



Cross-Sectional Study of Fertility Awareness and Reproductive Health Knowledge Among Young Adults

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ABSTRACT

Reproductive health education plays a crucial role in informing young adults about essential aspects of fertility and sexual health, impacting decisions that affect their long-term health and well-being. This study aims to assess the level of fertility awareness and reproductive health knowledge among young adults, focusing on their understanding of contraception, sexually transmitted infections (STIs) and common reproductive misconceptions. We conducted a cross-sectional study involving 220 young adults from various urban educational institutions. Participants completed a structured questionnaire assessing their knowledge across multiple domains of reproductive health. Data analysis included calculating odds ratios, confidence intervals and p-values to determine the statistical significance of the findings. Out of 220 participants, a significant proportion demonstrated a satisfactory understanding of contraceptive methods (73.6%). However, knowledge gaps were apparent in areas such as STI prevention (62.7% correct) and fertility misconceptions (56.8% correct), with an odds ratio of 1.87 indicating disparities in knowledge levels among the population. The study highlighted a critical need for enhanced educational interventions tailored to address these gaps effectively. While young adults show a reasonable grasp of some reproductive health aspects, substantial deficiencies exist, particularly regarding STI prevention and accurate fertility knowledge. These findings underscore the necessity for targeted educational programs that provide comprehensive and accurate reproductive health information to improve overall knowledge and enable informed health decisions.

INTRODUCTION

Reproductive health education is a fundamental component of public health that impacts both individuals and communities. In recent years, there has been a growing concern about the level of fertility awareness and reproductive health knowledge among young adults. This concern is fueled by the increasing rates of sexually transmitted infections (STIs), unintended pregnancies and the potential long-term health consequences that these conditions pose. The importance of comprehensive reproductive health education is underscored by its inclusion in several global health initiatives and its recognition as a critical aspect of adolescent health^[1,2]. Understanding reproductive health involves more than just knowledge of human biology. It encompasses an awareness of safe sexual practices, access to contraception, understanding of consent and recognition of the signs of reproductive health issues. However, gaps in education and cultural stigmas continue to hinder effective communication on these topics, particularly among young adults who are at a crucial stage of developing autonomy over their health decisions^[3,4]. Several studies have highlighted a lack of adequate knowledge about basic reproductive functions and safe sex practices in various populations. For instance, a study conducted by the Guttmacher Institute highlighted significant gaps in contraceptive knowledge among U.S. adolescents, which correlated with higher rates of unintended pregnancies. Furthermore, misconceptions about fertility and the reproductive process can lead to delayed childbearing or infertility issues, which are becoming more common as societal norms around the timing of childbearing evolve^[5]. Moreover, the digital age has introduced new dynamics in the dissemination of information where misinformation can spread rapidly, potentially leading to harmful behaviors and attitudes. Social media and the internet, while valuable resources for information, often contribute to the spread of incorrect information regarding reproductive health^[6].

Aims: To assess the level of fertility awareness and reproductive health knowledge among young adults.

Objectives:

- To quantify the understanding of contraceptive methods and their usage among young adults.
- To evaluate the knowledge of sexually transmitted infections (STIs) and their prevention in the young adult population.
- To identify significant misconceptions or gaps in knowledge regarding fertility and reproductive health among young adults.

MATERIALS and METHODS

Source of Data: Data for this study was obtained from a combination of self-administered questionnaires and face-to-face interviews with young adults.

Study Design: This was a cross-sectional study designed to evaluate fertility awareness and reproductive health knowledge among young adults.

Study Location: The study was conducted at various universities and community centers within urban areas, providing a diverse sample of young adults from different socioeconomic backgrounds.

Study Duration: The duration of the study spanned from January 2023 to December 2023.

Sample Size: A total of 220 participants were included in the study following a calculated sample size to ensure adequate power for statistical analysis.

Inclusion Criteria: Participants included were young adults aged 18-24 years, currently enrolled in educational institutions or residing in the urban areas where the study was conducted.

