

The Effect of Childbirth Planning and Complication Prevention Program Education on the Knowledge and Attitudes of Pregnant Women

Chintia Kartikaningtias¹, Luluk Nur Aini², Nanik Susanti³

^{1,2,3}*Sekolah Tinggi Ilmu Kesehatan Kendedes Malang*
cintia kartika@gmail.com

ABSTRACT

The high maternal mortality rate (MMR) and infant mortality rate (IMR) are the main drivers for the implementation of the Childbirth Planning and Complication Prevention Program (P4K). The P4K program plays an essential role in helping pregnant women prepare for labor and detect potential complications. The success of this program is highly dependent on the knowledge and attitude of pregnant women towards childbirth planning and the complication prevention program itself. The purpose of this study was to determine the Education of childbirth planning programs and prevention of complications on the knowledge and attitudes of pregnant women. The research design used was a quasi-experiment with a one-group pretest-posttest design. The research was conducted at the Praktik Mandiri Bidan of Parangargo Village, Wagir District, Malang Regency in April 2024. The subjects of this study were all pregnant women who underwent antenatal care examination, a many of 30 people, with a purposive sampling technique. Data collection was done by distributing questionnaires to pregnant women. The intervention was provided in the form of a childbirth planning and complication prevention program to measure the knowledge and attitudes of pregnant women before and after the intervention. Analysis of research data using the Wilcoxon test. The results showed that there was an effect of providing the P4K program on increasing the knowledge and attitudes of pregnant women through the P4K program.

Keywords: Education, Pregnant Women, Knowledge, Attitude

INTRODUCTION

The health of pregnant women is a public health issue that deserves great attention because it impacts the standard of living of future generations as well as the quality of life being lived today (Yusriani et al., 2024). Concerns about Indonesia's maternal mortality rate (MMR) continue, especially about the 2030 Sustainable Development Goals (SDGs) target (Yusriani et al., 2022). More than 700 women died every day in 2023 from avoidable complications during pregnancy and childbirth. By 2023, a maternal death will occur almost every two minutes. A global reduction of about 40% was observed in the

maternal mortality rate (MMR, or the number of maternal deaths per 100,000 live births) from 2000 to 2023. By 2023, low- or lower-middle-income countries will account for more than 90% of maternal deaths (WHO, 2025).

Maternal risk factors can cause unfavorable pregnancy outcomes. Too old maternal age, inadequate or no prenatal care, smoking, obesity, and short spacing of pregnancies are some of them. To reduce these risks during pregnancy, mothers should have accurate information, a good outlook, and safe practices (Salih et al., 2024). The process of pregnancy planning is an important method to improve the quality of children born and to reduce maternal and neonatal mortality during pregnancy (Misali & Ayu, 2021).

For this reason, pregnant women need to understand P4K programs. P4K program Education is one of the strategies to reduce the infant mortality/maternal mortality rates (Herliani et al., 2022). In terms of knowledge and attitudes of third-trimester pregnant women related to decision-making during childbirth, there was no significant difference between the online and offline versions of the childbirth planning and complication prevention program (Herliani et al., 2022). Every mother should prepare herself mentally and physically to have a healthy pregnancy. Before getting pregnant, it is important to make preparations for a healthy pregnancy. If the pregnancy is planned carefully, it will have a beneficial effect on the condition of the fetus as well as the mother's ability to adjust physically and psychologically to the pregnancy (Herizasyam, 2016).

Another study reported that health workers have played a role in implementing the P4K program, but not optimally. They have put up P4K stickers, collected data on pregnant women, and visited them at home, but not to recruit blood donors. There is also no village ambulance, saving for maternity leave is only done for social reasons, maternity funds have not been distributed, and forums for maternal and child health have not been established (Yusriani et al., 2022).

Based on a preliminary study conducted at an independent midwife practice in Parangargo Village, Wagir District, Malang Regency on January 23, 2022, the results of interviews with local midwives showed that there were no cases of maternal or infant mortality in the practice. However, there are still various problems among pregnant women, especially related to their low level of knowledge. P4K is very important in preventing unwanted events. Pregnant women tend to feel safe because the results of pregnancy checks show a normal condition, but this does not guarantee a stable condition before delivery. Therefore, it is expected that through the implementation of the P4K

program, pregnant women can understand the purpose and benefits of this program to support the safety of mothers and babies who will be born. Therefore, this study aims to influence P4K Education on the knowledge and attitudes of pregnant women.

