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The Impact of Reproductive Health and Family Planning Education on Contraceptive Behavior Among Couples of Reproductive Age in Muara Enim Regency

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Abstract: Health education is a promotional measure to improve public health. However, its success is also influenced by the environment and the information received by individuals. Therefore, reproductive health and family planning (FP) education plays a crucial role in influencing changes in contraceptive behavior among couples of childbearing ages. Objective: To determine the effect of reproductive health and family planning (FP) education on changes in contraceptive behavior among couples of childbearing ages in Muara Enim Regency in 2025. Method: This study used a pre-experimental method, which is a type of research designed to examine the effect of a specific treatment and evaluate its impact on other variables under controlled conditions. The sample size in this study was 250 people, and the Wilcoxon statistical analysis test was used. Results: There was an effect of reproductive health and family planning (FP) education on changes in contraceptive behavior among couples of childbearing ages, with a p-value of < 0.001. Conclusions and Recommendations: Active health education can increase knowledge about the benefits and various methods of contraception, as well as strengthen communication and collaboration in decision-making regarding contraceptive use, thereby supporting successful family planning.

Keywords: Behavior change; Education; Family planning; Reproductive health

Introduction

Reproductive health remains a fundamental component of global public health, as it directly influences maternal survival, child development, and overall population well-being. Despite global progress in expanding access to reproductive health services, disparities in contraceptive use, quality of care, and reproductive autonomy persist across low- and middle-income countries. The World Health Organization (WHO) emphasizes that strengthening reproductive health systems—including education, service provision, and informed decision-making—is essential for reducing preventable maternal and child mortality and achieving the Sustainable Development Goals (SDGs), especially SDG 3.1 and 3.7 (WHO, 2021).

In Indonesia, reproductive health initiatives are implemented through integrated programs, particularly the national Family Planning (KB) program, which serves not only to manage population growth but also to prevent high-risk pregnancies and improve maternal outcomes. Contraceptive behavior is influenced by knowledge, attitudes, accessibility, and sociocultural norms, making education a critical determinant of effective contraceptive use (Agha et al., 2021; D'Souza et al., 2022; Utomo et al., 2021). Global trends indicate increasing contraceptive uptake—from 89% in 2019 to 92.1% in 2020—yet regional gaps remain significant,

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with usage lower in Africa and parts of South and Southeast Asia (United Nations Population Fund, 2022). Educational interventions, including counseling, digital media, and community-based programs, have been shown to improve knowledge, intention, and continuity of contraceptive use (Gelgelo et al., 2023; Khasanah et al., 2024; Rezeki, 2022).

Despite the availability of reproductive health services, Indonesia continues to face persistent challenges. These include uneven access to services, socio-economic barriers, inadequate health workforce distribution, and suboptimal quality of counseling, contributing to stagnant maternal, neonatal, and infant mortality indicators and high stunting prevalence (Indonesian Ministry of Health, 2023). The National Population and Family Planning Agency (BKKBN) reported a decline in active contraceptive users, reaching 60.4% in 2023—still below national targets (BKKBN, 2023). In South Sumatra Province, the proportion of couples of reproductive age (PUS) using modern contraception remained at 78.83%, with unmet needs continuing to rise (South Sumatra Provincial Government, 2023). Limited contraceptive literacy further contributes to ineffective or inconsistent use, which may compromise program success and increase the likelihood of unintended pregnancies (Chandra-Mouli et al., 2020; Durante et al., 2023; Nurjaeni et al., 2021; Troutman et al., 2020).

Previous studies have demonstrated the effectiveness of reproductive health education in improving contraceptive knowledge and intention; however, research focusing on behavioral change among couples—particularly in rural or semi-urban regencies such as Muara Enim—remains limited. Most existing studies examine postpartum women or health-facility–based interventions, leaving a gap in understanding how comprehensive reproductive health and KB education influences actual behavioral change among couples of reproductive age (Khasanah et al., 2024; Rezeki, 2022). Therefore, the novelty of this study lies in its focus on measuring changes in contraceptive behavior after exposure to structured reproductive health and family planning education at the community level. This study aims to determine the influence of reproductive health and family planning education on changes in contraceptive behavior among couples of reproductive age in Muara Enim Regency in 2025, providing evidence to strengthen local reproductive health strategies and inform BKKBN policy implementation.

Method

Time and Place of the Research

This study was conducted from January to March 2025 in Muara Enim Regency, South Sumatra, Indonesia, focusing on community areas with active family planning program implementation.

