234	0.271	0.111
Change in male attitude (to participate in contraception may increase contraceptive prevalence)	32 (10.3%)	171 (55%)	104 (33.3%)	5 (1.6%)	0 (0)	0.034*	0.238	0.327	0.332
Your reason for not using contraception	46 (14.7%)	200 (64.1%)	39 (12.5%)	20 (6.4%)	7 (2.2%)	0.132	0.261	0.845	0.117

DISCUSSION

This study was conducted in order to assess the knowledge, awareness, and perception of contraception among college going students. According to Olamijulo and Olorunfemi [10] family planning services and supplies prevent 187 million unintended pregnancies every year, and this includes 60 million unplanned births and 105 million abortions. However, the results of this study suggest that participants were more knowledgeable about condoms, intrauterine device (IUD), and oral contraceptive pills. The results are in line with another study which showed that IUDs are increasingly used worldwide in nulliparous as well as parous young women since the advantages of an IUD outweigh the disadvantages in most circumstances. [11] Condoms have found to reduce the risk of transmission of HIV, gonorrhea, chlamydia, and herpes simplex virus in both women and men.[12] However, the results of this study showed that only 65% of the participants agreed to this statement.

Many anecdotal studies have been conducted all over the world to study the knowledge, attitude and practice of contraception in adolescent and young adults. Fantahun MI et al (1995) conducted a study in North Gondar found that 75% of senior students (15-17 years) knew about contraception.[13] Araoye et al. (1998) reported that 97.7% of males and 98.4% of females in a Nigerian tertiary institution knew at least one method of contraception. [14] Adinma JI et al. conducted two studies in 1995 and 1999, reviewing contraception in 498 Nigerian tertiary school girls. The overall mean awareness of contraception was 70.9% in the first group, but 38.2% in the second group, with 22.6% for secondary school girls and 54.4% for tertiary school girls. [15, 16]

In the present study group 98% of the college students had knowledge of contraception and 91.7% were aware of types of contraception. This was inconcurrence with studies done by Renjhenet al. [1], Elkami et al. [5] & Aggarwal o et al. Aggarwal O et al. [17] in Delhi reported that 83.5% of undergraduate medical students in Delhi have knowledge about contraception whereas Benjamin et al. reported that 87% senior secondary school children in Ludhiana have knowledge about contraception. [18] Similar results were reported by Arowojolu AO et al. from Nigeria, where a survey of 2388 Nigerian undergraduate students showed the contraceptive knowledge level to be 87.5%. [19]

The source of knowledge about contraception in most of the studies i.e., Fantahun MI et al.in North Gondar [13], Adinma JI et al. in Nigeria [15] and Aggarwal O et al. in Delhi [17], was from school and friends respectively, whereas in the present study it was the media which had played the most important role in spreading awareness about contraceptive methods among the students.

There is an increased risk of breast cancer in women taking estrogen-containing oral contraceptive. This

statement is supported by a recent analysis of data from a study, which has been following women who were 24–43-year-old when they enrolled in the study, found that the participants who used oral contraceptives had a slight increase in breast cancer risk. In the present study 74.4% agreed to same. This was in concurrence with study done by Elkami et al. [5]

In the present study the most common reasons (23%) cited for not using contraceptives were that it was against their religious beliefs to use contraceptives and that their sexual life would not be happy respectively. Fantahun MI et al. in a study done among 991 senior high school students in north Gondar reported little or lack of knowledge of contraceptives followed by no access to contraceptives and harmful effects of contraceptives as the most common reason for not using modern contraceptive methods among sexually active respondents. [13]

Arowojolu AO et al. surveyed 2388 Nigerian undergraduate students, finding that 87% had experienced sex but only 34% used contraception. [19] Other studies by Renjhenet al. [1], Elkami et al. [5], Fantahun et al. [13] and Adinma JI et al. [15,16] also found similar results, with 57% and 26.8% experiencing sex and 23.5% and 17% using contraception respectively. Lowes et al. from the USA reported that 68% of 283 unmarried school students had experienced sex and 44% used contraception. [20] The present study, which did not analyze sex experience, found the use of contraceptives to be the lowest at 17%, similar to previous studies by Fantahun MI et al. in 1995 and Adinma et al. in Nigeria. [13,15,16]

In the present study, the condom is the most preferred method of contraception by students (past users 70%, current users 81%). This was in concurrence with studies done by Fantahun MI in North Gondar in 1995 [13] and by Araoye MO et al. in Nigeria in 1998[14] who also reported the condom as the most preferred method of contraception in young adults, followed by OCPs. However, Tamire W et al. reported OCPs to be the most preferred method of emergency contraception (43.9%) in a 2007 study in Ethiopia. [21]

Studies in India reveal an increasing trend of sexual activity among senior secondary school students. A study done by Francis, et al. in four public and two government schools of South Delhi conducted in 1992 showed that 63.3% of boys and 37.4% of girls in South Delhi believed they had sex, while 17% boys and 9% girls agreed to risk AIDS for it. [8] In another study conducted by Sharma et al.in four senior secondary schools in rural Delhi (in 1992), 23.4% boys and 15.1% girls admitted to having sex, while 5.7% boys and 9.6% girls did not deny it. These findings highlighted the growing sexual activity among adolescents in India. [9]

This study is not without limitations. The conclusions were drawn from a convenience sample representing a medical university in Indore, MP. These findings might not be generalizable for all college students all over India. However, this study provides a valuable insight about knowledge, awareness, and perception about contraception among pharmacy students. Further research is required to establish the results of this study on a national level.

CONCLUSION

The use of contraceptives among adolescents differs significantly from older married couples, influenced by educational, developmental, social, and psychological factors. The study revealed that there is a gap in knowledge, perception, and practices among students, leading to incorrect practices. Students having knowledge are not doing right practice because of perception and no practice was seen in ones lacking knowledge about same. Also, the knowledge and awareness about contraceptives do not always result in a positive attitude towards their use. It suggests continuing education on sexuality and contraception, motivating youth for effective contraceptive use, and media's role in spreading awareness among college students. The knowledge and practice of contraception are essential for economic stability, women's health, and women's empowerment.

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