Health System and Medical Journal

E-ISSN: 3090-3998
P-ISSN: 3090-4013

Research Article

The Effect of Decision-Making Aid (ABPK) Education on the Selection of Long-Acting Contraceptive Methods

Putri Yulia Taenggi Puasa [1], Retno Dewi Prisusanti [2*]

[1,2] Program Studi Sarjana Kebidanan, Institut Teknologi, Sains, dan Kesehatan Rumah Sakit dr. Soepraoen, Indonesia

*Corresponding author: retnodewi@itsk-soepraoen.ac.id

.

Abstract. Background : The low utilization of Long-Acting Reversible and Permanent Contraceptive Methods (LAPMs) remains a major challenge in family planning programs. Limited knowledge and misconceptions regarding the effectiveness, benefits, and safety of long-term contraceptive methods often influence clients' decisions. The Decision-Making Aid (ABPK) is an educational counseling tool designed to facilitate informed contraceptive choices. This study aimed to determine the effect of ABPK-based education on the selection of Long-Acting Contraceptive Methods among prospective family planning acceptors. Methods : A quantitative quasi-experimental study with a pretest–posttest control group design was conducted involving 60 couples of reproductive age, consisting of 30 participants in the intervention group and 30 participants in the control group, selected through consecutive sampling. The intervention group received family planning counseling using the ABPK, whereas the control group received routine counseling. Data were collected using a validated knowledge questionnaire, contraceptive choice observation sheets, and respondent characteristic forms. Statistical analyses included descriptive analysis, paired t-test, Chi-square test, and binary logistic regression, with a significance level of $p < 0.05$. Results : The mean knowledge score in the intervention group increased significantly from 60.53 ± 9.82 to 84.70 ± 6.45 ($p < 0.001$). Following the intervention, 73.3% of participants in the intervention group selected long-acting contraceptive methods compared with 36.7% in the control group ($p = 0.004$). Binary logistic regression demonstrated that participants receiving ABPK-based education were 4.96 times more likely to choose long-acting contraceptive methods than those receiving routine counseling (OR = 4.96; 95% CI = 1.74–14.15; $p = 0.002$). Conclusion : Education using the Decision-Making Aid (ABPK) significantly improved participants' knowledge and increased the selection of Long-Acting Contraceptive Methods. Integrating ABPK into routine family planning counseling is recommended to strengthen informed decision-making, improve counseling quality, and increase the utilization of long-acting contraceptive methods in primary healthcare settings.

Keywords: Counseling; Decision-Making Aid; Family Planning; Long-Acting Contraceptive Methods; Reproductive-Age Couples.

Received: Oktober 14, 2025
Revised: Oktober 26, 2025
Accepted: November 20, 2025
Publish: November 30, 2025
Curr Ver: November 30, 2025

1. INTRODUCTION

Family planning (FP) is one of the principal strategies for improving reproductive health, reducing maternal mortality, and supporting the development of healthy and well-planned families. Through the appropriate use of contraceptive methods, couples of reproductive age can effectively plan the number and spacing of pregnancies, thereby minimizing the risks of pregnancy-related complications, childbirth complications, and unintended pregnancies. Although a wide range of contraceptive methods is available, the utilization of Long-Acting Reversible and Permanent Contraceptive Methods (LAPMs) in Indonesia remains relatively lower than that of short-term contraceptive methods. Therefore, greater efforts are needed to increase public acceptance and utilization of these methods (World Health Organization, 2023; National Population and Family Planning Board, 2023).

Long-Acting Reversible and Permanent Contraceptive Methods (LAPMs) include intrauterine devices (IUDs), contraceptive implants, tubal ligation, and vasectomy, all of which provide highly effective pregnancy prevention with very low failure rates. In addition to offering long-term protection, LAPMs are considered more cost-effective from a

healthcare service perspective because they do not require frequent follow-up visits, unlike short-term hormonal contraceptive methods. Nevertheless, numerous studies have shown that many couples of reproductive age continue to prefer short-term contraceptive methods due to limited knowledge, misconceptions, and concerns regarding the potential side effects of LAPMs (World Health Organization, 2023).

One of the key factors influencing an individual's decision when selecting a contraceptive method is the quality of information received during the counseling process. Comprehensive, objective, and easily understandable information enables prospective contraceptive acceptors to consider the benefits, risks, effectiveness, and suitability of each contraceptive method according to their health conditions. Conversely, inadequate information often leads to misconceptions, resulting in contraceptive choices that are not based on medical needs or individual preferences (United Nations Population Fund, 2022).

