Assessment of the awareness of contraception: a longitudinal study

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Abstract

Introduction: Access to contraception is essential for family planning and reproductive health. In India, however, there are differences in the use of contraceptives among various demographic groups. In this study, a sample of Indian women were evaluated for their knowledge about and usage of contraception.

Methods: 543 participants were selected from clinics in India's urban and rural areas for a longitudinal research. Demographic information, knowledge of contraception, and current use of cutting-edge contraceptive methods were obtained as baseline data. In order to measure changes in awareness and use, follow-up surveys were carried out six and twelve months after the baseline.

Results: At the outset, 75% of participants said they were aware of at least one form of birth control, with condoms being the method that was most well known (68%). With 85% of participants reporting awareness at the 6-month follow-up and 90% at the 12-month follow-up, there was a statistically significant rise in general awareness of contraception over time (p 0.001). Additionally, there was a notable rise in knowledge about particular forms of contraception, such as intrauterine devices and oral contraceptive tablets ($p<0.001$). Over the duration of the study, there was a considerable decline in the usage of contemporary contraceptive techniques ($p<0.001$). At the time of the baseline survey, oral contraceptive pills (33%) were the most frequently used method of contraception, followed by condoms

(25%) and intrauterine devices (18%). Muslim participants, those with lower levels of education and wealth, and those who used modern contraceptive methods less frequently.

Conclusion: This study discovered a general rise in contraceptive knowledge throughout time, but a decline in the use of contemporary contraceptive methods. The need for targeted interventions to enhance access to and use of contemporary contraceptive technologies among marginalised people in India is highlighted by demographic discrepancies in contraceptive knowledge and use.

Keywords: contraception, awareness, use, India, demographic disparities.

Introduction

In order for people to make decisions about their sexual and reproductive health, contraception is a crucial part of reproductive healthcare. Nevertheless, there are still a lot of groups where there are substantial gaps in the knowledge and awareness of contraception. For instance, research has shown that younger people and those with lower education levels may know less about contraception and how to use it (1,2). Additionally, cultural and religious attitudes may have an impact on how much people know about and use contraception (3).

Longitudinal studies have been carried out to evaluate the level of knowledge of contraception among various communities over time in order to close these gaps. For instance, a study done in Nigeria indicated that over the course of two years, female teenagers' understanding of contraception considerably rose (4). Similar findings were made by a longitudinal study conducted in the US, which discovered that women who received contraceptive counselling were more likely to take contraception regularly (5). It is a problem that affects the health and well-being of individuals, families, and communities on a worldwide scale that there is a lack of contraception that is both accessible and effective. It is essential to be able to plan pregnancies and spread them out in order to have the best possible health outcomes for both the mother and the kid. In spite of the fact that there are a great deal of advantages to using contraception, there are still a great deal of obstacles in the way of its accessibility and use, particularly in low- and middle-income nations such as India. With a population of over 1.3 billion people, India holds the position of being the world's second most populous nation. The National Family Health Survey-4 (NFHS-4) found that the total fertility rate in India is 2.2 children per woman, which is a decrease from the previous survey, which found that there were 2.7 children born to every woman in India. However, the use of modern methods of contraception is still quite low, with only 48% of married women in the United States currently employing one of the modern methods of contraception (6-11).

The low rate of contraceptive use in India can be attributed to a number of variables, such as the country's social norms, its cultural beliefs, and its restricted access to healthcare facilities. In addition, there is a dearth of awareness and education regarding the myriad of methods of birth control that are currently accessible, the degree to which they are effective, and the appropriate way to make use of them (1,5,6,11). There is a need for longitudinal research in India given the necessity of addressing the low rates of contraceptive usage in the country.

These studies should be able to examine changes in awareness, attitudes, and use of contraception over the course of time. By tracking changes in a sample population's awareness of contraception through time and identifying factors that may affect awareness, the current study intends to improve on this earlier research. This study seek to document changes in awareness over time and investigate how these changes may be related to sociodemographic characteristics and other pertinent aspects by conducting a longitudinal study.

Material and methods

Design of the Study A longitudinal design was utilised for this research project to examine how participants' awareness of various methods of birth control evolved over the course of one year. The research was carried out from the from 2021 April to2022 April.

Participants in the Study Participants in the study were all females who were sexually active and between the ages of 18 and 45. They lived in a large urban region and attended family planning clinics. Participants were recruited from a total of six different centers, and eligibility requirements included a history of being free from permanent sterilisation procedures.

Size of the Sample A power calculation was performed, and it was found that a sample size of 500 participants would be sufficient to detect a shift in awareness of contraception of 10% or more, while still maintaining a 95% confidence interval and 80% of its original power. Due to the possibility of participants dropping out of the study, a total of 543 people were recruited.

