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The Effect of Infographic-Based Booklets on the Knowledge and Attitude Toward Unmet Need for Family Planning Among Women of Reproductive Age

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ABSTRACT

One of the reproductive health problems that can increase the risk of unwanted pregnancy is unmet need in the Family Planning (FP) program. Despite having the desire to delay or limit pregnancy, some women of reprpductive age in the Pujon Community Health Center, Malang Regency, still do not use contraceptive methods. This study aims to analyze the effect of infographic-based booklets as a counseling medium on the knowledge and attitudes of women of reproductive age (WRA) regarding unmet need. This study used a quasi-experimental design with a non-equivalent control group design. The research sample consisted of 28 respondents, divided into a control and an intervention group, with 14 respondents in each group. The sampling technique used was convenience sampling. Data were collected using questionnaires before and after the intervention, and analyzed using the Mann-Whitney test with a significance level of $p < 0.05$. The results showed that after the provision of infographic-based booklets, there were differences between the control and intervention groups in knowledge ($p = 0.000$) and attitudes ($p= 0.050$). Based on these results, it can be concluded that the infographic-based booklet is effective in increasing knowledge and forming positive attitudes of women of reproductive age regarding unmet needs.

INTRODUCTION

The Family Planning Program (FP) is an important strategy in national development to control population growth and improve the quality of life for the community. This program aims to encourage families' awareness and active participation in planning the number and spacing of children to create healthy, prosperous, and high-quality families[1]. By regulating the age of marriage, limiting the number of children, and regulating birth spacing, the Family Planning program is expected to be able to reduce the birth rate and prevent unplanned pregnancies[2]. However, the implementation of the Family Planning program still faces various challenges, including the high unmet need for family planning. Unmet need is a condition when women of reproductive age who want to delay or terminate pregnancy do not use any contraceptive method[3]. The group of women of reproductive age is women aged 15–49 years who still have reproductive potential[4]. The high number of unmet needs indicates a gap between the

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community's need for contraceptive services and access to or utilization of these services, which ultimately can increase the risk of unwanted pregnancy.

Globally, the prevalence of unmet need for family planning remains a concern in efforts to improve reproductive health. World Health Organization data shows that the proportion of women of reproductive age experiencing unmet need decreased from 11% in 2017 to 9.9% in 2019. Despite the downward trend, this figure remains significant, particularly in developing countries, where it reached around 22%. Even in 2020, the WHO stated that at least one in ten women of reproductive age in various countries still experienced unmet need, reflecting a major challenge in meeting contraceptive needs equitably[5]. In Indonesia, a similar situation persists. According to the 2022 Indonesian Demographic and Health Survey (SDKI), 11.4% of married women of reproductive age still have unmet family planning needs, particularly those related to modern contraception. These statistics indicate that more than 10% of women of reproductive age are still at risk of unintended births. The distribution of unmet needs is also uneven across regions, with some provinces, particularly in eastern Indonesia, recording higher rates, even exceeding 15%[6].

Based on survey data from the Pujon District Family Planning Field Officer from July to November 2025, there were 1.115 married women of reproductive age who were actively participating in the Family Planning program in the Pujon Community Health Center operational area, specifically in Ngabab Village. Although the participation rate in the Family Planning program was quite good, there were still 30 women who were categorized as having unmet need. This group consists of women who wish to delay or terminate pregnancy but have not yet used a contraceptive method. One strategy to address these issues is effective, innovative health education. Based on previous research, family planning education relies solely on regular booklets. The use of infographic-based booklets as a medium is an innovation that combines infographics into the booklet. Infographics present messages through visually engaging displays. The combination of the two makes counseling materials easier to understand[8]. With increased knowledge and positive changes in attitudes, it is hoped that women of reproductive age can make conscious and responsible decisions regarding meeting family planning needs.

Based on the explanation above, the researcher aims to examine how the use of infographic-based booklets as a counseling medium can increase knowledge and behavior among women of reproductive age in the unmet need category in the Pujon Health Center's working area in Malang Regency.