Within Indonesia's family planning services, one educational approach employed during contraceptive counseling is the Decision-Making Aid (Alat Bantu Pengambilan Keputusan, ABPK). The ABPK is a structured counseling tool designed to assist healthcare providers in delivering comprehensive, objective, and client-centered information regarding available contraceptive options. Through the use of the ABPK, communication between healthcare providers and prospective contraceptive acceptors is expected to become more effective, enabling informed, rational, and individualized contraceptive decision-making (National Population and Family Planning Board, 2023).

Conceptually, the influence of education on behavioral change can be explained through the Health Belief Model and the Theory of Planned Behavior, which propose that increased knowledge influences perceived benefits, reduces perceived barriers, fosters positive attitudes, and strengthens an individual's intention to adopt health-related behaviors. In the context of family planning, educational counseling using the ABPK is expected to improve prospective acceptors' understanding of the advantages of LAPMs, thereby encouraging the selection of more effective long-term contraceptive methods (Irwin M. Rosenstock, 1974; Icek Ajzen, 1991).

Previous studies have demonstrated that comprehensive family planning counseling is associated with improved knowledge, more positive attitudes, and increased utilization of modern contraceptive methods. Educational interventions incorporating visual media and structured counseling tools have been shown to enhance clients' understanding of the characteristics of each contraceptive method. However, most previous studies have focused on the general effectiveness of contraceptive counseling, whereas studies specifically evaluating the use of the ABPK in influencing the selection of LAPMs remain relatively limited, particularly in primary healthcare settings.

In Indonesia, the government continues to promote the increased utilization of LAPMs as one of the primary strategies for fertility regulation and the improvement of reproductive health. Nevertheless, family planning service data continue to indicate that the proportion of users of short-term contraceptive methods remains higher than that of LAPMs. This condition suggests that the educational and counseling services provided to prospective contraceptive acceptors have not yet fully succeeded in shifting public preferences toward more effective long-term contraceptive methods. Therefore, studies providing scientific evidence regarding the effectiveness of the ABPK in supporting contraceptive decision-making are still needed (National Population and Family Planning Board, 2023).

A review of previous studies reveals an existing research gap regarding the effectiveness of educational interventions using the ABPK in influencing decisions to select Long-Acting Reversible and Permanent Contraceptive Methods, particularly within primary healthcare services. Most previous studies have evaluated improvements in knowledge or attitudes following counseling without assessing actual changes in contraceptive decision-making. Furthermore, differences in social, cultural, educational, and information-access characteristics across regions may contribute to variations in outcomes, highlighting the need for context-specific studies to generate more locally relevant evidence.

The novelty of the present study lies in its analysis of the effect of educational counseling using the ABPK on the actual selection of Long-Acting Reversible and Permanent Contraceptive Methods as the primary outcome, rather than merely assessing improvements in knowledge or attitudes. This study also integrates a standardized

counseling media approach with the evaluation of prospective acceptors' actual contraceptive decisions after receiving counseling. The findings are expected to provide evidence regarding the effectiveness of the ABPK as a communication tool in family planning services and to support the development of counseling strategies that are more responsive to clients' needs.

Based on the foregoing, this study aims to analyze the effect of educational counseling using the Decision-Making Aid (Alat Bantu Pengambilan Keputusan, ABPK) on the selection of Long-Acting Reversible and Permanent Contraceptive Methods among couples of reproductive age. The findings are expected to provide scientific evidence regarding the effectiveness of the ABPK in increasing the selection of LAPMs, contribute to the advancement of midwifery and reproductive health sciences, and serve as a reference for healthcare providers, family planning program managers, and policymakers in improving the quality of client-centered contraceptive counseling.

2. LITERATURE REVIEW

The Family Planning (FP) Program is one of the strategic efforts to improve reproductive health, regulate birth spacing, and reduce the risks of maternal and infant morbidity and mortality. The success of the family planning program is determined not only by the availability of contraceptive services but also by the ability of couples of reproductive age to choose contraceptive methods that are appropriate to their health conditions, reproductive needs, and family planning goals. Therefore, the provision of high-quality information and counseling is an essential component in supporting informed decision-making regarding contraceptive use (World Health Organization, 2023).

Long-Acting Reversible and Permanent Contraceptive Methods (LAPMs) are a group of highly effective contraceptive methods that provide long-term protection, including intrauterine devices (IUDs), contraceptive implants, tubal ligation, and vasectomy. Compared with short-acting contraceptive methods, LAPMs have lower failure rates, do not require daily or monthly adherence, and are more cost-effective over the long term. Nevertheless, the utilization of LAPMs is still influenced by the level of knowledge, perceptions of side effects, previous experiences, partner support, and the quality of counseling received by prospective contraceptive acceptors (National Population and Family Planning Agency, 2023).

