

The Relationship between Pregnant Women's Knowledge and Attitude with the Implementation of the Delivery Planning and Complication Prevention Program (P4K) in the Work Area of the Grogol Community Health Center, Kediri Regency

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ABSTRACT

Background: The Birth Planning and Complication Prevention Programme (P4K) aims to improve access to and the quality of maternal and newborn health services by promoting birth preparedness and preventing pregnancy-related complications.

Purpose: Maternal knowledge and attitudes are important factors influencing the implementation of P4K. A preliminary survey conducted at Puskesmas Grogol found that P4K coverage had not achieved the expected target and that 70% of ten interviewed pregnant women were unaware of the P4K programme.

Methods: This study employed a correlational design with a cross-sectional approach. The study included 42 third-trimester pregnant women selected using simple random sampling. Data were collected using structured questionnaires and analysed using Spearman's rank correlation test.

Results: Of the 42 respondents, 54.8% had good knowledge of P4K, while 52.4% had moderately positive attitudes toward the programme. Spearman's rank correlation analysis showed a statistically significant relationship between maternal knowledge and P4K implementation ($p = 0.002$) and between maternal attitudes and P4K implementation ($p = 0.032$). Both p -values were less than 0.05.

Conclusion: Maternal knowledge and attitudes were significantly associated with the implementation of the Birth Planning and Complication Prevention Programme (P4K). These findings suggest that improving maternal knowledge and fostering positive attitudes may enhance P4K implementation, thereby supporting better birth preparedness and maternal health services.

Keywords: Attitude, Knowledge, P4K, Pregnant women

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BACKGROUND

Maternal health remains a major public health priority because preventable pregnancy and childbirth complications continue to contribute substantially to maternal and neonatal morbidity and mortality. Antenatal Care (ANC) is essential for early risk detection, fetal monitoring, and timely management of maternal complications. In Indonesia, the Ministry of Health recommends six ANC visits consisting of one visit in the first trimester, two in the second trimester, and at least three in the third trimester (Kementerian Kesehatan RI, 2023). These recommendations are consistent with the World Health Organization (WHO), which recognizes adequate ANC as a key strategy for reducing maternal mortality.

Maternal health service coverage in Kediri Regency remains below target. In 2022, K1 coverage reached 90.62%, while K4 and K6 coverage were only 78.16% and 68.3%, respectively. Puskesmas Grogol reported the lowest K6 coverage at 38.5%, followed by Puskesmas Puncu (46.1%) and Puskesmas Adan Adan (50.3%) (Profil Kesehatan Kabupaten Kediri, 2022). These findings indicate gaps in ANC continuity. To address this issue, the Kediri Regency Health Office promotes collaboration among healthcare providers, community organizations, and local stakeholders through village midwives, the Srikandi Biru Programme, and the Birth Planning and Complication Prevention Programme (Program Perencanaan Persalinan dan Pencegahan Komplikasi [P4K]) to improve birth preparedness and ensure delivery in qualified health facilities.

The Birth Planning and Complication Prevention Programme (P4K), introduced by the Indonesian Ministry of Health in 2007, aims to improve birth preparedness, early recognition of obstetric complications, and timely access to maternal healthcare. The programme encourages families to prepare delivery facilities, skilled birth attendants, transportation, blood donors, and financial support before childbirth (Kementerian Kesehatan RI, 2018). Previous studies reported that suboptimal P4K implementation remains associated with inadequate maternal health services (Putri et al., 2023). Although maternal knowledge and attitudes have been linked to P4K implementation, evidence from primary healthcare settings with low ANC coverage remains limited. Differences in maternal characteristics, family support, and healthcare accessibility may also influence programme implementation.

A preliminary survey among ten pregnant women at Puskesmas Grogol found that only three respondents (30%) understood P4K and had completed and displayed P4K stickers in their Maternal and Child Health Handbook (Buku KIA). The remaining seven respondents (70%) were unaware of the programme, and their P4K stickers had not been completed. Interviews also revealed inadequate preparation of birth companions and limited involvement of community health volunteers in P4K counselling and postpartum family planning. Together with the low K6 coverage, these findings indicate deficiencies in maternal knowledge, birth preparedness, and community participation. Therefore, this study aimed to analyse the relationship between maternal knowledge, maternal attitudes, and the implementation of the Birth Planning and Complication Prevention Programme (P4K) in the working area of Puskesmas Grogol, Kediri Regency.