Research Design

This research employed a pre-experimental one-group pretest–posttest design to evaluate the effect of reproductive health and family planning education on changes in contraceptive behavior among couples of reproductive age. The study population consisted of 250 reproductive-age couples (15–49 years) living in Muara Enim Regency. A total sample of 50 couples was selected using purposive sampling based on predetermined inclusion criteria, including being active residents, currently practicing or intending to use contraception, and willing to participate in the educational intervention. Purposive sampling is appropriate for behavioral intervention studies because it selects participants who best meet the research's informational needs (Etikan, 2016). The independent variable was reproductive health and family planning education, while the dependent variable was contraceptive behavior, measured through knowledge, attitudes, and contraceptive practice indicators. Data were collected using a validated structured questionnaire administered before and after the intervention. Tools and materials included educational modules, audiovisual media, PowerPoint presentations, questionnaires, stationery, and electronic devices for documentation.

Research Procedure

The research procedure consisted of four main stages. First, the preparation stage involved securing ethical approval, coordinating with local health and family planning officers, and preparing educational materials and instruments. Second, during the pre-intervention stage, eligible participants were recruited, informed consent was obtained, and baseline data on contraceptive behavior were collected using the pretest questionnaire. Third, the intervention stage included delivering reproductive health and family planning education through a structured 60-minute session combining lectures, discussions, and audiovisual learning materials. The educational content covered reproductive health concepts, contraceptive methods, effectiveness, side effects, and informed decision-making. Fourth, the post-intervention stage was conducted one week later, during which the same questionnaire was administered to measure changes in contraceptive behavior. All sessions were conducted

under standardized protocols to ensure intervention consistency.

Data Analysis

Data were analyzed using the Wilcoxon signed-rank test to compare pretest and posttest scores, appropriate for paired non-parametric data. Statistical significance was determined at a 95% confidence level ($\alpha = 0.05$). Descriptive statistics were used to summarize demographic characteristics and baseline variables.

Result and Discussion

Characteristics of Respondents

Understanding respondent characteristics is essential because demographic factors often influence reproductive health literacy and contraceptive decision-making. In this study, characteristics such as age, education, and employment status were analyzed to describe the demographic profile of reproductive-age couples in Muara Enim Regency. These characteristics provide an initial overview that may contribute to differences in behavior before and after the health education intervention.

Table 1. Frequency Distribution of Respondent Characteristics in Muara Enim Regency, 2025

Variable	F	%
Age		
20–35 years	208	83.2
< 20 and > 35 years	42	16.8
Education		
Elementary School (SD)	7	2.8
Junior High School (SMP)	80	32.0
Senior High School (SMA)	145	50.0
College	18	7.2
Employment Status		
Working	121	48.4
Not working	129	51.6
Total	250	100

The results indicate that most respondents were in the 20–35-year age group (83.2%), reflecting the dominant reproductive age range. Half of the respondents (50.0%) had a high school education, suggesting moderate educational attainment. Additionally, a slightly higher proportion of respondents were not employed (51.6%), which may influence their dependency and decision-making regarding family planning.

Contraceptive Behavior Before and After Education

Before conducting the intervention, contraceptive behavior was assessed to determine baseline conditions among respondents. Following the educational intervention, a follow-up assessment was carried out to identify behavioral changes. Comparing pretest and posttest behavior allows for evaluating the direct impact of reproductive health and family planning education.

Before receiving health education, most respondents (62.4%) showed no change in contraceptive behavior. However, after the education session, the majority (72.0%) demonstrated behavioral improvement, indicating that the intervention had a substantial impact on knowledge, attitudes, and contraceptive practices.

Table 2. Distribution of Contraceptive Behavior Before and After Education, Muara Enim Regency, 2025

Behavior Change	Before (f)	Before (%)	After (f)	After (%)
There were changes	94	37.6	180	72.0
No change	156	62.4	70	28.0
Total	250	100	250	100

Normality Test of Pretest and Posttest Data

To determine the appropriate statistical test, normality testing was conducted using the Shapiro–Wilk method. Normality assessment is important because it guides the selection of parametric or non-parametric analytical techniques.

Table 3. Normality Test Results (Shapiro–Wilk)

Variable	Statistic	df	Sig.
Before	0.780	250	0.000
After	0.868	250	0.000

The Shapiro–Wilk test indicated that both pretest and posttest data were not normally distributed ($p < 0.05$). Therefore, the Wilcoxon signed-rank test was selected as the appropriate non-parametric method to analyze changes in contraceptive behavior.

Effect of Education on Changes in Contraceptive Behavior

To measure the effect of reproductive health and family planning education, a Wilcoxon signed-rank test was performed. This test compares paired data to determine whether the intervention produced significant changes in behavior.

Table 4. Wilcoxon Signed-Rank Test Results on Contraceptive Behavior Changes, Muara Enim Regency, 2025

Category	N	Mean Rank	Sum of Ranks
Negative Ranks (Decrease)	9	82.17	739.50
Positive Ranks (Increase)	239	126.09	30,136.50
Ties (No Change)	2	–	–
Total	250	–	–
Z	-13.004		
p-value (2-tailed)	0.000		

The analysis showed that 239 respondents experienced improved contraceptive behavior after the intervention, while only 9 respondents showed a decrease. Two respondents showed no change. The Wilcoxon test produced a Z-score of –13.004 with a p-value of 0.000 ($p < 0.05$), indicating a statistically significant difference between pretest and posttest behavior. Thus, reproductive health and family planning education significantly influenced changes in contraceptive behavior among reproductive-age couples in Muara Enim Regency.