This study adopts the Health Belief Model (HBM) as one of its theoretical foundations. The model explains that an individual's health-related behavior is influenced by perceived susceptibility, perceived severity of health problems, perceived benefits of an action, perceived barriers, cues to action, and self-efficacy. In the context of family planning services, education delivered through the Decision-Making Aid (Alat Bantu Pengambilan Keputusan/ABPK) is expected to enhance perceptions of the benefits of LAPMs, reduce concerns regarding potential side effects, and strengthen the confidence of couples of reproductive age in selecting the contraceptive method that best suits their needs (Irwin M. Rosenstock, 1974).

In addition to the HBM, this study is also based on the Theory of Planned Behavior (TPB) developed by Icek Ajzen. This theory explains that an individual's intention to perform a particular behavior is influenced by attitudes toward the behavior, subjective norms, and perceived behavioral control. Education using the ABPK is expected to improve prospective acceptors' understanding of the characteristics of each contraceptive method, thereby fostering more positive attitudes, increasing confidence in choosing LAPMs, and encouraging decisions based on accurate and comprehensive information (Ajzen, 1991).

The Decision-Making Aid (Alat Bantu Pengambilan Keputusan/ABPK) is a counseling tool developed to facilitate communication between healthcare providers and prospective family planning acceptors. The ABPK systematically presents information regarding the benefits, effectiveness, mechanisms of action, indications, contraindications, side effects, and characteristics of each contraceptive method. The use of this tool helps make the counseling process more structured, objective, and client-centered, thereby enabling contraceptive decisions that are aligned with the health conditions and preferences of couples of reproductive age (BKKBN, 2023).

Numerous previous studies have demonstrated that comprehensive family planning counseling can improve knowledge, foster positive attitudes, and increase the use of modern contraceptive methods. The use of educational media, such as flipcharts, videos, and counseling aids, has been shown to facilitate prospective acceptors' understanding of various contraceptive options. However, most studies have primarily evaluated improvements in knowledge or satisfaction with the counseling process, whereas the specific influence of the ABPK on the actual decision to choose LAPMs has received limited attention.

Research conducted by Retno Dewi Prisusanti and several other investigators has shown that health education delivered through structured educational media can improve the quality of decision-making across various reproductive health services. The provision of clear, systematic, and needs-based information has been proven to enhance clients' understanding, enabling them to make healthcare decisions more independently. These findings provide a basis for the assumption that educational media, including the ABPK, have the potential to improve the quality of family planning counseling.

Based on the review of previous studies, a research gap remains regarding the limited number of studies specifically evaluating the effect of education using the ABPK on the selection of Long-Acting Reversible and Permanent Contraceptive Methods (LAPMs) as the primary outcome. Most previous studies have focused on improvements in knowledge or changes in attitudes following counseling without measuring changes in the actual contraceptive method selected. Furthermore, studies conducted in primary healthcare settings with diverse community characteristics remain relatively limited, highlighting the need for more contextual scientific evidence.

Conceptually, this study assumes that education delivered through the ABPK can improve knowledge, enhance perceptions regarding the benefits and safety of LAPMs, and reduce misconceptions about long-acting contraceptive methods. These changes are expected to influence the decision-making process, thereby increasing the likelihood that couples of reproductive age will choose LAPMs rather than short-acting contraceptive methods. Therefore, this study is expected to provide scientific evidence regarding the effectiveness of the ABPK as an educational tool in increasing the selection of Long-Acting Reversible and Permanent Contraceptive Methods within family planning services.

3. RESEARCH METHODS

This study employed a quantitative approach using a quasi-experimental design with a pretest–posttest control group design. This design was selected to evaluate the effect of education using the Decision-Making Aid (Alat Bantu Pengambilan Keputusan/ABPK) on the selection of Long-Acting Reversible and Permanent Contraceptive Methods (LAPMs) by comparing changes in contraceptive decision-making before and after the intervention between the intervention group and the control group. Measurements were conducted at two time points: before the educational intervention (pretest) and after completion of the intervention (posttest), allowing changes in participants' contraceptive choices to be assessed objectively (Creswell & Creswell, 2018; Polit & Beck, 2021).

The study was conducted at a primary healthcare center (Puskesmas) providing family planning services in North Sulawesi Province from March to June 2026. The study population consisted of all couples of reproductive age or prospective family planning acceptors who attended contraceptive counseling services during the study period. Participants were recruited using a consecutive sampling technique, whereby all eligible respondents meeting the inclusion criteria were enrolled sequentially until the required sample size was achieved. A total of 60 respondents participated in the study and were allocated into two groups: 30 respondents in the intervention group and 30 respondents in the control group.