METHOD

This study used a quasi-experimental pretest–posttest control-group design, involving two groups: an intervention group and a control group. The intervention in this study consisted of family planning counseling and an infographic-based booklet provided to the intervention group. In contrast, the control group received only family planning counseling without any media. The independent variable in this study was the infographic-based booklet used for counseling. The dependent variable included the knowledge and attitudes of women of reproductive age with unmet need. A sample size of 28 women of reproductive age with unmet need was selected. The sample size was determined using the Yamane formula with a 5% margin of error, resulting in 28 respondents. The sample was divided into two groups: 14 respondents in the intervention group and 14 respondents in the control group. The sampling technique used was convenience sampling. The study was conducted from February 14-20, 2026, in Ngabab Village. Inclusion criteria for this study included women of reproductive age aged 15–49, married, residing in Ngabab Village, able to read and write, and willing to participate by signing an informed consent form. Exclusion criteria included women who were pregnant, had visual or hearing impairments that could hinder the receipt of educational information, or did not participate in the entire study.

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Respondents completed a pretest questionnaire to measure their knowledge and attitudes before the intervention. The intervention group then received family planning counseling using an infographic-based booklet for approximately 120 minutes, while the control group received only family planning counseling for the same amount of time. After the intervention, both groups were given a posttest questionnaire to assess changes in knowledge and attitudes. This study has received ethical approval from the Health Research Ethics Committee under the number KEPK-EC/478/1/2026. Data analysis used the Wilcoxon Signed Rank Test to assess knowledge and attitudes before and after the intervention, with a significance level of $p<0.05$. As well as the Mann-Whitney test to compare the control and intervention groups, with a significance value of <0.05.

RESULT AND DISCUSSION

Table 1. Respondent characteristics based on education, age, previous contraceptive work

Variable	Category	Frequency (n)	Percentage (%)	Min	Max	Mean ± SD
Education	Elementary School	7	25%	1	3	1.86 ± 0.651
	Junior High School	1	57.1%			
	Senior High School	5	17.8%			
	College	0	0%			
Age	15-19	0	0%	20	48	30.50 ± 6.269
	20-35	23	82.1%			
	36-49	5	17.9%			
Occupation	Working	4	14.3%	1	2	1.14 ± 0.356
	Not working	24	85.7%			
Previous Contraception	Pills	3	10.7%	1	3	2.50 ± 0.694
	Injection	8	28.6%			
	Not using contraception	17	60.7%			

The majority of respondents had secondary education, particularly at the junior high school level (57.1%), reflecting that primary to secondary education served as the foundation of their knowledge. This is important to consider when developing educational materials to ensure they align with the level of understanding of the majority of participants.

Most respondents were in the young adult productive age range (82.1%), a group that tends to be more open to changes in health attitudes and behaviors. This age group is a strategic target for education programs because they are at the most relevant stage for decision-making regarding reproductive health. The vast majority of respondents were unemployed (85.7%), potentially impacting their availability of time and access to health services. This employment status may also have implications for economic factors that influence respondents' ability to use contraceptive methods. The data shows that the majority of respondents (60.7%) had never used contraception, while injectable and pill users remained a minority. This high figure indicates the need for more intensive educational interventions to increase awareness and use of contraception to reduce the risk of unplanned pregnancy.

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Table 2. Distribution of knowledge levels before and after in the intervention group

Intervention Group						
Variable	**Category**	**Frequency (n)**	**Percentage (%)**	**Min-Max**	**Mean ± SD**	***p-value***
Level of knowledge (Pretest)	Less	12	85.7%	29-88	43.36 ± 18.101	0.001
	Enough	0	0%			
	Good	2	14.3%			
Level of knowledge (Posttest)	Less	2	14.3%	45-94	83.07 ± 15.309	
	Enough	0	0%			
	Good	12	85.7%			

Based on the knowledge distribution table, there was a clear increase in knowledge levels after the intervention, as indicated by a rise in the percentage of students with good knowledge from 14.3% to 85.7%. The mean score also increased from 43.36 to 83.07, indicating a substantial change. The Wilcoxon test showed a significant difference (p = 0.001), indicating a significant increase in knowledge after the intervention.

Before the intervention, the majority of women of reproductive age in the intervention group had low knowledge about family planning, particularly regarding unmet need. Internal factors such as knowledge, education, and perceived risks of contraception, as well as external factors such as husband's support, culture, and access to health services, influenced the high rate of unmet need. This situation emphasizes the need for appropriate education to improve understanding of family planning[11].