METHODS

This study employed a correlational research design with a cross-sectional approach. The study population consisted of third-trimester pregnant women in the working area of Puskesmas Grogol, with a total population of 71 respondents. A sample of 42 respondents was selected using simple random sampling (SRS) based on the Slovin formula. Data were collected using structured questionnaires, observation forms, documentation, and P4K stickers. The research instruments consisted of a 20-item knowledge questionnaire, a 10-item attitude

questionnaire, and a 15-item questionnaire assessing P4K implementation. Knowledge was categorized as poor ($\leq 55\%$), moderate (56-75%), and good (76-100%). Attitudes were categorized as poor ($< 60\%$), moderate (60-79%), and good (80-100%). P4K implementation was categorized as poor (scores 1-4), moderate (scores 5-9), and good (scores 10-15). Prior to data collection, the questionnaires were tested for validity and reliability using a pilot sample of 20 pregnant women outside the study population. All questionnaire items met the validity criteria and were retained for analysis. The reliability test demonstrated excellent internal consistency, with Cronbach's alpha values of 0.964 for the knowledge questionnaire, 0.963 for the attitude questionnaire, and 0.941 for the P4K implementation questionnaire. Data were analysed using univariate and bivariate analyses. The relationship between variables was examined using Spearman's rank correlation test.

RESULTS

Table 1. Respondent Characteristics

Category	Frequency	Percentage(%)
Parity		
Primigravida	20	47,6
Multigravida	22	52,4
Total	42	100,0
Education		
Primary School	0	0
Junior High School	6	14,3
Senior High School	30	71,4
University	6	14,3
Total	42	100,0
Employment		
Work	29	69,0
An Employment	13	31,0
Total	42	100,0
Age		
>20 years	0	0
20-35 years	38	90,5
>35 years	4	9,5
Total	42	100,0

Source : Primary Data, 2024

From table 1. Primigravida 22 people or (52.4%), in terms of education the majority of respondents with high school education, namely there are 30 people or (71.4%), while the majority of respondents work, namely 29 people or (69%), based on age, the majority of respondents are in the age range 20-30 years, namely there are 38 people or (90.5%).

Table 2. Frequency distribution of knowledge of pregnant women in Grogol Health Centre, Kediri District.

No	Category	Frequency	Percentage(%)
1.	Good	23	54,8
2.	Sufficient	18	42,9
3.	Deficient	1	2,4
Total		42	100,0

Source : Primary Data, 2024

Based on the data in Table 2. Regarding the frequency distribution of knowledge of pregnant women located at Puskesmas Grogol, Kediri Regency, the majority of respondents had a good level of knowledge, namely 23 people (54.8%). Furthermore, 18 respondents (42.9%) with a sufficient level of knowledge, while only 1 respondent (2.4%) showed a deficient of knowledge.

Table 3. Frequency distribution of attitudes of pregnant women in the working area of Puskesmas Grogol Kediri District

No	Category	Frequency	Percentage(%)
1.	Good	14	33,3
2.	Sufficient	22	52,4
3.	Deficient	6	14,3
Total		42	100,0

Source : Primary Data, 2024

Based on data table 3. Regarding the frequency distribution in the work location of Puskesmas Grogol, Kediri District, it was found that the attitude of pregnant women as many as 22 (52.4%) or respondents had sufficient attitude towards the issue under study. A total of 14 (33.3%) respondents showed a good attitude, while 6 (14.3%) respondents had deficient attitude.

Table 4. Frequency distribution of P4K implementation of pregnant women in the working area of Puskesmas Grogol Kediri District

No	Category	Frequency	Percentage(%)
1.	Good	40	95,2
2.	Sufficient	2	4,8
3.	Deficient	0	0
Total		42	100

Source : Primary Data, 2024

Based on data table 4. Regarding the frequency distribution of implementation (P4K) in the working area of Puskesmas Grogol, Kediri District, proves that most respondents implement P4K with the category Good, there are 40 people or 95.2%. Only a few respondents who implement P4K with the category sufficient as many as 2 people or 4.8%.

Table 5. Spearman Rank Test Results The Relationship between Pregnant Women's Knowledge with P4K who work in the Grogol Puskesmas area

Spearman's rho (Sig. (2-tailed))	Relationship level
0.002: There is a positive and statistically significant relationship.	0.473: The level of correlation is moderate (sufficient).