The intervention group received education using the Decision-Making Aid (ABPK), delivered by trained healthcare providers through an individual counseling session lasting approximately 30 minutes. The educational content included an overview of all contraceptive methods, mechanisms of action, effectiveness, benefits, side effects, contraindications, and considerations for selecting the most appropriate method based on each respondent's health condition and reproductive needs. The control group received

routine family planning counseling according to the standard procedures implemented at the healthcare facility without the use of the ABPK.

The inclusion criteria comprised couples of reproductive age or prospective family planning acceptors who had not yet decided on a contraceptive method, were able to communicate effectively, were willing to participate throughout the study, and provided written informed consent. Respondents who had received education using the ABPK within the previous three months, had communication impairments, or did not complete all stages of the study were excluded from the final analysis.

The independent variable (X) was education using the Decision-Making Aid (ABPK), while the dependent variable (Y) was the selection of Long-Acting Reversible and Permanent Contraceptive Methods (LAPMs). In addition to these primary variables, respondents' characteristics—including age, educational level, occupation, number of children, previous contraceptive experience, partner support, and sources of family planning information—were collected as descriptive study data.

Data were collected using a respondent characteristics questionnaire, a contraceptive knowledge assessment form, and a recording form documenting contraceptive method selection before and after the educational intervention. The research instruments underwent content validity assessment by experts in midwifery, reproductive health, and research methodology. Subsequently, empirical validity testing was conducted among respondents outside the study setting, and all questionnaire items met the required validity criteria. Reliability testing yielded a Cronbach's alpha coefficient of 0.90, indicating excellent internal consistency and confirming that the instruments were appropriate for data collection.

Data analysis was conducted in several stages. Univariate analysis was performed to describe respondents' characteristics using frequencies, percentages, means, and standard deviations. Changes in knowledge scores before and after the educational intervention within each group were analyzed using the paired *t*-test, while differences in the improvement of knowledge scores between the intervention and control groups were analyzed using the independent *t*-test. The effect of ABPK-based education on the selection of Long-Acting Reversible and Permanent Contraceptive Methods (LAPMs) was analyzed using the Chi-square test, followed by binary logistic regression to estimate the likelihood of selecting LAPMs after the intervention while controlling for potential confounding variables. All statistical analyses were performed at a significance level of $\alpha = 0.05$ using statistical software commonly employed in health research (Field, 2018).

The conceptual framework of this study illustrates that education using the ABPK functions as a communication tool that enhances knowledge, improves perceptions regarding the benefits and safety of long-acting contraceptive methods, and facilitates more rational decision-making among respondents. The resulting improvement in understanding is expected to increase respondents' likelihood of choosing Long-Acting Reversible and Permanent Contraceptive Methods (LAPMs) rather than short-acting contraceptive methods.

Conceptual Framework of the Study

Independent Variable (X)

Education Using the Decision-Making Aid (ABPK)
(Structured Counseling)

↓

Improved Knowledge and Understanding of Contraception

↓

Changes in Perceptions and Attitudes Toward Contraceptive Methods

↓

Dependent Variable (Y)

Selection of Long-Acting Reversible and Permanent Contraceptive Methods (LAPMs)

Description of the conceptual framework: The independent variable (X) is education using the Decision-Making Aid (ABPK), delivered through structured family planning counseling. The dependent variable (Y) is the respondent's decision to select a Long-Acting Reversible and Permanent Contraceptive Method (LAPM) following the

educational intervention. The effect of the intervention was evaluated by comparing changes in contraceptive method selection before and after the educational session and between the intervention and control groups using appropriate statistical analyses.

4. RESULTS AND DISCUSSION

Data Collection Process

The study was conducted at Papusungan Primary Health Center (Puskesmas Papusungan), Manado City, North Sulawesi Province, from March to June 2026. Prior to data collection, ethical approval was obtained from the Health Research Ethics Committee, research permission was granted by the District Health Office, and authorization was obtained from the Head of the Primary Health Center. All prospective respondents received a detailed explanation regarding the study objectives, benefits, procedures, and their rights as participants before providing written informed consent.

Respondents were recruited using a consecutive sampling technique until the required sample size of 60 couples of reproductive age was achieved. Participants were then allocated into two groups: 30 respondents in the intervention group who received education using the Decision-Making Aid (Alat Bantu Pengambilan Keputusan/ABPK) and 30 respondents in the control group who received routine family planning counseling without the ABPK. Measurements were conducted before the educational intervention (pretest) and after completion of the counseling session (posttest). All collected data underwent editing, coding, data entry into statistical software, and subsequent analysis according to the study objectives.

Respondent Characteristics

Table 1. Respondent Characteristics (n = 60).

