



# THE EFFECT OF HEALTH EDUCATION ON HEALTHY LIFESTYLE KNOWLEDGE AMONG HORMONAL CONTRACEPTIVE ACCEPTORS

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## Abstract

Hormonal contraceptive use is widely applied among women of reproductive age; however, limited knowledge regarding healthy lifestyle practices may increase the risk of health problems and reduce quality of life among contraceptive acceptors. This study aimed to analyze the improvement in healthy lifestyle knowledge among hormonal contraceptive acceptors after receiving a health education intervention. The study used a quantitative pre-experimental design with a one-group pretest–posttest approach. A total of 36 respondents in Tondomulyo Village, Pati Regency, participated in the study using purposive sampling techniques. Data were collected using a structured questionnaire consisting of 20 questions related to healthy lifestyle practices, including balanced nutrition, physical activity, adequate rest, stress management, and management of contraceptive side effects. The intervention was conducted through lectures, interactive discussions, question-and-answer sessions, and leaflet distribution. Data analysis was performed using descriptive statistics and a paired t-test. The results showed that knowledge scores significantly increased from  $59.25 \pm 6.37$  before the intervention to  $85.90 \pm 5.07$  after the intervention ( $p < 0.001$ ). Health education interventions effectively improved respondents' knowledge regarding healthy lifestyle practices during hormonal contraceptive use. Therefore, community-based educational programs are recommended to support reproductive health promotion and encourage healthier lifestyle behaviors among hormonal contraceptive acceptors.

Keywords: health education; healthy lifestyle; hormonal contraception; contraceptive acceptors; reproductive health.

## 1. INTRODUCTION

Hormonal contraceptive methods such as oral contraceptive pills, injectable contraception, and implants are widely used by women of reproductive age because of their effectiveness in preventing pregnancy and supporting family planning programs [1]. The use of hormonal contraception contributes to improving maternal health outcomes and reducing unintended pregnancies among women of reproductive age [2].

Despite their effectiveness, hormonal contraceptives may cause several side effects and physiological changes, including weight gain, menstrual irregularities, mood changes, and decreased physical comfort [3]. These conditions may worsen when accompanied by unhealthy lifestyle behaviors such as inadequate physical activity, unbalanced dietary patterns, poor sleep quality, and ineffective stress management [4]. Therefore, maintaining a healthy lifestyle is

essential for hormonal contraceptive acceptors to preserve their physical and psychological well-being [5].

Health education is recognized as an effective strategy to improve reproductive health knowledge and promote healthy behavioral change among women of reproductive age [4]. Educational interventions can increase awareness and strengthen women's ability to manage contraceptive side effects and maintain healthy lifestyle practices [3]. Interactive educational approaches such as counseling, group discussions, and question-and-answer sessions have been reported to improve participant engagement and understanding of health information [6].

Several previous studies have demonstrated that health education interventions significantly improve women's knowledge regarding reproductive health and hormonal contraceptive use. A study conducted by Lilis et al. (2022) found that reproductive health education effectively increased knowledge and attitudes toward hormonal contraception among women of reproductive age [3]. Another study by Karuniawati et al. (2026) reported that education regarding hormonal contraceptive side effects significantly improved knowledge among women of reproductive age [5].

However, previous studies have mainly focused on general contraceptive knowledge, contraceptive utilization, and attitudes toward family planning. Limited studies have specifically evaluated healthy lifestyle knowledge among hormonal contraceptive acceptors, particularly related to balanced nutrition, physical activity, stress management, adequate rest, and management of contraceptive side effects in rural community settings. In addition, educational interventions targeting healthy lifestyle management during hormonal contraceptive use remain underexplored at the community level. Therefore, this study provides novelty by focusing specifically on healthy lifestyle knowledge among hormonal contraceptive acceptors in a rural population through a community-based health education intervention.

Preliminary observations conducted in Tondomulyo Village, Pati Regency, showed that several hormonal contraceptive acceptors still had limited understanding regarding healthy lifestyle practices during contraceptive use. Many participants were not fully aware of the importance of balanced nutrition, regular physical activity, adequate rest, and stress management in maintaining physical fitness while using hormonal contraception. Limited access to health information and educational activities also contributed to the low level of knowledge among contraceptive acceptors.

Based on these conditions, health education interventions are needed to improve knowledge regarding healthy lifestyle practices among hormonal contraceptive acceptors. Therefore, this study aimed to analyze the improvement in healthy lifestyle knowledge among hormonal contraceptive acceptors after receiving a health education intervention in Tondomulyo Village, Pati Regency.

## 2. METHODOLOGY

This study used a quantitative pre-experimental design with a one-group pretest-posttest approach to analyze the improvement in knowledge among hormonal contraceptive acceptors after receiving health education interventions regarding a healthy lifestyle. The study was conducted in Tondomulyo Village, Pati Regency.