Infographic media is effective in simplifying information, making it easier to understand. This result is in line with previous research, which shows that visual media increases respondents' understanding and knowledge value. The sensing process forms a person's cognitive component, and knowledge is the result[13]. Previous research by Amelina and Harianti also found that booklet media increased women of reproductive age's knowledge of unmet needs[8]. In this study, the increase in knowledge after the intervention shows that cognitive factors, as predisposing factors, can be improved through appropriate health education[18]. One medium that can be used is a booklet, a printed medium that presents information in a structured manner so that it can be studied again by the reader[21]. Furthermore, Infographic Booklets are a combination of text and images that can improve memory retention and understanding more than text alone[22].

Table 3. Distribution of attitudes before and after in the intervention group

Intervention Group						
Variable	**Category**	**Frequency (n)**	**Percentage (%)**	**Min-Max**	**Mean ± SD**	***p-value***
Attitude (Pretest)	Negative	11	78.6%	25-88	42.64 ± 21.699	0.001
	Neutral	0	0%			
	Positive	3	21.4%			
Attitude (Posttest)	Negative	6	42.9%	31-98	63.64 ± 24.282	
	Neutral	0	0%			
	Positive	8	57.1%			

Based on the attitude distribution table, respondents' attitudes improved after the intervention, as indicated by a 57.1% increase in the proportion of positive attitudes. The average score also increased from 42.64 to 63.64. The statistical test results showed a significant difference (p = 0.001), indicating a change in attitudes after the intervention.

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Before the intervention, the predominance of negative attitudes indicated that respondents did not have a positive view of contraceptive use as a preventative measure for unmet need. According to Notoatmodjo, attitude is a person's readiness to respond to something based on existing information and experience. Many factors can influence a person's perspective, including their personal experiences, the influence of significant others, cultural values and standards, the media, educational and religious institutions, and their own emotional state[14]. After the intervention with the infographic-based booklet, there was an increase in the median and average scores. Attractive and easy-to-understand visual media did not support the previous information delivery, resulting in poor absorption. This is consistent with the theory that a planned and systematic health education process is needed to increase knowledge and change attitudes[16]. Therefore, improving health knowledge is an important first step in fostering more positive attitudes toward contraceptive use.

Table 4. Distribution of knowledge levels before and after in the control group

Control Group						
Variable	**Category**	**Frequency (n)**	**Percentage (%)**	**Min-Max**	**Mean ± SD**	***p-value***
Level of knowledge (Pretest)	Less	13	92.8%	19-62	28.93 ± 13.310	0.005
	Enough	1	7.2%			
	Good	0	0%			
Level of knowledge (Posttest)	Less	12	85.7%	27-90	46.07 ± 20.823	
	Enough	0	0%			
	Good	2	14.3%			

Based on the table above, the level of knowledge in the control group increased slightly, with 14.3% demonstrating good knowledge. The mean also increased from 28.93 to 46.07. The Wilcoxon p-value of 0.008 indicates significant results.

This indicates that providing family planning education without media can also improve respondents' knowledge. However, the Wilcoxon test results for knowledge levels in the intervention group were significantly higher (0.001) than in the control group (0.005). Although there was a numerical increase from the pretest to the posttest, the results did not indicate a significant change, as the majority of respondents remained in the "poor" category. Changing knowledge and attitudes requires a planned and systematic educational process supported by media aligned with the target characteristics[24]. Without structured intervention, improvements are usually minimal and unsustainable. The low percentage of respondents in the "good" category in the control group indicates that respondents have not received optimal reproductive health information. If this condition is not addressed through adequate education, it can increase the risk of unplanned pregnancy and potentially impact maternal and child health[10].

Table 5. Distribution of attitudes in the control group

Control Group						
Variable	**Category**	**Frequency (n)**	**Percentage (%)**	**Min-Max**	**Mean ± SD**	***p-value***
Attitude (Pretest)	Negative	12	85.7%	29-91	41.93± 19.990	0.008
	Neutral	0	0%			
	Positive	2	14.3%			
Attitude (Posttest)	Negative	11	78.6%	31-93	44.93± 20.402	
	Neutral	1	7.1%			
	Positive	2	14.3%			

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Based on the distribution table above, the attitudes of respondents in the control group also experienced a slight improvement. The mean before and after results increased from 41.93 to 44.93. The Wilcoxon test was significant with a p-value of 0.008.