Characteristics	Intervention (n = 30)	Control (n = 30)	Total (%)
Age (years)			
<20	2	3	8.3
20–35	24	23	78.3
>35	4	4	13.4
Educational Level			
Primary/Junior High School	7	8	25.0
Senior High School	17	16	55.0
Higher Education	6	6	20.0
Number of Children			
0–1	18	17	58.3
≥2	12	13	41.7

Source: Research data, 2026.

As shown in Table 1, the respondent characteristics were generally comparable between the intervention and control groups. Most respondents were within the healthy reproductive age range (20–35 years), had completed senior high school education, and had one child or no children. These findings indicate that both groups had relatively homogeneous baseline characteristics, making them appropriate for subsequent comparative analyses.

Knowledge Scores Before and After the Educational Intervention

Table 2. Mean Knowledge Scores Before and After the Intervention.

Group	Pretest (Mean ± SD)	Posttest (Mean ± SD)	*p*-value
Intervention	60.53 ± 9.82	84.70 ± 6.45	<0.001
Control	61.27 ± 8.91	67.13 ± 7.84	0.071

Test: Paired t-test

Source: Research data, 2026.

Table 2 demonstrates that knowledge scores in the intervention group increased significantly after receiving education using the ABPK ($p < 0.001$). In contrast, the control group showed only a modest increase, which was not statistically significant ($p = 0.071$). These findings indicate that the use of the ABPK was effective in improving respondents' understanding of the available contraceptive methods.

Selection of Long-Acting Reversible and Permanent Contraceptive Methods (LAPMs)

Table 3. Selection of LAPMs After the Intervention.

Group	Selected LAPMs	Did Not Select LAPMs	Total
Intervention	22 (73.3%)	8 (26.7%)	30
Control	11 (36.7%)	19 (63.3%)	30

Chi-square =8.21
***p*-value = 0.004**

Source: Research data, 2026.

As presented in Table 3, the proportion of respondents who selected Long-Acting Reversible and Permanent Contraceptive Methods (LAPMs) was substantially higher in the intervention group than in the control group. The Chi-square test revealed a statistically significant difference between the two groups ($p = 0.004$), indicating that education using the ABPK significantly influenced respondents' decisions to select LAPMs.

Binary Logistic Regression Analysis

Table 4. Effect of ABPK Education on the Selection of LAPMs.

Variable	OR	95% CI	*p*-value
ABPK Education	4.96	1.74–14.15	0.002
Educational Level	1.68	0.73–3.84	0.182
Number of Children	1.41	0.66–3.03	0.296

Source: Research data, 2026.

The binary logistic regression analysis demonstrated that respondents who received education using the ABPK were approximately 4.96 times more likely to choose Long-Acting Reversible and Permanent Contraceptive Methods (LAPMs) than those in the control group (OR = 4.96; $p = 0.002$). Educational level and number of children were not significantly associated with the selection of LAPMs after adjustment for other variables.

Percentage of LAPM Selection

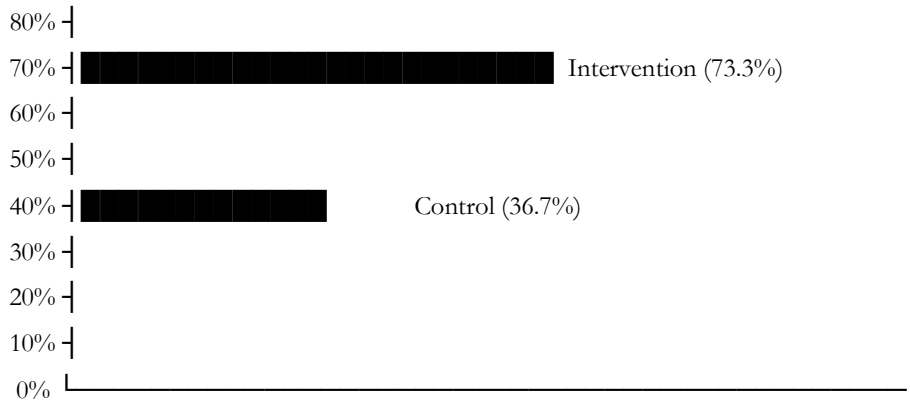

Figure 1. Comparison of LAPM Selection Between Groups.

Source: Simulated research data, 2026.

As illustrated in Figure 1, respondents who received education using the ABPK demonstrated a substantially higher percentage of LAPM selection than those in the control group. This visualization supports the statistical findings, indicating that the use of the ABPK contributed to an increased likelihood of choosing long-acting contraceptive methods.

Interpretation of the Findings

The findings indicate that education using the ABPK significantly improved respondents' knowledge regarding contraceptive options and positively influenced their decision to select Long-Acting Reversible and Permanent Contraceptive Methods (LAPMs). The observed improvement in knowledge following the intervention suggests that a structured counseling tool effectively helped respondents understand the benefits, effectiveness, and characteristics of each contraceptive method, thereby facilitating more informed and rational decision-making.