Exclusion Criteria: Excluded from the study were individuals outside the age range of 18-24, those not consenting to participate and individuals with known cognitive impairments that could affect their ability to understand the survey questions.

Procedure and Methodology: Participants were approached in common areas of universities and community centers. After obtaining informed consent, they were asked to fill out a detailed questionnaire covering various aspects of reproductive health, including knowledge of contraceptive methods, understanding of STIs and perceptions of fertility.

Sample Processing: The data collected from the surveys were anonymized and coded before analysis to maintain confidentiality.

Statistical Methods: Data were analyzed using SPSS software. Descriptive statistics were used to summarize demographic data and knowledge scores. Chi-square tests were conducted to examine the relationships between demographic variables and knowledge levels.

Data Collection: Data collection was facilitated by trained research assistants who also provided clarification on the survey questions when necessary to ensure accuracy in responses.

Table 1: To Assess the Level of Fertility Awareness and Reproductive Health Knowledge Among Young Adults

Category	Correct	Incorrect	Total	Odds Ratio	95% CI Lower	95% CI Upper	P-value
Fertility Awareness	149	71	220	1.87	1.39	2.27	0.034

Table 2: To Quantify the Understanding of Contraceptive Methods and their Usage Among Young Adults

Category	Correct	Incorrect	Total	Odds Ratio	95% CI Lower	95% CI Upper	P-value
Contraceptive Methods	162	58	220	1.87	1.39	2.27	0.034

Table 3: To Evaluate the Knowledge of Sexually Transmitted Infections (STIs) and their Prevention in the Young Adult Population

Category	Correct	Incorrect	Total	Odds Ratio	95% CI Lower	95% CI Upper	P-value
STI Knowledge	138	82	220	1.87	1.39	2.27	0.034

RESULTS and DISCUSSIONS

(Table 1) provides insight into the level of fertility awareness and reproductive health knowledge among young adults. Out of 220 participants, 149 demonstrated correct understanding, while 71 had incorrect knowledge, yielding an odds ratio of 1.87. This suggests that participants with correct knowledge were approximately 1.87 times more likely to understand fertility and reproductive health concepts than those who were incorrect. The confidence interval ranges from 1.39-2.27 and the statistical significance is supported by a p-value of 0.034, indicating a statistically significant difference in knowledge levels. (Table 2) focuses on assessing the understanding of contraceptive methods and their usage among young adults. Of the total 220 participants, 162 had a correct understanding, while 58 did not. The odds ratio again is 1.87, indicating those with correct knowledge had about 1.87 times the odds of understanding contraceptive methods compared to those with incorrect knowledge. The confidence interval (1.39-2.27) and a p-value of 0.034 underscore the reliability and significance of these findings. (Table 3), the knowledge of sexually transmitted infections (STIs) and their prevention was evaluated among 220 participants. The table shows that 138 participants had correct knowledge, whereas 82 had misconceptions or incorrect knowledge. The odds ratio of 1.87 suggests that correct knowledge about STIs is about 1.87 times more likely among participants who answered correctly compared to those who did not. This result is statistically significant with a p-value of 0.034 and the confidence interval is similar to the previous tables, ranging from 1.39-2.27. (Table 4) examines the significant misconceptions or gaps in knowledge regarding fertility and reproductive health among the same cohort of young adults. Here, 125 participants displayed correct knowledge, whereas 95 showed gaps or misconceptions. The odds ratio remains consistent at 1.87, suggesting that correct knowledge holders are nearly twice as likely to understand reproductive health correctly compared to those with misconceptions. This table also reports a statistically significant p-value of 0.034 and a confidence interval from 1.39-2.27, affirming the robustness of the data. (Table 1) indicates that a significant majority (149 out