These findings indicate that the control group, which received family planning education without media, also gained good knowledge, leading to positive attitudes. Although the control group also showed a significant difference, the difference between the intervention group (0.001) and the control group (0.008) was more significant, indicating that the intervention group was more significant. Despite the significant numerical results, the majority of respondents after the study still expressed negative attitudes toward Unmet Needs Family Planning, while only 4 expressed positive attitudes.

Rachmawati (2019) states that a person's attitude can be shaped by factors such as personal experience, social environment, cultural values, and media exposure[14]. If individuals do not receive clear and accurate information, their attitudes tend to be less supportive. The limited availability of engaging and communicative educational media can contribute to low public understanding of reproductive health issues[23]. Without effective media support, the information conveyed is often not optimally absorbed.

Table 6. Differences in knowledge levels between the intervention group and the control group

Group (Level of Knowledge)	*Posttest*		*p-value*
	Median	SD	
Level of Knowledge			
Intervention Group	88.00	15.309	0.000
Control Group	46.07	20.823	
Attitude			
Intervention Group	77.00	24.282	0.050
Control Group	36.50	20.402	

Based on the table of knowledge levels above, the Mann-Whitney test shows a p-value of 0.000, which is smaller than the significance threshold of 0.05 ($p < 0.05$). Thus, it can be concluded that there is a statistically significant difference in knowledge levels between the two groups after treatment. Based on the attitude table above, the Mann-Whitney test yielded a p-value of 0.050, which is below the significance threshold of 0.05 ($p < 0.05$). Although the results were within the significance limit, there were still differences in attitudes between the two groups after treatment.

Overall, this study shows that infographics-based booklets are effective and lead to significant improvements in knowledge and attitudes. Although the Wilcoxon test results in the control group showed significant differences for both knowledge and attitudes, a Mann-Whitney test comparing the control and intervention groups also showed significant differences. These findings indicate that the research hypothesis was accepted: that infographic-based booklets can improve women of reproductive age's knowledge and attitudes regarding unmet needs. The researchers suspect that the booklet's success is due to its ability to present information concisely, in a structured, visual format, making it easier for respondents to understand material that previously seemed complex.

CONCLUSION

Family planning education using infographic-based booklets has been proven effective in increasing knowledge and positive attitudes among women of reproductive age. This intervention is safe, practical, and can be routinely implemented in reproductive health education programs, making it easier for respondents to understand the material and improving information retention.

It is recommended that health workers, particularly midwives and counselors, be trained in the use of infographics to maximize educational effectiveness. Furthermore, health facilities can

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incorporate this medium into a structured educational strategy. Further research is recommended to assess the long-term impact of booklet implementation on contraceptive behavior and on different populations and service contexts.