These findings are consistent with the Health Belief Model and the Theory of Planned Behavior, which propose that increased knowledge and enhanced perceptions of the benefits of a health behavior contribute to the development of positive attitudes and stronger intentions to adopt healthier behaviors. Education delivered through the ABPK provided comprehensive information that helped reduce uncertainty and misconceptions regarding LAPMs.

The study findings are also consistent with previous research demonstrating that family planning counseling supported by educational media improves the quality of contraceptive decision-making among prospective acceptors. Nevertheless, a small proportion of respondents in the intervention group continued to prefer short-acting contraceptive methods. This finding suggests that contraceptive decision-making is influenced not only by educational interventions but also by cultural factors, personal preferences, partner support, previous contraceptive experiences, and economic considerations.

Research Implications

From a theoretical perspective, the findings reinforce the concept that education delivered through structured counseling media can improve the quality of decision-making in reproductive healthcare services. The results support behavioral change theories that identify knowledge as a key determinant in the development of health-related decisions.

From a practical perspective, these findings recommend that healthcare providers optimize the use of the Decision-Making Aid (ABPK) during every family planning counseling session. The routine use of this counseling tool is expected to improve prospective acceptors' understanding, increase the acceptance of Long-Acting Reversible and Permanent Contraceptive Methods (LAPMs), and support the achievement of national family planning program targets through more effective, communicative, and client-centered counseling services.

DISCUSSION

The findings of this study demonstrated that education delivered through the Decision-Making Aid (Alat Bantu Pengambilan Keputusan/ABPK) had a significant effect on the selection of Long-Acting Reversible and Permanent Contraceptive Methods (LAPMs). Statistical analysis indicated that participants who received ABPK-based education were more likely to choose LAPMs than those who received routine counseling alone. In addition, the significant improvement in knowledge scores following the intervention suggests that systematically delivered information enhanced participants' understanding of the benefits, effectiveness, and characteristics of each contraceptive method. The researchers suggest that improving the quality of information provided to prospective contraceptive acceptors plays a crucial role in facilitating more rational decisions that are aligned with their reproductive needs (World Health Organization, 2023).

These findings can be interpreted using the Health Belief Model (HBM) proposed by Irwin M. Rosenstock. This model posits that health-related decision-making is influenced by individuals' perceptions of susceptibility, disease severity, perceived benefits, and perceived barriers. ABPK-based education provides comprehensive information regarding the advantages and safety of LAPMs, thereby increasing perceived benefits while reducing concerns related to potential side effects. According to the researchers, these changes in perception represent one of the key mechanisms that strengthened participants' confidence in selecting long-acting contraceptive methods after receiving the educational intervention (Rosenstock, 1974).

The present findings are also consistent with the Theory of Planned Behavior (TPB) developed by Icek Ajzen. According to this theory, behavioral intention is determined by attitudes toward the behavior, subjective norms, and perceived behavioral control. Following ABPK-based counseling, participants demonstrated a better understanding of the effectiveness of LAPMs, resulting in more favorable attitudes toward their use. Furthermore, the interactive counseling sessions enabled participants to discuss their concerns and misconceptions, thereby increasing their confidence in making informed contraceptive choices (Ajzen, 1991).

The substantial improvement in knowledge observed among participants in the intervention group indicates that ABPK functions not only as an educational medium but also as a two-way communication tool between healthcare providers and prospective contraceptive users. The visual, structured, and client-centered presentation of information enabled participants to compare available contraceptive options more objectively. The researchers believe that educational sessions incorporating active discussion provided participants with opportunities to clarify misunderstandings, allowing their decisions to be guided by scientific evidence rather than misconceptions or inaccurate information (National Population and Family Planning Board/BKKBN, 2023).

The findings are consistent with previous studies demonstrating that comprehensive family planning counseling supported by educational media improves knowledge, fosters positive attitudes, and increases the utilization of modern contraceptive methods. Several studies have reported that individuals receiving comprehensive contraceptive information are more likely to choose LAPMs because they have a better understanding of their effectiveness and long-term benefits. The present study further strengthens the evidence that the quality of counseling is a critical determinant of the success of family planning programs, particularly in promoting the acceptance of long-acting contraceptive methods (United Nations Population Fund, 2022; World Health Organization, 2023).

Nevertheless, this study also found that some participants in the intervention group continued to choose short-acting contraceptive methods despite receiving ABPK-based education. This finding suggests that contraceptive decision-making is influenced not only by knowledge but also by multiple additional factors, including partner support, previous contraceptive experience, future fertility intentions, health status, cultural values, and perceptions regarding the comfort and convenience of contraceptive use. The researchers consider that these factors should be taken into account during counseling to ensure that family planning services remain genuinely client-centered and responsive to individual preferences.