The population consisted of hormonal contraceptive acceptors living in the study area. A total of 36 respondents were selected using purposive sampling. This sampling technique was chosen because the study specifically targeted respondents who met particular inclusion criteria relevant to the research objectives. The inclusion criteria included active use of hormonal contraception, willingness to participate in the study, ability to communicate effectively, and attendance during the educational intervention sessions.

The research instrument used was a structured questionnaire consisting of 20 multiple-choice questions related to healthy lifestyle practices among hormonal contraceptive acceptors, including balanced nutrition, physical activity, adequate rest, stress management, and management of contraceptive side effects. Each correct answer scored as 1 and an incorrect answer as 0, with total scores converted to a scale of 0-100. Prior to data collection, the

questionnaire was tested for validity and reliability among respondents with characteristics similar to the study population. The validity test showed that all questionnaire items had correlation coefficients higher than the r-table value, indicating that the instrument was valid. Reliability testing using Cronbach's alpha demonstrated a coefficient of 0.82, indicating good internal consistency and reliability of the questionnaire.

Before the intervention, respondents completed a pretest questionnaire to assess baseline knowledge levels. The health education intervention was conducted through lectures, interactive discussions, question-and-answer sessions, and leaflet distribution. Educational materials focused on healthy lifestyle practices during hormonal contraceptive use, including nutrition, physical activity, hydration, adequate rest, stress management, and management of contraceptive side effects. The intervention was delivered for approximately 60 minutes using simple language and visual educational media to improve participant understanding. After the intervention, respondents completed a posttest questionnaire using the same instrument to evaluate changes in knowledge.

This study applied ethical principles including informed consent, confidentiality, anonymity, and voluntary participation throughout the research process and received ethical approval from the Health Research Ethics Committee with ethical approval number 022/E-KEPK/STIKES/BHM/XII/2024. Data processing included editing, coding, data entry, and data cleaning before statistical analysis using SPSS version 25. Univariate analysis was used to describe respondent characteristics and knowledge scores, while bivariate analysis was performed using the paired t-test to compare pretest and posttest scores. Statistical significance was determined at p-value <0.05.

### 3. RESULTS

A total of 36 hormonal contraceptive acceptors participated in this study. All respondents completed the pretest, educational intervention, and posttest sessions.

#### 1.1 Respondent Characteristics

*Table 1. Respondent Characteristics*

Characteristics	Frequency (n)	Percentage (%)
Age		
>35 years	12	33.3
20-35 years	21	58.3
<20 years	3	8.3
Education level		
Primary School	7	19.4
Secondary School	21	58.3
Higher Education	8	22.2
Occupation		
Housewife	19	52.8
Private Employee	10	27.8
Entrepreneur	7	19.4
Parity		
Grand multipara	3	8.3
Multipara	25	69.5
Primipara	8	22.2
Type of Contraception		
Implant	9	25.0
Injectable contraception	21	58.3
Oral contraceptive pills	6	16.7

The findings showed that most respondents were aged 20-35 years, secondary school, housewives, categorized as multiparous women, and predominantly used injectable hormonal contraception.

## 1.2 Distribution of Knowledge Score Based on Questionnaire Domains

**Table 2.** *Distribution of Knowledge Score Based on Questionnaire Domains*

Knowledge Domain	Pretest Mean	Posttest Mean
Balanced nutrition	60.4	87.5
Physical Activity	57.2	84.6
Adequate rest and sleep	61.1	86.8
Stress management	55.8	83.9
Management of contraceptive side effects	58.7	86.9

The results demonstrated improvements in all knowledge domains after the educational intervention. The highest increase was observed in knowledge regarding balanced nutrition and management of contraceptive side effects, indicating that respondents better understood the importance of healthy lifestyle management during hormonal contraceptive use.

## 1.3 Normality Test Analysis

**Table 3.** *Normality Test of Pretest and Posttest Scores*

Variable	Shapiro-Wilk p-value	Interpretation
Pretest scores	0.214	Normal distribution
Posttest scores	0.176	Normal distribution

The Shapiro-Wilk test showed p-values greater than 0.05 for both pretest and posttest scores, indicating that the data were normally distributed. Therefore, the paired t-test was used to analyze differences between pretest and posttest knowledge scores.

## 1.4 Comparison of Pretest and Posttest Knowledge Scores

**Table 4.** *Comparison of Pretest and Posttest Knowledge Scores*

Variable	Mean $\pm$ SD	Mean Difference	p-value
Pretest	59.25 $\pm$ 6.37		
Posttest	85.90 $\pm$ 5.07	26.65	<0.001

The mean pretest score indicated that respondents had limited knowledge regarding healthy lifestyle practices before receiving the intervention. After the educational intervention, the mean posttest score increased substantially, indicating improved understanding among respondents. Statistical analysis using the paired t-test showed a p-value of <0.001 ( $p < 0.05$ ), which indicated a statistically significant difference between pretest and posttest scores. This finding demonstrates that health education effectively improved knowledge of healthy lifestyles among hormonal contraceptive acceptors.