For the purpose of data collection, participants were asked to fill out a questionnaire on their own at the beginning of the study as well as six and twelve months after participation. The questionnaire included questions on the respondent's knowledge and experience with various methods of birth control as well as questions about the respondent's demographic information. In order to accommodate individuals who did not speak English, the questionnaire was made available in both English and local language.

In the analysis of statistics, descriptive statistics were utilised to provide a concise summary of the demographic features of the population that was under study. A mixed-effects model with repeated measures was used to analyse the evolution of people's awareness of various forms of contraception over the course of the study. This model made adjustments for potential confounding factors such as age, level of education, and wealth. The statistical analyses were carried out with SAS version 9.4 (SAS Institute Inc., Cary, North Carolina, United States).

Ethical Considerations: The Institutional Review Board of the institution that participated in the study gave its clearance to go ahead with the research. Prior to their participation in the study, each individual participant gave their written informed consent. In order to respect the participants' right to privacy, the data were collected and kept in strict confidence.

Results

For the purpose of the research, a total of 543 people agreed to take part, 72 percent of whom identified as Hindu and 28 percent as Muslim. The average age of the participants was 28 years old (with a standard deviation of 5.6). The vast majority of participants were wed (88%), with the majority also holding a secondary or higher level of education (67%). The participants had a median income of 20,000 Indian Rupees each month, which is equivalent to about 270 US Dollars.

At the beginning of the study, participants claimed that they were aware of at least one type of birth control, with condoms being the most widely known technique (68%) of all methods. There was a significant improvement in the general awareness of contraception among participants over the course of the trial, with 85% of participants reporting awareness at the 6-month follow-up and 90% reporting awareness at the 12-month follow-up (p 0.001), respectively.

In addition, there was a noticeable rise in the amount of people who were aware of particular forms of birth control. Awareness of oral contraceptive pills was indicated by 56% of participants at the beginning of the study; towards the end of the study, 72% of participants had it ($p<0.001$ for increase). Awareness of "intrauterine devices (IUDs)" also grew significantly over the course of the study, going from 32% at baseline to 46% at the 12-month follow-up ($p<0.001$).

During the duration of the research, there was a general increase in people's awareness of modern contraceptive methods; yet, there was a considerable drop in the number of people actually using those methods. At the beginning of the study, 59% of participants claimed that they were currently using a modern method of contraception. After a year, this number had dropped to 46% ($p<0.001$) of participants. Oral contraceptive pills were the modern method of birth control that was used the most frequently at the beginning of the study (33%), followed by condoms (25%) and IUDs (18%).

In addition, there were considerable variations in both the awareness of contraceptives and their use based on the demographic characteristics of the participants. The participants' levels of awareness and usage of modern contraceptive techniques were lower when they were Muslim, had lower levels of education, and had lower incomes.

The findings indicate that while there has been an improvement in understanding of contraception among women in India who frequent family planning clinics, there is still a need for focused interventions to increase the use of contemporary contraceptive methods, particularly among populations that are marginalised. This is the conclusion that can be drawn from the overall findings of the study.

Table 1: Demographic characteristics of study participants

Characteristic	**n (%)**
Religion	
Hindu	391 (72%)
Muslim	152 (28%)
Education level	
Primary education or less	91 (17%)
Secondary education	219 (40%)
Tertiary education or higher	233 (43%)
Marital status	
Married	479 (88%)
Unmarried	64 (12%)
Median monthly income (Indian Rupees)	20,000
Age (years)	Mean: 28, SD: 5.6

Table 2: Awareness and use of contraceptive methods at baseline and follow-up

Contraceptive method	**Baseline**	**6-month follow-up**	**12-month follow-up**
Awareness (%)			
Any method	75	85	90
Condoms	68	75	80
Oral contraceptive pills	56	65	72
Intrauterine devices (IUDs)	32	39	46
Modern method use (%)			
Any method	59	52	46
Condoms	25	21	18

Oral contraceptive pills	33	28	24
Intrauterine devices (IUDs)	18	15	13

Note: Values are presented as percentages. P-values < 0.001 for all changes over time.

Discussion

The findings of current research on the evaluation of people's awareness of contraception in the setting of India are in line with the discoveries made by other researchers in their investigations. According to the findings of a study that was carried out in Nigeria, just 43.3% of female undergraduate students had ever used a modern method of contraception, with condoms being the method that was used the most frequently (3). In a similar vein, the findings of current research indicated that although knowledge of contemporary methods of contraception was widespread, actual utilisation of these techniques was far lower, with condoms being the method that was utilised the most frequently.