The results of statistical analysis demonstrated a significant difference in contraceptive behavior scores before and after the educational intervention, as indicated by a Wilcoxon Z-value of –13.004 and a p-value of 0.000 ($p < 0.05$). This finding confirms that reproductive health and family planning (FP) education played an important role in improving contraceptive behavior among reproductive-age couples in Muara Enim Regency. The increase in positive ranks (239 respondents) suggests that educational exposure effectively enhanced respondents' awareness, decision-making capacity, and willingness to adopt healthier reproductive practices.

Education is one of the strongest determinants of behavior change. As stated by Nickel et al. (2020), education functions as a transformative process that shapes perceptions, increases awareness, and fosters readiness to adopt new behaviors. Health education, specifically, equips individuals with the cognitive and emotional resources necessary to make informed reproductive choices. This aligns with the Health Belief Model, which asserts that knowledge and perceived benefits are key predictors of contraceptive uptake and continued use (Rosenstock, 1977).

The findings of this study are consistent with prior research. Suriana et al. (2024) found that educational interventions significantly increased mothers' interest in using intrauterine devices (IUDs), particularly among primiparous women. Their study emphasized that structured and targeted education helps address misconceptions and increases confidence in long-term contraceptive methods. This supports the present study's observation that education can influence not only behavior but also motivation toward contraceptive selection.

Similarly, Rejeki et al. (2022) reported that after receiving FP education, 58.53% of couples continued to use contraception, and interest in permanent methods increased slightly. Their findings imply that enhanced knowledge contributes to more deliberate and planned decisions regarding reproductive health. This aligns with the current study, which observed a substantial shift in behavior after the educational intervention.

Behavior change in this context can also be understood through the Stimulus–Organism–Response (S-O-R) theory. According to Vidyanata (2022), individuals respond to external stimuli—such as educational content—through internal cognitive processing. When the stimulus is clear, relevant, and repeated, it strengthens internal motivation and results in observable behavioral changes. Educational sessions in this study acted as the external stimulus that prompted respondents to reassess and modify their contraceptive practices, consistent with the S-O-R theoretical framework.

Furthermore, Harahap et al. (2024) emphasize that effective health education combines information delivery with participatory engagement, enabling individuals to internalize concepts and apply them independently. Methods such as visual aids, interactive discussions, and culturally adapted messages are proven to increase comprehension and retention. Such approaches were also applied in this study, suggesting that the combination of content and delivery method contributed to the significant behavioral improvements observed.

In addition to aligning with previous studies, this research provides a notable novelty contribution: few studies have directly examined the effect of combined reproductive health and family planning education on actual behavioral change among reproductive-age couples. Unlike studies focusing solely on knowledge or attitudes, this research demonstrates behavioral outcomes, which are more meaningful indicators of program effectiveness. These results underscore the importance of integrating reproductive health education into routine FP services as a strategy to strengthen community-level adoption of contraceptive methods.

However, this study has several limitations. As a pre-experimental design, it lacks a control group, making it difficult to fully control confounding variables that may influence outcomes. The use of self-reported questionnaires introduces the possibility of response bias, particularly social desirability bias. Additionally, the short follow-up period limits the ability to assess whether behavior changes are sustained over time. Future research using quasi-experimental or randomized controlled designs is recommended to enhance internal validity and evaluate long-term behavioral impacts.

Conclusion

The findings of this study indicate that most respondents were aged 20–35 years (83.2%), had a senior high school level of education (50%), and were predominantly unemployed (51.6%). Prior to receiving the educational intervention, the majority of

respondents had not demonstrated any change in contraceptive behavior (62.4%), whereas after the reproductive health and family planning education was administered, the proportion of respondents who experienced behavioral change increased to 72%. Statistical analysis using the Wilcoxon test confirmed a significant effect of the educational intervention on changes in contraceptive behavior among couples of reproductive-age in Muara Enim Regency ($p = 0.000$). Therefore, reproductive health and family planning education can be concluded to be an effective strategy for improving knowledge, attitudes, and decision-making related to contraceptive use.

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Conceptualization, H. and L.; Methodology, N.N. and R.H.; Software, S.H.; Validation, H., L., and Y.A.; Formal Analysis, R.H.; Investigation, N.N.; Resources, L.; Data Curation, S.H.; Writing—Original Draft Preparation, H. and L.; Writing—Review and Editing, N.N. and R.H.; Visualization, S.H.; Supervision, H.; Project Administration, L.; Funding Acquisition, H.

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Conflicts of Interest
The authors declare no conflict of interest.

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