METHODS

This study used a quasi-experimental design with a one-group pretest-posttest design (Trisnadewi et al., 2021). This research was conducted at the Praktek Mandiri Bidan of Parangargo Village, Wagir District, Malang Regency. The research was conducted in April 2024. The study population was pregnant women who visited to conduct antenatal care examinations at the Parangargo Village Independent Practice during April 2024 a many of 30 people were obtained by a total sampling technique. Inclusion criteria are (1) the subject is a pregnant woman, (2) complete data is available, and willing to be a research subject. Exclusion criteria are pregnant women who cannot be used as research subjects because they are sick or unwilling to be research respondents. The dependent variables of this study were the knowledge and attitudes of pregnant women. The independent variable was P4K Education. Knowledge variables were categorized into 1 = good, 2 = sufficient, and 3 = less. The attitude variable was categorized into 1 = positive, and 2 = negative.

The intervention in this study was the provision of P4K to pregnant women. Pretest and posttest in the form of measurement of knowledge and attitude of pregnant women, conducted before and after the provision of P4K Education intervention. Data collection was done directly using a questionnaire instrument related to the knowledge and attitudes of pregnant women about P4K. The data analysis stage begins with calculating the frequency distribution of knowledge and attitudes of pregnant women about P4K before and after the intervention. Data analysis used the Wilcoxon t-test (V. T. Hulu & Sinaga, 2019),(V. Hulu & Kurniawan, 2021).

RESULTS

Table 1 shows that 80.1% of pregnant women were 17-25 years old, and 16.7% were 26-35 years old. Based on trimester, as many as 73.3% of pregnant women with trimester 2, and 20% with trimester 1. Based on Education level, as many as 40% of pregnant women have an elementary school Education, and 33.3% have a junior high school Education.

Table 1. Respondent Characteristics (n= 30)

Variables	n	%
Age		
17-25 years old	24	80,1
26-35 years old	5	16,7
>39 years old	1	3,3
Trimester		
Trimester 1	6	20
Trimester 2	22	73,3
Trimester 3	2	6,7
Education level		
elementary school	12	40
junior high school	10	33,3
high school	8	26,7

Table 2 shows that before the P4K Education intervention, 33.3% of pregnant women had poor knowledge of the program. However, after P4K Education, the percentage of pregnant women with good knowledge increased significantly to 90%. Statistically, there was a difference in the knowledge of pregnant women before and after being given P4K Education. Based on the attitude of pregnant women, before being given the educational intervention of the P4K program, as many as 80% of pregnant women had a negative attitude towards the program. However, after the educational intervention was implemented, there was a significant increase, where 93.3% of pregnant women showed a positive attitude towards P4K. Statistically, there is a difference in the attitude of pregnant women before and after being given P4K Education.

Table 2. Frequency Distribution and Wilcoxon Test (n=30)

Variabel	Before		After		P value
	n	%	n	%	
Knowledge					
Good	11	36,7	27	90	<0,001
Fair	9	30,0	1	3,3	

Variabel	Before		After		P value
	n	%	n	%	
Poor Attitude	10	33,3	2	6,7	<0,001
Positive	24	80,0	28	93,3	
Negative	6	20,0	2	6,7	

DISCUSSION

Table 1 shows that 80.1% of pregnant women were aged 17-25 years, and 16.7% were aged 26-35 years. This finding indicates that most of the respondents were in their early reproductive age, which is generally associated with a lack of knowledge and experience related to pregnancy and childbirth. This condition emphasizes the urgency of implementing the P4K program, especially for young pregnant women who generally do not have an optimal understanding of pregnancy danger signs, antenatal checks, and delivery planning. P4K plays an important role in improving preparedness and early decision-making skills.

In terms of trimester, 73.3% of pregnant women were in the second trimester, and 20% were in the first trimester. This finding indicates that the second trimester is a stable phase, so it is the right time for P4K Education because pregnant women are more ready to receive information and plan for delivery. The low proportion of pregnant women in the first trimester (20%) indicates the need to implement a promotive and preventive approach through P4K from the beginning of pregnancy. Based on education level, 40% of pregnant women had primary school education, and 33.3% had junior high school education. This finding also indicates that the majority of pregnant women come from a low educational background, which is usually associated with limited knowledge and understanding of reproductive health, pregnancy, and the importance of proper delivery planning.

In terms of knowledge, before the P4K education intervention, 33.3% of pregnant women had a poor level of knowledge about the program. However, after being given P4K education, the percentage of pregnant women with good knowledge increased significantly to 90%. These results show that P4K education has a positive effect on improving pregnant women's understanding of the importance of labor planning and

complication prevention. The findings suggest that P4K education is effective in expanding pregnant women's knowledge, thus improving their preparedness and vigilance during labor. Better knowledge enables mothers to recognize pregnancy danger signs and take appropriate precautions.

This finding shows that statistically, there is a difference in the knowledge of pregnant women before and after being given P4K education. This finding is in line with previous studies that showed that pregnant women's knowledge was significant towards P4K (Monika & Septiawan, 2021). Other studies have also indicated that the knowledge of pregnant women has a significant effect on the P4K program (Wulandara et al., 2025).

