WHATSAPP EDUCATION TO INCREASE FAMILY PLANNING PARTICIPATION WITH LOCAL CULTURAL PERSPECTIVES IN 2026

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ABSTRACT

This community-based research was conducted in Sukamulya Village to evaluate the effectiveness of WhatsApp-based education in increasing participation in family planning programs through a local cultural and social conservation approach. The study used a pre-experimental one-group pretest–posttest design involving village health cadres and reproductive-age couples. Educational interventions were delivered through a WhatsApp group containing health information, interactive discussions, counseling, videos, and culturally adapted infographics related to family planning. Data were collected using questionnaires before and after the intervention and analyzed to assess changes in participants' knowledge, skills, and attitudes. The results showed a significant improvement in all assessment domains. Knowledge about family planning increased from a mean score of 5.33 to 7.53 (41.25%; $p<0.001$), skills in using WhatsApp as an educational medium increased from 6.27 to 7.90 (26.06%; $p<0.01$), and attitudes toward participation and consultation in family planning improved from 3.83 to 4.33 (13.06%; $p=0.018$). The total score increased from 15.43 to 19.76 (28.08%; $p<0.001$). These findings indicate that WhatsApp-based education effectively improves community participation in family planning programs and can serve as an innovative strategy for health promotion in rural communities

Keywords: Family planning, WhatsApp-based education, local culture, social conservation, community participation

INTRODUCTION

The Family Planning (FP) program is a strategic public health initiative designed to regulate population growth, reduce maternal and infant morbidity and mortality, and improve the quality of life and welfare of families. Access to voluntary contraception is recognized by the World Health Organization and the United Nations Population Fund as a fundamental component of reproductive health and an essential strategy for achieving the Sustainable Development Goals, particularly those related to maternal health, gender equality, and poverty reduction (WHO, 2024; UNFPA, 2024).

In Ciamis Regency, the Family Planning program continues to be strengthened through the coordination of the National Population and Family Planning Board. According to BKKBN (2024), the number of reproductive-age couples in Ciamis Regency reached 191,673, with an active family planning participation rate of 79.75%. Although this figure reflects substantial progress, approximately 20% of eligible couples remain outside the program, particularly in rural and underserved communities where barriers to information and services persist (BKKBN, 2024).

Sukamulya Village, located within the service area of Baregbeg Primary Health Center, represents one of the villages with relatively low participation in family planning services. Preliminary observations and coordination with local health workers and community health

volunteers revealed that among approximately 487 reproductive-age couples, only about 45% were active family planning users. Common barriers included limited knowledge regarding contraceptive methods, misconceptions about side effects and infertility, and limited access to counseling and educational outreach (Preliminary Survey, 2025).

Previous studies have demonstrated that knowledge, attitudes, and perceptions strongly influence contraceptive uptake and continuity. Misconceptions and inadequate counseling often lead to fear, uncertainty, and reluctance to participate in family planning programs. Educational interventions that provide accurate, accessible, and culturally appropriate information have been shown to significantly improve community acceptance and participation in reproductive health services (WHO, 2024; BKKBN, 2024).

The rapid expansion of digital communication technology has created new opportunities for health promotion. *WhatsApp* is one of the most widely used messaging applications in Indonesia and enables the dissemination of health education through text, images, videos, voice messages, and interactive discussions. Its accessibility, affordability, and familiarity make it an effective platform for delivering Communication, Information, and Education (CIE) interventions in both urban and rural settings (WHO, 2019).

Research conducted by Jusni et al. (2021) found a significant positive relationship between WhatsApp-based educational interventions and increased interest in family planning participation among reproductive-age couples. Similar evidence from digital health interventions indicates that mobile-based education can improve health literacy, strengthen positive attitudes, and encourage active engagement in preventive health behaviors (Jusni et al., 2021; WHO, 2019).

In addition to technological innovation, the integration of local cultural values and social conservation principles is essential to ensure that health messages are relevant and acceptable to the target community. Culturally adapted educational approaches help reduce resistance, foster trust, and promote sustainable behavior change by aligning reproductive health messages with local beliefs, norms, and social structures (UNFPA, 2024).

Therefore, this study aims to evaluate the effectiveness of WhatsApp-based education in increasing family planning participation among reproductive-age couples in Sukamulya Village, Ciamis Regency. The findings are expected to provide evidence for an innovative, scalable, and culturally responsive health promotion model that can be replicated in similar rural communities and contribute to achieving higher active participation targets in family planning programs throughout Indonesia (BKKBN, 2024; WHO, 2019).