Source : Primary Data, 2024

Based on data from Table 5. The findings of the Spearman Rank test prove that there is a positive and significant relationship between the knowledge of pregnant women and the implementation of P4K and their work at Puskesmas Grogol (significance value 0.002). The level of correlation is in the good enough category with a correlation coefficient of 0.473, so H_0 is rejected, so there is a relationship between the knowledge of pregnant women and the implementation of P4K.

Table 6. Spearman Rank Test Results of the Relationship between Maternal Attitudes and P4K at the Grogol Health Centre Working Area

Spearman's rho (Sig. (2-tailed))	Relationship level
0.032: There is a positive and statistically significant relationship.	0.331: The level of correlation is weak positive .

Source : Primary Data, 2024

From the data in Table 6, the findings of the Spearman Rank test prove that there is a positive and significant relationship between the attitudes of pregnant women and the implementation of P4K in the Grogol Puskesmas work area with a significance value of 0.032. The level of correlation strength is in the good enough category with a correlation value of 0.331, so H_0 is rejected, so there is a relationship between the attitude of pregnant women and the implementation of P4K.

DISCUSSION

Maternal knowledge regarding the Birth Planning and Complication Prevention Programme (P4K)

Based on Table 2, more than half of the respondents had good knowledge of the Birth Planning and Complication Prevention Programme (P4K) (54.8%), while 42.9% had sufficient knowledge and only 2.4% had deficient knowledge. These findings indicate that most pregnant women had an adequate understanding of pregnancy, danger signs during pregnancy, the objectives and benefits of P4K, and the services provided through the programme. Good maternal knowledge is essential because it enables pregnant women to recognize pregnancy risks, prepare for safe delivery, and make appropriate decisions when complications occur. The high level of knowledge observed in this study may be related to the respondents' educational background and access to maternal health information. Most respondents had completed senior high school (71.4%), were employed (69%), and were between 20 and 30 years of age (90.5%). Educational attainment may facilitate better understanding of health information delivered during antenatal care, while productive age and employment may increase opportunities to obtain health information from healthcare providers, social interactions, and various information sources. Therefore, maternal knowledge is likely to contribute to successful implementation of the P4K programme.

These findings are consistent with previous studies. Aulia (2019) reported that providing information about the P4K programme significantly improved the knowledge of pregnant women, indicating that health education plays an important role in increasing programme awareness. Similarly, Yuliastuti (2017) reported that 79.5% of pregnant women had good knowledge regarding P4K, while Pramasanthi (2016) also found that most pregnant women (61.8%) had good knowledge of the programme. The consistency of these findings suggests that adequate health education remains one of the key factors supporting maternal preparedness for childbirth through P4K.

Maternal attitudes toward the Birth Planning and Complication Prevention Programme (P4K)

Based on Table 3, most respondents demonstrated sufficient attitudes toward the P4K programme (52.4%), while 33.3% had good attitudes and 14.3% had deficient attitudes. These

findings indicate that although most pregnant women accepted the programme positively, there is still room to strengthen maternal confidence and participation in P4K activities.

The positive attitudes observed in this study were reflected in respondents' acceptance of the P4K programme, their willingness to use the P4K sticker, their perception that P4K improves safety during pregnancy and childbirth, and their commitment to attending antenatal care visits. Positive attitudes are important because they influence mothers' willingness to participate actively in birth preparedness and complication prevention programmes. However, attitudes alone may not always lead directly to behavioural changes because implementation is also influenced by support from family members, healthcare providers, and the surrounding community.

The findings of this study are consistent with previous research. Rachmawati (2019) reported a significant relationship between maternal attitudes and the implementation of P4K. Likewise, Yuliasuti et al. (2020) found that positive maternal attitudes were associated with better birth planning at Puskesmas Pasar Sabtu, Hulu Sungai Regency. These findings suggest that fostering positive attitudes among pregnant women is essential for encouraging active participation in P4K and improving maternal preparedness for childbirth.

Implementation of the Birth Planning and Complication Prevention Programme (P4K)

Based on Table 4, most respondents demonstrated good implementation of the P4K programme. This finding indicates that most pregnant women had participated in important components of birth preparedness, including identifying the expected date of delivery, selecting an appropriate place of delivery, choosing a skilled birth attendant, preparing transportation, recognizing danger signs during pregnancy, and planning postpartum family planning.

The good implementation of P4K may reflect effective collaboration between pregnant women, their families, healthcare providers, and community members. Family involvement is particularly important because decisions regarding delivery preparation are often made collectively. Continuous antenatal care services provided by village midwives may also contribute to improved implementation by ensuring that pregnant women receive regular counselling and monitoring throughout pregnancy.