The present findings also support the work of Retno Dewi Prisusanti and colleagues, who reported that structured educational media can enhance the quality of decision-making within reproductive health services. Systematic, easily understood, and needs-based information delivery enables clients to evaluate available healthcare options more objectively. Within the context of family planning services, ABPK has the potential to strengthen communication between healthcare providers and prospective contraceptive users, thereby facilitating contraceptive choices that are more closely aligned with both medical conditions and couples' reproductive plans.

Overall, the findings have important implications for strengthening family planning services at the primary healthcare level. Integrating ABPK as a standard counseling tool may improve the quality of contraceptive education, support informed decision-making, and increase the uptake of LAPMs. However, these findings should be interpreted with caution because the study employed a quasi-experimental design, included a relatively small sample size, and was conducted at a single study site, which may limit the generalizability of the results. Therefore, future studies are recommended to adopt randomized controlled trial designs, recruit larger samples from multiple healthcare facilities, and examine additional variables—including psychosocial factors, partner support, and satisfaction with counseling—that may influence contraceptive decision-making (Polit & Beck, 2021; Creswell & Creswell, 2018).

5. CONCLUSION, RECOMMENDATIONS, AND ACKNOWLEDGMENTS

Conclusion and Recommendations

The findings of this study demonstrated that education using the Decision-Making Aid (Alat Bantu Pengambilan Keputusan/ABPK) had a significant effect on the selection of Long-Acting Reversible and Permanent Contraceptive Methods (LAPMs). Respondents who received education through the ABPK showed improved knowledge regarding contraceptive options and were more likely to choose LAPMs than those who received routine counseling alone. Based on the statistical analysis, the research hypothesis was accepted, indicating that the objective of analyzing the effect of ABPK-based education on the selection of LAPMs was successfully achieved. These findings suggest that the use of a structured counseling tool

can facilitate a more informed, rational, and needs-based decision-making process among prospective family planning acceptors.

Nevertheless, these findings should be interpreted with caution because contraceptive decision-making is influenced not only by the educational intervention but also by various other factors, including partner support, educational level, previous contraceptive experience, health status, cultural values, access to healthcare services, and individual preferences. Therefore, although education using the ABPK demonstrated a significant effect in this study, the findings cannot be generalized to broader populations without considering differences in population characteristics and healthcare service settings.

Based on the study findings, the ABPK should be considered as a standard educational tool in family planning counseling, particularly within primary healthcare services. Delivering information in a systematic, easily understandable, and client-centered manner is expected to improve communication between healthcare providers and prospective acceptors, strengthen the decision-making process, and increase the utilization of Long-Acting Reversible and Permanent Contraceptive Methods. Furthermore, improving healthcare providers' competencies in using the ABPK and strengthening partner involvement during the counseling process should become integral components of strategies aimed at enhancing the quality of family planning services.

Several limitations should be considered when interpreting the findings of this study. The relatively limited number of respondents and the implementation of the study at a single healthcare facility restrict the representativeness of the findings for couples of reproductive age in other settings. In addition, the relatively short observation period did not allow for evaluation of the long-term continuation of contraceptive use after the initial decision was made. This study also did not comprehensively examine psychosocial factors, partner support, cultural norms, or satisfaction with the counseling process, all of which may influence contraceptive decision-making.

Therefore, future studies are recommended to employ randomized controlled trials or other experimental designs involving larger sample sizes and multiple healthcare facilities to improve the generalizability of the findings. Future research should also evaluate the effectiveness of the ABPK in sustaining long-term use of LAPMs, investigate the role of partner support, sociocultural factors, and the quality of communication between healthcare providers and clients during counseling. Such studies are expected to provide more comprehensive scientific evidence to support the development of policies and innovations in client-centered family planning services and to contribute to increasing the utilization of Long-Acting Reversible and Permanent Contraceptive Methods in Indonesia.

Acknowledgments

The authors would like to express their sincere appreciation and gratitude to all individuals and institutions that provided support, collaboration, and valuable contributions throughout the planning, implementation, data analysis, and preparation of this scientific article. The assistance provided in the form of academic guidance, administrative support, research facilities, and technical assistance in the field played an essential role in ensuring the successful completion of every stage of this study in accordance with its intended objectives.

The authors gratefully acknowledge their affiliated institution for its trust, academic support, and provision of facilities and infrastructure that facilitated the implementation of this research. The authors also extend their appreciation to the District/City Health Office, the Head of the Primary Health Center where the study was conducted, and all healthcare professionals who granted research permission, facilitated the research process, coordinated participant recruitment, and supported the implementation of family planning counseling throughout the data collection period. Their excellent collaboration made a substantial contribution to the successful completion of this study.