METHOD

Participants

The participants in this study were reproductive-age couples and community health cadres living in Sukamulya Village, Baregbeg District, Ciamis Regency. Individuals were included if they were married, aged 15–49 years, had lived in the village for at least six months, owned a smartphone with an active WhatsApp account, were able to read and understand Indonesian, and were willing to participate by signing informed consent. Participants who were unable to complete the pretest or posttest or who withdrew during the study were excluded.

Sampling

Participants were selected using purposive sampling. Village health cadres and local midwives helped identify eligible participants who met the inclusion criteria and invited them to join the study.

Sample Size, Power, and Precision

The minimum sample size was calculated for a one-group pretest–posttest study using a significance level of 0.05, a statistical power of 80%, and a moderate expected effect size. Based on this calculation, at least 34 participants were required. To allow for possible dropouts, the target sample size was increased to 40 participants. This number was considered sufficient to detect meaningful changes after the intervention and to provide results with acceptable precision.

Measures and Covariates

The study measured three main outcomes: knowledge about family planning, skills in using WhatsApp as an educational tool, and attitudes toward participation in family planning programs. Knowledge was assessed using multiple-choice questions, while skills and attitudes were measured using structured questionnaire items and Likert-scale statements. Higher scores indicated better knowledge, stronger skills, and more positive attitudes. In addition, basic participant characteristics such as age, education, occupation, parity, and previous use of family planning were collected as descriptive variables and possible covariates.

Data Analysis

Data were analyzed using IBM SPSS Statistics version 26. Descriptive statistics, including means, standard deviations, frequencies, and percentages, were used to summarize participant characteristics and study variables. Pretest and posttest scores were compared using paired t-tests to determine whether the intervention produced significant changes. When the data were not normally distributed, the Wilcoxon signed-rank test was used instead. A p-value of less than 0.05 was considered statistically significant, and 95% confidence intervals were reported to show the precision of the results.

RESULTS AND DISCUSSION

Results

A total of 40 participants completed both the pretest and posttest assessments, resulting in a 100% completion rate. The participants consisted of reproductive-age couples and community health cadres from Sukamulya Village. Overall, the findings showed statistically significant improvements in all measured domains after the four-week WhatsApp-based educational intervention.

Table 1. Changes in Knowledge, Skills, and Attitudes Before and After the Intervention

Assessment Domain	Pre-Test Mean ± SD	Post-Test Mean ± SD	Mean Difference (95% CI)	Improvement (%)	p-value	Interpretation
Knowledge about family planning	5.33 ± 1.42	7.53 ± 1.10	2.20 (1.62–2.78)	41.25%	<0.001	Significant
Skills in using WhatsApp	6.27 ± 1.35	7.90 ± 1.08	1.63 (0.98–2.28)	26.06%	0.004	Significant
Attitudes toward participation	3.83 ± 0.62	4.33 ± 0.55	0.50 (0.09–0.91)	13.06%	0.018	Significant
Total score	15.43 ± 2.41	19.76 ± 2.06	4.33 (3.12–5.54)	28.08%	<0.001	Significant

The largest improvement was observed in knowledge about family planning, with an increase of 2.20 points (41.25%). Skills in using WhatsApp as an educational medium improved by 1.63 points (26.06%), while attitudes toward family planning participation increased by 0.50 points (13.06%). The overall score increased by 4.33 points (28.08%), confirming the effectiveness of the intervention across cognitive, behavioral, and affective domains. Most participants were women aged 20–39 years, had completed secondary education, were multiparous, and were primarily housewives. More than half had previously used family planning methods, and all reported using *WhatsApp* daily, indicating that the platform was familiar and easily accessible to the target population. Effect size analysis showed that the intervention had a substantial impact on the primary outcomes. A large effect was observed for knowledge about family planning and the overall total score, a moderate-to-large effect for skills in using WhatsApp as an educational tool, and a small-to-moderate effect for attitudes toward participation in family planning. These findings indicate that the intervention was not only statistically significant but also practically meaningful in improving participants' knowledge, digital skills, and attitudes.

Discussion

This study demonstrated that WhatsApp-based education significantly improved knowledge, skills, and attitudes related to family planning participation among reproductive-age couples and community health cadres in Sukamulya Village. The findings support the use of mobile messaging applications as effective tools for community-based reproductive health promotion.

The most pronounced improvement occurred in knowledge about family planning. This result indicates that structured educational materials delivered through WhatsApp were effective in increasing participants' understanding of contraceptive methods, benefits, side effects, and eligibility criteria. In rural areas where access to direct counseling may be limited, digital education can serve as a practical and scalable solution to bridge information gaps and reduce misconceptions.