These findings are consistent with previous studies. Yuliatuti (2017) reported that most birth planning activities within the P4K programme were conducted with assistance from healthcare workers (56.8%). Similarly, Pramasanthi (2016) found that 50% of pregnant women complied with the implementation of the P4K programme. Together, these findings indicate that support from healthcare providers remains essential for successful implementation of P4K at the community level.

Relationship between maternal knowledge and P4K implementation

Based on the Spearman's rank correlation analysis presented in Table 5, this study found a positive and statistically significant relationship between maternal knowledge and the implementation of P4K ($r = 0.473$; $p = 0.002$). The correlation coefficient indicates a moderate positive relationship, suggesting that pregnant women with better knowledge tended to demonstrate better implementation of the P4K programme.

This relationship can be explained by the role of knowledge as the foundation for health-related decision making. Pregnant women who understand the objectives, benefits, and components of P4K are more likely to recognize the importance of birth preparedness, identify potential pregnancy complications, and comply with recommended maternal health services. Better knowledge also enables pregnant women to make informed decisions regarding the place of delivery, skilled birth attendants, emergency transportation, blood donor preparation, and postpartum family planning.

The findings of this study are supported by the respondents' characteristics, in which most pregnant women had good (54.8%) or sufficient (42.9%) knowledge regarding P4K. This condition may have been influenced by the respondents' educational background, as most had completed senior high school. Educational attainment may facilitate understanding of health information provided during antenatal care and encourage mothers to participate actively in maternal health programmes.

These findings are consistent with previous studies. Aulia (2019) demonstrated that providing information about P4K significantly improved maternal knowledge. Similarly, Pramasanthi (2016) reported a significant relationship between maternal knowledge and compliance with the P4K programme in Salatiga City ($p = 0.000$). The consistency between these studies and the present findings suggests that improving maternal knowledge remains an important strategy for strengthening the implementation of P4K.

Relationship between maternal attitudes and P4K implementation

The Spearman's rank correlation analysis also demonstrated a positive and statistically significant relationship between maternal attitudes and the implementation of P4K ($r = 0.331$; $p = 0.032$). Although the correlation was weaker than that observed for maternal knowledge, the findings indicate that positive maternal attitudes contribute to better implementation of the programme.

Most respondents demonstrated sufficient attitudes toward P4K, indicating that they generally accepted the programme and recognized its benefits. However, the correlation coefficient suggests that attitudes alone may not fully determine programme implementation. Actual implementation of P4K is likely influenced by additional factors, including maternal knowledge, family support, access to healthcare services, and guidance provided by healthcare professionals. Therefore, strengthening positive attitudes should be accompanied by continuous health education and active involvement of families and communities.

These findings are consistent with previous research. Yuliasuti (2015) reported a significant relationship between maternal attitudes and the implementation of P4K ($p = 0.000$). The agreement between the previous findings and the present study reinforces the importance of promoting positive maternal attitudes as part of comprehensive efforts to improve birth preparedness and complication prevention through the P4K programme.

An interesting finding in this study is that although most respondents demonstrated only moderately positive attitudes toward the P4K programme, the implementation of P4K was generally good. This finding suggests that successful implementation of P4K is influenced not only by individual attitudes but also by other supporting factors. According to Green's behavioural theory, health behaviour is determined by predisposing factors such as knowledge and attitudes, enabling factors including access to healthcare services and the availability of health facilities, and reinforcing factors such as support from healthcare providers, family members, and the community. Therefore, pregnant women with moderately positive attitudes may still successfully implement P4K because they receive continuous guidance from village midwives, family support, and regular antenatal care services. These external factors may strengthen programme implementation despite variations in individual attitudes.

CONCLUSION

This study demonstrated that maternal knowledge and attitudes were significantly associated with the implementation of the Birth Planning and Complication Prevention Programme (P4K) among pregnant women in the working area of Puskesmas Grogol, Kediri District. Maternal knowledge showed a stronger association with P4K implementation than maternal attitudes, suggesting that adequate knowledge plays an important role in encouraging pregnant women to participate in birth preparedness and complication prevention activities.

These findings highlight the importance of strengthening health education and continuous counselling during antenatal care to improve maternal knowledge while fostering positive attitudes toward P4K. In addition, active involvement of healthcare providers, families, and the community should be maintained to support effective implementation of the programme and ultimately contribute to improved maternal health outcomes.

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