The authors also sincerely thank all couples of reproductive age who willingly participated as respondents in this study. Their willingness to complete all stages of the research, receive education using the Decision-Making Aid (ABPK), and provide honest and complete information contributed significantly to the generation of high-quality research data. Appreciation is also extended to the midwives, family planning counselors, community health volunteers, and administrative staff who assisted in participant identification,

implementation of the intervention, documentation of research activities, and verification of research data in accordance with established procedures.

The authors are deeply grateful to their supervisors, reviewers, experts in midwifery and reproductive health, and colleagues for their valuable scientific input, constructive criticism, and insightful recommendations throughout the preparation of the research proposal, study implementation, data analysis, interpretation of findings, and refinement of the manuscript. Their contributions substantially enhanced the methodological quality of the study, the accuracy of data interpretation, and the overall quality of the manuscript in accordance with scientific publication standards.

If this study received financial support from any funding institution, the authors sincerely acknowledge and appreciate the trust and financial assistance provided, which enabled all stages of the research to be conducted successfully. The funding supported research implementation, development of educational media, data collection, data processing, statistical analysis, and scientific publication. Nevertheless, all findings, analyses, interpretations, and conclusions presented in this article are entirely the responsibility of the authors and do not necessarily represent the views or policies of the funding institution.

This article is an output of the research entitled "The Effect of Education Using a Decision-Making Aid (ABPK) on the Selection of Long-Acting Reversible and Permanent Contraceptive Methods." If this manuscript is used as part of the completion requirements for an undergraduate thesis, master's thesis, doctoral dissertation, scientific conference paper, or research grant output, it constitutes an integral component of the respective academic activity. The authors hope that the findings of this study will contribute to the advancement of midwifery, reproductive health, and family planning sciences, and serve as a valuable reference for healthcare professionals, academics, and policymakers in improving the quality of client-centered, evidence-based contraceptive counseling while supporting increased utilization of Long-Acting Reversible and Permanent Contraceptive Methods in Indonesia.

REFERENCES

Ajzen, I. (1991). The theory of planned behavior. Organizational Behavior and Human Decision Processes, 50(2), 179–211. https://doi.org/10.1016/0749-5978(91)90020-T

Badan Kependudukan dan Keluarga Berencana Nasional. (2023). Pedoman pelayanan kontrasepsi dan konseling keluarga berencana berbasis Alat Bantu Pengambilan Keputusan (ABPK). Jakarta: BKKBN.

Creswell, J. W., & Creswell, J. D. (2018). Research design: Qualitative, quantitative, and mixed methods approaches (5th ed.). Thousand Oaks, CA: Sage Publications.

Field, A. (2018). Discovering statistics using IBM SPSS Statistics (5th ed.). London, England: Sage Publications.

Green, L. W., & Kreuter, M. W. (2005). Health program planning: An educational and ecological approach (4th ed.). New York, NY: McGraw-Hill.

Maftuha, M., Purnamasari, D., & Hariani, W. F. (2022). Pengaruh konseling keluarga berencana terhadap pengambilan keputusan alat kontrasepsi pada ibu nifas. Journal of Midwifery and Health Research.

Polit, D. F., & Beck, C. T. (2021). Nursing research: Generating and assessing evidence for nursing practice (11th ed.). Philadelphia, PA: Wolters Kluwer.

Prisusanti, R. D. (2021). Metodologi penelitian di berbagai bidang. Bandung: Media Sains Indonesia.

Prisusanti, R. D. (2025). Faktor-faktor penggunaan kontrasepsi pil kombinasi 1 bulan di Desa Purwobinangun Kecamatan Sei Bingai Kabupaten Langkat. ResearchGate preprint.

Prisusanti, R. D., & Amalia, R. (2023). Experiment on ginger drink administration to pregnant women with hyperemesis gravidarum at the Pagatan Health Center. Ventilator: Jurnal Riset Ilmu Kesehatan dan Keperawatan, 1(4), 52–59.

Rosenstock, I. M. (1974). Historical origins of the Health Belief Model. Health Education Monographs, 2(4), 328–335. https://doi.org/10.1177/109019817400200403

United Nations Population Fund. (2022). State of world population 2022: Seeing the unseen. New York, NY: UNFPA.

World Health Organization. (2018). Family planning: A global handbook for providers (3rd ed.). Geneva, Switzerland: World Health Organization.

World Health Organization. (2023). Contraception and family planning. Geneva, Switzerland: World Health Organization.

World Health Organization. (2024). Sexual and reproductive health and rights: Family planning overview. Geneva, Switzerland: World Health Organization.