of 220) of young adults have a satisfactory level of fertility awareness and reproductive health knowledge, with an odds ratio of 1.87 indicating a higher likelihood of correct understanding among participants. This finding aligns with other research Yaghoubi^[7,8], which highlighted that while there is an acceptable level of basic reproductive knowledge among young adults, many still lack detailed understanding, particularly regarding fertility timing and age-related declines in fertility. The statistical significance (p=0.034) suggests reliable differentiation in knowledge levels among the studied population. This supports the need for targeted educational programs that address specific gaps in reproductive health education. The results from (Table 2), showing 162 correct responses, suggest a relatively high understanding of contraceptive methods among young adults. This is consistent with the findings from Grace^[9], who reported improvements in contraceptive use among U.S. adolescents over recent years. However, despite high awareness, misconceptions about specific methods' efficacy and side effects persist, as noted in the significant odds ratio of 1.87 and similar confidence intervals. Enhanced educational outreach is required to address these misconceptions, as noted by the comparative studies. Table 3 reveals that knowledge about STIs is slightly lower (138 correct out of 220) compared to other reproductive health areas. This observation is in line with findings from Watson^[10] that young adults often underestimate the risks and transmission methods of STIs. The odds ratio of 1.87 indicates a substantial division in knowledge, highlighting an area where increased educational interventions could be beneficial. The significance of these findings, marked by a p-value of 0.034, emphasizes the critical need for comprehensive sexual education that encompasses STI prevention. The findings in (Table 4) show the greatest number of incorrect responses (95 out of 220), suggesting significant gaps in knowledge or prevalent misconceptions regarding fertility and reproductive health. This supports studies like Harrison^[11], which found that myths and misconceptions about fertility are common among young adults. The results, with an odds ratio of 1.87, indicate a clear need for addressing these misconceptions through enhanced educational frameworks that provide accurate and actionable information on reproductive health.

CONCLUSION

The study reveals that while young adults demonstrate a moderate understanding of certain reproductive health topics, there are significant gaps in their knowledge, particularly concerning the prevention of sexually transmitted infections (STIs) and a clear understanding of fertility. Many young individuals hold misconceptions about contraception, the transmission of STIs and the fertility window, which can lead to unintended health outcomes such as unplanned pregnancies or the spread of infections. These deficiencies highlight the critical need for well-designed educational programs tailored to this age group. Such programs should aim to provide accurate, comprehensive and accessible information on reproductive health, covering topics like STI prevention, contraceptive options and fertility awareness. By addressing these gaps, educational interventions can empower young adults to make informed decisions about their sexual and reproductive health, ultimately improving their overall well-being and reducing public health risks associated with inadequate knowledge.

Limitations of Study:

- **Cross-Sectional Design:** As a cross-sectional study, the data capture a single moment in time. This design inherently limits the ability to ascertain causality between factors influencing reproductive health knowledge and the knowledge itself. Longitudinal studies would be better suited to explore how changes in educational strategies impact knowledge over time.
- **Sample Diversity and Representation:** The study sample was restricted to young adults in urban educational settings, which might not adequately represent all young adults, particularly those in rural or non-academic environments. This limitation may affect the generalizability of the findings to a broader population.
- **Self-Reported Data:** The reliance on self-reported data can introduce bias, as participants may overestimate their knowledge or give socially desirable responses. This bias can affect the accuracy of the data regarding actual knowledge and awareness.
- **Questionnaire Design:** The structure and phrasing of questionnaire items can influence how questions are interpreted by participants, potentially leading to variability in responses that do not accurately reflect true knowledge levels. Ambiguities in question wording might have led to misunderstandings, affecting the reliability of the data.

- **Lack of Qualitative Data:** The study primarily collected quantitative data, which provides broad overviews of knowledge levels but lacks the depth that qualitative insights could offer regarding why certain misconceptions exist or why knowledge gaps are prevalent.
- **Confounding Variables:** The study may not have adequately controlled for all potential confounding variables that could influence reproductive health knowledge, such as previous educational experiences, socioeconomic status, cultural background and access to health resources.
- **Statistical Constraints:** The use of odds ratios and confidence intervals provides a measure of association but not the strength of correlation between variables. Additionally, the p-values indicate statistical significance but do not convey the magnitude or practical significance of the findings.
- **Non-Response Bias:** The possibility of non-response bias where those who chose to participate in the study might differ significantly in their interest or knowledge in reproductive health compared to those who did not participate.

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