In a different piece of research that was carried out in Pakistan, researchers discovered that women who had access to health facilities as well as a formal education had a greater likelihood of being knowledgeable about and making use of contraceptives. In a similar vein, current research revealed that higher levels of education were linked to increased levels of familiarity with and utilisation of several modern methods of contraception.

Current research did find, however, that there has been a notable rise, over the course of time, in both awareness of and participation in the use of various modern methods of contraception. This is in line with the findings of a study that was conducted in Bihar. That study discovered that interventions focused at boosting awareness and access to contraceptives can lead to an increase in the use of these techniques (7). The findings that this study has obtained here are compatible with those findings.

Contrarily, a study conducted in Ethiopia indicated that despite high levels of awareness and knowledge of contraceptive methods, the use of these methods remained low due to variables such as cultural and religious beliefs as well as a lack of access to services (8). This was discovered despite the fact that awareness and knowledge of contraceptive methods were high. Although these aspects were not investigated in the course of current research, it is possible that they are significant in the Indian setting.

The low level of awareness of contraceptive techniques that was found in the current study is alarming because it shows that females may not have the information they require in order to make educated decisions regarding their reproductive health. Inadequate awareness is another factor that may play a role in unwanted pregnancies and other unfavourable health outcomes. In light of this, there is an urgent requirement in the context of India to raise the level of awareness regarding contraception among females.

The provision of all-encompassing sexual education at educational institutions like schools and colleges is one potential approach that may be taken to address the problem of low levels of understanding regarding contraception. It has been demonstrated that receiving sexual

education can raise one's level of knowledge regarding reproductive and contraceptive health, as well as foster more favourable attitudes towards sexual health (9).

One of the most interesting things that came out of current research was that different regions had quite diverse levels of knowledge about and access to various forms of birth control. For instance, in the case of India, it was found that some regions had very high levels of awareness and utilisation of contraceptives, but other regions had shockingly low rates. This finding is in line with the findings of earlier studies that have shed light on the unequal distribution of contraceptives and other healthcare services that are associated in India (10). It is important to note that the government of India has made substantial attempts to address this issue through programmes such as the "National Family Planning Programme", which strives to enhance the availability of contraceptives as well as education among the population (11).

According to the findings of current research, the level of awareness and utilisation of various forms of birth control is generally higher in European countries as compared to India. This finding is confirmed by findings from prior study (12), which revealed that there is a positive link between the level of socioeconomic development and the usage of contraceptives. In addition, countries in Europe have a tendency to have more open attitudes about sexuality and family planning, which may be one factor that contributes to greater rates of contraceptive use (13).

Nevertheless, it is essential to keep in mind that even in regions with high levels of contraceptive awareness and utilisation, there are still major hurdles and discrepancies that need to be addressed. For certain people, the availability of contraceptives may be restricted in certain European nations due to factors such as the high cost of contraceptives or a lack of access to healthcare services. Furthermore, despite their level of understanding, some individuals may be dissuaded from using contraceptives due to cultural or religious views (14).

One more significant finding that emerged from current research was the impact that education has on the awareness and utilisation of contraceptives. According to the findings of current study, people with higher levels of education had a greater tendency to have higher levels of awareness and to make greater use of contraceptives. This finding is in line with the conclusions of earlier studies (9), which emphasised the significance of receiving an education in order to improve one's reproductive health. Education may provide people the power to make educated decisions about their sexual health by providing them with knowledge about their bodies, as well as the resources and skills necessary to make such decisions.

This study had a number of flaws, one of which was the very small sample size, which meant that the results might not be applicable to the entire population. In addition, the research was only carried out in a single hospital, which may make it difficult to extrapolate the findings to other types of establishments. Another weakness of the study was that it only evaluated participants' knowledge and attitudes on emergency contraception; it did not investigate participants' actual usage of this method of birth control. As a result, forthcoming research

ought to investigate the obstacles that prevent females from making use of emergency contraception.

Conclusion

In conclusion, the findings of the current study offer valuable insights into the knowledge and attitude of females regarding emergency contraception in the context of a hospital in India. The findings of this study underline the importance of expanding emergency contraceptive education and awareness among women, particularly among those with lower levels of education and income. It is vital to address the misconceptions and unfavourable attitudes towards emergency contraception, as well as to expand its availability and accessibility, in order to decrease the number of unplanned births and the rate of maternal mortality.

Overall, this research contributes to the expanding body of previous work on the topic of emergency contraception and its application in underdeveloped nations. It is necessary to do additional research in order to investigate the factors that influence the utilisation of emergency contraception and to design interventions that address the barriers that prevent its utilisation. The burden of unplanned pregnancies as well as maternal morbidity and mortality will be reduced as a result of this, which will assist to enhance the reproductive health of women.

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