Participants also showed significant improvement in their ability to use WhatsApp as a learning platform. After the intervention, they became more confident in opening educational materials, downloading videos and infographics, and participating in group discussions. This finding highlights the importance of combining health education with digital literacy support, particularly in community-based interventions that rely on mobile technology.

Although the increase in attitudes was smaller than the changes observed in knowledge and skills, it remained statistically significant. This suggests that the intervention successfully strengthened positive perceptions and willingness to participate in family planning services. Changes in attitudes often require longer exposure and repeated reinforcement, making the observed improvement meaningful within a relatively short four-week intervention period.

Several factors likely contributed to the effectiveness of the intervention. First, WhatsApp is a familiar and widely used application, reducing barriers to participation. Second, participants could access educational materials at any time and review them repeatedly according to their own schedules. Third, interactive discussions and consultation sessions with health professionals provided opportunities to ask questions and receive immediate clarification. Fourth, educational materials were adapted to local cultural values, which enhanced relevance, acceptability, and trust.

These findings are consistent with the study by Jusni et al. (2021), which reported that WhatsApp-based communication, information, and education significantly increased interest in family planning among reproductive-age couples. They are also supported by recommendations from the World Health Organization, which emphasizes the role of digital

interventions in strengthening health systems and expanding access to reproductive health information.

From a practical perspective, this intervention offers several advantages. It is low-cost, easy to implement, and capable of reaching participants without requiring frequent face-to-face meetings. This makes it particularly suitable for rural areas with limited human resources and geographical constraints. Community health cadres can play a central role in moderating discussions and maintaining participant engagement, increasing the sustainability of the approach.

Despite these promising results, several limitations should be considered. The study used a one-group pretest–posttest design without a control group, limiting causal inference. The relatively small sample size and the use of purposive sampling may reduce generalizability. In addition, outcomes were measured shortly after the intervention, so long-term effects on contraceptive uptake and continuation were not assessed.

Future studies should employ randomized or quasi-experimental designs with larger and more diverse samples, longer follow-up periods, and objective indicators such as actual contraceptive adoption and continuation rates. Qualitative research may also help explore participant experiences and identify barriers and facilitators to sustained engagement.

In conclusion, WhatsApp-based education incorporating local cultural perspectives significantly improved knowledge, digital skills, and attitudes toward family planning participation among reproductive-age couples in Sukamulya Village. This approach represents an innovative, culturally responsive, and scalable strategy for strengthening family planning promotion in rural communities.

Limitations of the Study

This study has several limitations that should be considered when interpreting the findings. First, the study used a pre-experimental one-group pretest–posttest design without a control group, which limits the ability to attribute the observed changes solely to the intervention and reduces the strength of causal inference. Second, the sample size was relatively small and participants were selected using purposive sampling from a single rural village, which may limit the generalizability of the results to other populations and settings. Third, the outcomes were measured using self-administered questionnaires, which may be subject to recall bias and social desirability bias. Fourth, the intervention was conducted over a relatively short period of four weeks, and the study assessed only immediate post-intervention outcomes; therefore, the long-term effects on sustained knowledge, attitudes, and actual contraceptive use were not evaluated. Finally, external factors such as support from spouses, influence of health workers, and exposure to other information sources were not fully controlled and may have affected the results. Despite these limitations, the study provides preliminary evidence that WhatsApp-based education is a feasible and effective approach to improving participation in family planning programs in rural communities.

CONCLUSIONS AND SUGGESTIONS

Conclusions

This study demonstrated that WhatsApp-based education significantly improved knowledge, digital skills, and attitudes related to participation in family planning programs among reproductive-age couples and community health cadres in Sukamulya Village, Ciamis Regency. The intervention resulted in meaningful increases across all measured domains, with the greatest improvement observed in knowledge about family planning. The incorporation of local cultural perspectives and social conservation values enhanced the relevance, acceptability, and effectiveness of the educational materials, helping to address misconceptions and reduce sociocultural barriers to family planning participation. These findings indicate that

WhatsApp-based education is a practical, low-cost, and culturally responsive strategy for promoting family planning in rural communities. This approach has strong potential to be adopted and scaled up as an innovative model for community-based health promotion in similar settings.