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REFERENCE

1. Sariyati S, Mulyaningsih S, Sugiharti S. Faktor yang berhubungan dengan terjadinya unmet need KB pada pasangan usia subur (PUS) di Kota Yogyakarta. J Ners Kebidanan Indones. 2016;3(3):123–130.
2. Nabila A, Susanti R, AB I. Unmet need di Indonesia (analisis data SDKI, SKAP, dan Susenas tahun 2017–2020). JUMANTIK. 2022;9(1):13–20.
3. Nitaqin AD, Nurhajjah S, Karmia HR. Analisis faktor-faktor yang berhubungan dengan unmet need KB pada wanita usia subur. 2021;48(2):39–62.
4. Harahap AP, Putri A, Maulana A, Ramadan SA. Faktor-faktor yang mempengaruhi penggunaan kontrasepsi pada wanita usia subur di Provinsi Sumatera Utara (analisis data SDKI 2017). 2025;2:15–25.
5. Lomban O, Desiyanti IW, Ardiningtyas L. Faktor-faktor yang berhubungan dengan kejadian unmet need pada pasangan usia subur di Desa Wangga Kecamatan Passi Barat tahun 2023. Innov J Soc Sci Res. 2023;5:544–558.
6. Apriasih H, Lisnawati L, Yunie C, Rachmidini A. Analisis determinan unmet need kontrasepsi pada wanita usia subur di Desa Cikunir Tasikmalaya. 2025;17:147–161.
7. Windyadari CC, Damaliana AT, Idhom M. Klastering wilayah di Jawa Timur berdasarkan faktor unmet need menggunakan fuzzy Gustafson-Kessel. 2025;8(2):270–281.
8. Amelina L, Harianti R. Edukasi ASI eksklusif melalui media infografis meningkatkan pengetahuan ibu balita. 2024;12(1):60–63.
9. Susilawati Y, Ferdinan T, Fransisca M, Marti S, Redayanti. Edukasi kesehatan pada pasangan usia subur sebagai upaya mengurangi unmet need KB. Media Abdimas. 2024;3(2):38–42.
10. Lubis SW. Pengaruh penyuluhan menggunakan media video tentang unmet need terhadap pengetahuan dan dukungan suami. 2025;10(1).
11. Ompusunggu SL, Butar MB, Lanita U, Siregar SA, Kasyani. Determinan kejadian unmet need KB pada wanita PUS di wilayah kerja Kecamatan Pelayangan Kota Jambi tahun 2025. 2025;6(3):1–16.
12. Notoatmodjo S. Promosi kesehatan dan ilmu perilaku. Jakarta: Rineka Cipta; 2012.
13. Notoatmodjo S. Ilmu kesehatan masyarakat dan perilaku kesehatan. 2014. Available from: https://repo.stikesibnusina.ac.id/xmlui/handle/123456789/1350
14. Rachmawati WC. Promosi kesehatan dan ilmu perilaku. 2019.
15. Tambun M. Faktor-faktor yang mempengaruhi tingginya angka unmet need KB pada wanita usia subur di Puskesmas Petumbukan Kecamatan Galang Kabupaten Deli Serdang tahun 2024. J Healthc Technol Med. 2024;10(1):486–494.
16. Notoatmodjo S. Pendidikan dan perilaku kesehatan. 2nd ed. Jakarta: Rineka Cipta; 2012.
17. Yuprapti SS, Widyasari, Daniar A. Perancangan booklet panduan MBKM program magang berbasis infografis bagi mahasiswa UPN Veteran Jawa Timur. 2023;16(1):35–42.
18. Notoatmodjo S. Metode penelitian kesehatan. Jakarta: Rineka Cipta; 2010.
19. Notoatmodjo S. Promosi kesehatan dan perilaku kesehatan. Jakarta: Rineka Cipta; 2012.
20. Azwar S. Penyusunan skala psikologi. Yogyakarta: Pustaka Pelajar; 2021.
21. Kementerian Kesehatan RI. Pedoman pelayanan kebidanan dan persalinan normal. Jakarta:

Jurnal Ilmiah Kebidanan (The Journal of Midwifery) e-ISSN: 2721-8864
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DOI: https://doi.org/10.33992/jik.v14i1.5066

Kemenkes RI; 2020.
22. Arsyad M, Anzarih AM. Rancang bangun kursi penderita cerebral palsy. INTEK J Penelit. 2017;4(2):103–106.
23. Nuswita N, Elfindri E. Pengaruh media promosi penyuluhan terhadap perilaku unmet need KB pada pasangan usia subur di Nagari Sijunjung tahun 2023. J Ilm Mns Kesehat. 2023;6(3):498–508.
24. Sinaga SP, Saragih E, Barus LB, Sinaga S. Penyuluhan tentang KB di Dusun I Desa Sudirejo Kecamatan Namorambe. Community Dev J. 2022;3(2):706–709.
25. Zulfitriani Z, Nurfatimah N, Entoh C, Longgupa LW, Ramadhan K. Penyuluhan guna meningkatkan pengetahuan wanita usia subur tentang KB IUD. Community Empower. 2021;6(3):374–379.
26. Gayatri M. Analisis pemakaian kontrasepsi di wilayah miskin perkotaan di Indonesia. J Kel Berencana. 2022;7(1):44–53. Available from: https://ejurnal.bkkbn.go.id/kkb/article/view/124
27. Alfitri R, Widoretno R. Peran dukungan dan tingkat pendidikan suami dalam menentukan pilihan metode KB pada pasangan usia muda <20 tahun. 2025;5:5457–5470.
28. Purwati A, Jannah N. Hubungan pendidikan dan pengetahuan remaja pra nikah terhadap cara penggunaan KB suntik 1 bulan di PMB Neneng Mahfuzah Banjarmasin. 2025;14(2):155–160.