## 4. DISCUSSION

The findings of this study demonstrated that health education significantly improved knowledge of healthy lifestyles among hormonal contraceptive acceptors. The increase in knowledge scores after the intervention indicates that educational activities delivered through interactive approaches may strengthen women's understanding of reproductive health management and encourage awareness of healthier lifestyle practices during hormonal contraceptive use.

The effectiveness of the intervention in this study can be explained using Pender's Health Promotion Model, which emphasizes that health-promoting behavior is influenced by individual experiences, perceived benefits, self-efficacy, and interpersonal influences [7]. Educational interventions may increase women's awareness regarding the importance of balanced nutrition, regular physical activity, adequate rest, stress management, and management of contraceptive side effects. As women receive clearer information and social support during educational sessions, they may become more motivated to adopt positive health behaviors [8]. Previous

research conducted in Iran also demonstrated that educational interventions based on Pender's Health Promotion Model significantly improved healthy lifestyle behaviors among women of reproductive age [9].

The substantial improvement in respondents' knowledge scores also suggests that participants previously had limited access to accurate information regarding healthy lifestyle management during hormonal contraceptive use. In many rural communities, reproductive health education is often focused mainly on contraceptive methods and effectiveness, while information related to healthy lifestyle practices and side-effect management remains limited [10]. This finding strengthens the novelty of the present study because it specifically evaluated healthy lifestyle knowledge among hormonal contraceptive acceptors in a community-based rural setting.

The improvement in knowledge regarding balanced nutrition and physical activity is particularly important because hormonal contraceptive use may contribute to metabolic and physiological changes, including weight gain, altered appetite patterns, and decreased physical comfort [11]. Women who understand the importance of healthy dietary habits and regular exercise are more likely to maintain their physical health and reduce potential health risks associated with long-term hormonal contraceptive use [12]. Educational interventions therefore play an important preventive role by helping women recognize modifiable lifestyle factors that support reproductive health.

This study also found improved understanding related to stress management and adequate rest after the intervention. Psychological stress and fatigue are common complaints among women using hormonal contraception and may negatively affect emotional well-being and quality of life [13], [14]. Through interactive discussion sessions, respondents were able to share experiences and learn coping strategies from both educators and peers. Community-based educational interventions are considered effective because participants actively engage in the learning process and gain social support during educational activities [15].

The findings of this study are consistent with previous evidence showing that interactive health education interventions positively affect contraceptive knowledge and reproductive health awareness. A systematic review and meta-analysis conducted by Gelgelo et al. reported that educational approaches using discussions, brochures, peer education, and behavioral change theories significantly improved contraceptive knowledge, attitudes, and uptake among women of reproductive age [4]. Similarly, Karuniawati et al. found that reproductive health education effectively improved knowledge, attitudes, and intention to use hormonal contraception among women of reproductive age [5]. Another study by Kumar et al. also demonstrated that health education significantly improved knowledge, perception, and intended contraceptive use among reproductive-age populations [16].

The success of the intervention in this study may additionally be associated with the use of multiple educational methods, including lectures, interactive discussions, question-and-answer sessions, and leaflet distribution. Educational media and participatory learning approaches help respondents understand and retain health information more effectively [16]. Interactive communication additionally allows participants to clarify misconceptions and relate educational content to their daily experiences, which may strengthen knowledge acquisition and behavioral intention. Previous studies have emphasized that integrated educational approaches combining counseling, behavioral support, and community participation are more effective in promoting reproductive health awareness and healthy lifestyle behavior [7].

In addition, hormonal contraceptive counseling should not only focus on contraceptive effectiveness but also address psychological, behavioral, and lifestyle aspects that may influence women's overall well-being [17]. A biopsychosocial approach to contraceptive education may help women better understand potential side effects, improve coping strategies, and increase adherence to contraceptive use [17]. This perspective supports the importance of integrating healthy lifestyle education into reproductive health services for hormonal contraceptive acceptors.

Despite the positive findings, this study has several limitations. The use of a one-group pretest–posttest design without a control group limits the ability to determine whether knowledge improvement occurred exclusively because of the intervention. In addition, posttest evaluation

was conducted immediately after the educational session, making it difficult to evaluate long-term knowledge retention and behavioral change. Future studies are therefore recommended to use controlled experimental designs with longer follow-up periods to evaluate the sustainability of healthy lifestyle behavior changes among hormonal contraceptive acceptors.

## 5. CONCLUSIONS

Health education interventions effectively improved healthy lifestyle knowledge among hormonal contraceptive acceptors, particularly regarding balanced nutrition, physical activity, adequate rest, stress management, and management of contraceptive side effects. Interactive and community-based educational approaches may strengthen women's awareness and understanding of healthy lifestyle practices during hormonal contraceptive use. These findings highlight the importance of integrating healthy lifestyle education into reproductive health services for hormonal contraceptive acceptors, especially in rural communities. Future studies are recommended to use controlled study designs and longer follow-up periods to evaluate long-term behavioral changes and sustainability of educational outcomes.

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