Suggestions

1. Integrate WhatsApp-Based Education into Routine Programs
   Primary health centers and family planning program managers should incorporate WhatsApp-based education into regular Communication, Information, and Education (CIE) activities to improve access to accurate and timely reproductive health information.
2. Incorporate Local Cultural Values
   Educational materials should be adapted to local cultural values and community norms to increase acceptance, relevance, and active participation.
3. Strengthen the Capacity of Health Cadres and Midwives
   Community health cadres and midwives should receive training on managing digital education groups, creating engaging content, and providing interactive counseling through mobile platforms.
4. Provide Institutional Support
   Local governments and health authorities should support the implementation of digital health promotion by providing technical guidance, internet access, and adequate resources.
5. Expand Future Research
   Future studies should include larger sample sizes, use control groups, and evaluate long-term outcomes such as contraceptive uptake and continuation to provide stronger evidence of effectiveness.

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Ethical Considerations

This study was conducted in accordance with ethical principles in health research, including respect for autonomy, confidentiality, beneficence, and non-maleficence. Prior to data collection, all participants received a clear explanation regarding the objectives, procedures, benefits, and potential risks of the study. Participants voluntarily agreed to take part by signing informed consent forms and were informed that they had the right to withdraw from the study at any time without any consequences.

The confidentiality of participant data was maintained through the use of anonymous identification codes, and all information collected was used solely for research purposes. The intervention provided in this study, namely WhatsApp-based education on family planning integrated with local cultural perspectives, was categorized as a non-invasive and low-risk educational intervention. Ethical approval and institutional permission were obtained from the relevant academic institution and local authorities prior to the implementation of the study.

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Conflict of Interest Statement

The authors declare that they have no conflict of interest related to this manuscript or the findings reported in this study.

REFERENCES

Admasari, Y., Subandi, S., & Andriani, T. (2022). The use of WhatsApp groups as a means of health education for young women about the first thousand days of life (1000 HPK). *Jurnal Aisyah: Jurnal Ilmu Kesehatan, 7*(1), 112–118. Article Link

Badan Kependudukan dan Keluarga Berencana Nasional (BKKBN). (2021). *Laporan tahunan program keluarga berencana nasional*. Jakarta: BKKBN.

Badan Kependudukan dan Keluarga Berencana Nasional (BKKBN). (2024). *Profil penduduk dan capaian program Bangga Kencana Kabupaten Ciamis 2024*. Dinas PPKB Kabupaten Ciamis. Data Ciamis

Fitriana, D., & Andriani, W. (2020). Pengaruh media sosial terhadap penyuluhan kesehatan reproduksi remaja. *Jurnal Kesehatan Masyarakat, 8*(1), 45–51.

Hidayat, R., & Sari, R. M. (2020). Penggunaan media sosial WhatsApp sebagai sarana edukasi kesehatan ibu dan anak. *Jurnal Pengabdian Masyarakat, 4*(1), 45–52.

Jusni, E., Bohari, N. H., & Darwis, D. (2021). Korelasi pemanfaatan aplikasi WhatsApp sebagai media KIE tentang KB terhadap minat KB pada pasangan usia subur di Bulukumba. *Medika Alkhairaat: Jurnal Penelitian Kedokteran dan Kesehatan, 3*(2), 93–100. Article Link

Kementerian Kesehatan Republik Indonesia. (2022). *Kemenkes akan permudah akses layanan kesehatan primer lewat WhatsApp*. Kementerian Kesehatan RI

Nurlaili, N., & Rosyada, A. (2018). Kearifan lokal dan partisipasi dalam program keluarga berencana. *Jurnal Komunikasi Kesehatan, 9*(2), 134–142.

Prasetyo, D. A., & Hasanah, U. (2021). Strategi pengabdian masyarakat berbasis teknologi digital untuk mendukung program KB. In *Prosiding Seminar Nasional Pengabdian Masyarakat* (pp. 112–119).

Putra, A. N., Dewi, M., & Santoso, H. B. (2021). Efektivitas edukasi berbasis WhatsApp dalam meningkatkan pengetahuan keluarga berencana di wilayah perdesaan. *Jurnal Kesehatan Masyarakat, 16*(2), 78–85.

Sari, N. P., Wulandari, D., & Nugroho, A. (2022). Pendekatan budaya lokal dalam peningkatan partisipasi keluarga berencana di Desa Sukamulya. *Jurnal Ilmiah Masyarakat dan Budaya, 5*(1), 12–21.

United Nations Population Fund. (2024). *State of World Population 2024*. New York, NY: UNFPA.

World Health Organization. (2019). *WHO guideline: Recommendations on digital interventions for health system strengthening*. Geneva: WHO.

World Health Organization. (2024). *Family planning and contraception*. Geneva: WHO.