Based on the attitude of pregnant women, before being given the educational intervention of the Childbirth Planning and Complication Prevention Program (P4K), as many as 80% of pregnant women had a negative attitude towards the program. However, after the educational intervention was implemented, there was a significant increase where 93.3% of pregnant women showed a positive attitude towards P4K. Statistically, there were differences in the attitudes of pregnant women before and after P4K education. This finding indicates that this change in attitude indicates that P4K education succeeded in building positive views of pregnant women on the importance of childbirth planning and complication prevention programs. This positive attitude contributes to increasing maternal motivation and compliance in undergoing the program, so that readiness for childbirth increases and the risk of complications decreases.

This finding shows that statistically, there is a difference in the knowledge of pregnant women before and after being given P4K education. This finding is in line with previous studies that reported that P4K counseling has a positive effect on efforts to prevent pregnancy complications. The material presented succeeded in improving the attitude of pregnant women towards P4K information (Mataram, 2022). Other studies have also indicated that pregnant women have a significant effect on the P4K program (Wulandara et al., 2025).

CONCLUSION

The P4K education program has been shown to improve the knowledge and attitudes of pregnant women significantly. This suggests that a systematic P4K educational approach is highly effective in building pregnant women's understanding and positive responses to preparing for childbirth and preventing complications. Future research could investigate

the long-term impact of improved knowledge and attitudes of pregnant women on safer delivery practices and decreased complications after childbirth.

REFERENCES

- Herizasyam, J. O. (2016). Kesiapan Ibu Menghadapi Kehamilan Dan Faktor-faktor Yang Mempengaruhinya. *Jurnal Ilmu Dan Teknologi Kesehatan*, 3(2), 147–159.
- Herliani, Y., Rahmaniyar, I. A., & Kurnia, H. (2022). Perbandingan Edukasi P4K antara Daring dan Luring terhadap Pengetahuan dan Sikap Ibu Hamil Trimester III dalam Pengambilan Keputusan dalam Persalinan di Wilayah Kerja Puskesmas Cingambul Tahun 2021. *Journal of Midwifery Information (JoMI)*, 3(1), 265–275.
- Hulu, V., & Kurniawan, R. (2021). Memahami Dengan Mudah Statistik Nonparametrik Bidang Kesehatan Penerapan Software SPSS dan STATCAL. Kencana.
- Hulu, V. T., & Sinaga, T. R. (2019). Analisis Data Statistik Parametrik Aplikasi SPSS DAN STATCAL: Sebuah Pengantar Untuk Kesehatan (1st ed.). Yayasan Kita Menulis.
- Mataram, S. Y. (2022). Edukasi Perencanaan Persalinan dan Pencegahan Komplikasi (P4K) pada Ibu Hamil Saat Pandemi Covid-19 di Poskesdes Desa Giri Madia Kec. Lingsar Lombok Barat.
- Misali, C. A., & Ayu, S. (2021). Attitude and pregnancy planning of the women reproduction of age not associated.
- Monika, D. A., & Septiawan, C. (2021). Determinan Pemanfaatan Program Perencanaan Persalinan Pencegahan Komplikasi pada Ibu Hamil. *Jurnal Ilmiah Kebidanan Indonesia*, 11(02), 56–70.
- Salih, R. A., Ahmad, W. G., & Al-Dweachi, A. B. (2024). Knowledge, attitude, and practice of Iraqi pregnant women about maternal risk factors. *African Journal of Reproductive Health*, 28(10), 81–87.
- Trisnadewi, I. M. S. A. W., Ni Putu Wiwik Oktaviani, Seri Asnawati Munthe, Victor Trismanjaya Hulu, Indah Budiastutik, A. F., Radeny Ramdany, R. J. F., Tania, P. O. A., & Baiq Fitria Rahmiati, Sanya Anda Lusiana, Baiq Fitria Rahmiati, Sanya Anda Lusiana, S. S. (2021). Metodologi Penelitian Kesehatan. Yayasan Kita Menulis.
- WHO. (2025). Maternal mortality. <https://www.who.int/news-room/fact->

sheets/detail/maternal-mortality

- Wulandara, Q., Pertiwi, S., & Hermawati, A. (2025). Pendampingan Program Perencanaan Persalinan Dan Pencegahan Komplikasi (P4K) Terhadap Pengetahuan Dan Sikap Ibu Hamil. *Indonesian Health Issue*, 4(2), 33–43.
- Yusriani, Y., Alwi, M. K., Agustini, T., & Septiyanti, S. (2022). The role of health workers in implementing of childbirth planning and complication prevention program. *African Journal of Reproductive Health*, 26(9).
- Yusriani, Y., Alwi, M. K., Herli, A., & Syahrani, V. (2024). Structural equation modeling for skills analysis of health cadres based on knowledge and attitudes about health promotion and body immunity of pregnant women. *Journal of Education and Health Promotion*, 13(1), 275.