Research Article

Midwives' Knowledge and Attitude about Antenatal Care in Rumbai Sub-district

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Abstract

Objective: To determine the relationship between the levels of knowledge and attitudes of midwives in the Rumbai sub-district and the implementation of 10T antenatal care.

Methods: This was a cross-sectional study with an analytic observational design involving 43 midwives in the Rumbai sub-district. Data were collected using a questionnaire that had undergone validity and reliability testing using the SPSS program. The implementation of 10T antenatal care was assessed using a Likert scale. Data were analyzed using SPSS version 23.0.

Results: The majority of respondents were aged 31–35 years (39.5%), had a diploma (D3) as their highest educational level (55.8%), had 1–5 years of work experience (46.5%), and worked in clinics (44.2%). There were significant relationships between educational level (p=0.031, C=0.294), knowledge level (p=0.029, C=0.211), years of service (p=0.026, C=0.094), and attitudes (p=0.048, OR=1.391) of midwives and the implementation of 10T antenatal care in the Rumbai sub-district.

Conclusion: This study demonstrated a significant relationship between midwives' attitudes and the implementation of 10T antenatal care in the Rumbai sub-district. Additionally, there were associations between educational level, knowledge level, and the implementation of 10T antenatal care. Among the respondents, 88.3% (20 out of 24) of midwives with a diploma (D3), 77.8% (14 out of 18) with a bachelor's degree, and 0% (0 out of 1) with a master's degree completed the 10T implementation. These findings indicate that midwives with a diploma (D3) demonstrated the highest level of implementation compared to those with higher educational levels. Therefore, efforts to improve the implementation of 10T antenatal care should be tailored according to the educational background of midwives.

Keywords: antenatal care, attitude, level of knowledge, midwives.

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INTRODUCTION

The Maternal Mortality Rate (MMR) in Indonesia is an important indicator used to measure the overall level of public health. In 2017, Indonesia ranked 16th globally and 3rd in Southeast Asia, with an MMR of 177 cases per 100,000 live births. This figure decreased from 184 cases per 100,000 live births in 2016. However, the number of maternal deaths in Indonesia increased significantly in 2021 to 7,389 cases, representing a 59.69% rise compared to 4,627 cases in 2020.[1]

Based on the Health Profile of Riau Province in 2021, the number of maternal deaths in Riau reached 180 cases, showing an increase compared to previous years, with 129 cases in 2020 and 125 cases in 2019.[2] In response to this issue, the Ministry of Health has prioritized the implementation of antenatal care that is comprehensive, integrated, and of high quality to ensure early detection and management of maternal health problems and diseases.[3] In the implementation of standard antenatal care, healthcare providers must ensure that pregnancy progresses normally, perform early detection

of complications and diseases in pregnant women, and provide appropriate interventions to prepare mothers for safe and normal delivery. If the processes of pregnancy, childbirth, and the postpartum period are managed safely, the maternal mortality rate can be reduced.[4]

High-quality antenatal care can be achieved when services meet the standards established by the government, known as the "10T" components. These include: measurement of maternal body weight and height; blood pressure; mid-upper arm circumference; uterine fundal height; assessment of tetanus immunization status and administration of tetanus toxoid as indicated; provision of at least 90 iron supplementation tablets during pregnancy; assessment of fetal presentation and fetal heart rate; provision of counseling and interpersonal communication, including family planning; basic laboratory examinations (including hemoglobin level, urine protein, and blood group); and appropriate case management or referral when necessary.[5] Optimal maternal health can be achieved when pregnant women receive regular antenatal care, with at least six visits during pregnancy: one visit in the first trimester, two visits in the second trimester, and three visits in the third trimester.[6]

Based on the above considerations, this study aims to determine the relationship between the level of knowledge and attitudes of midwives in the Rumbai sub-district and the implementation of 10T antenatal care.

METHODS

This was a cross-sectional study with an analytic observational design. The study was conducted between February and March 2023, as the data were required to develop further improvement strategies in the Rumbai sub-district, particularly regarding antenatal care.

The study population consisted of all midwives working in the Rumbai sub-district. Samples were collected using total sampling, with a total of 43 midwives included in the study. The inclusion criteria were midwives who provided antenatal care and were willing to participate as respondents. The exclusion criterion was midwives who were not willing to participate.

This study utilized a questionnaire consisting of questions assessing midwives' knowledge regarding the implementation of 10T antenatal care. The questionnaire had undergone validity and reliability testing using the Statistical Product and Service Solutions (SPSS) program. Attitudes toward the implementation of 10T antenatal care were measured using a Likert scale with five response options, ranging from 1 (strongly disagree) to 5 (strongly agree). Acceptance of the implementation of 10T antenatal care was measured dichotomously as accepting or not accepting (yes or no).

Data were analyzed using the chi-square test or Fisher's exact test as an alternative, to determine whether the hypothesis was supported. A p-value of <0.05 was considered statistically significant. Data processing was performed using Statistical Product and Service Solutions (SPSS) for Windows version 23.0. This study received ethical approval with reference number B/196/UN19.5.1.1.8/UEPKK/2022.

RESULTS

The research results were divided into 2 types of analysis, univariate and bivariate analysis. The research results are described in table form with the following explanation.

Univariat Analysis

The research was conducted on 43 research subjects with the following research subject characteristics.

Table 1. Distribution of Research Subjects by Age Group

Age	Frequency (n)	(%)
21 – 25	3	7.0
26 – 30	12	27.9
31 – 35	17	39.5
>35	11	25.0
Total	43	100

The research results are based on Table 1, shows that the age of the subjects in this study was mostly 31-35 years old, 17 subjects (38.5%), followed by 12 subjects (27.9%) aged 26-30 years old, then >35 years old as many as 11 subjects (25.0%), and 3 subjects (7.0%) aged 21-25 years old.

Bivariat Analysis

Table 2. The relationship between Midwife Education Level and Implementation of 10T Antenatal Care

Education Level	Implementation				*P-value*	C
	Incomplete		Complete			
	N	%	N	%		
Associate Degree (D3)	4	16.7	20	83.3	0.031	0.294
Bachelor's Degree	4	22.2	14	77.8		
Master Degree	1	100	0	0.0		
Total	9	20.9	34	79.1		

Based on Table 2, it can be seen that there is a significant relationship between the education level of midwives and the implementation of 10T antenatal care in Rumbai District (p value = 0.031). However, based on the C value, this relationship has a weak degree of relationship strength (Contingency Coefficient (C) value = 0.294).

Table 3. The Relationship between the Knowledge Level of Midwives and the Implementation of 10T Antenatal Care

Level of Knowledge	Implementation				*P-value*	C
	Incomplete		Complete			
	N	%	N	%		
Not Enough	0	0.0	1	100	0.029	0.211
Enough	1	8.3	11	91.7		
Good	8	26.7	22	73.3		
Total	9	20.9	34	79.1		

Based on table 3, there is a significant relationship between the knowledge level of midwives and the implementation of 10T antenatal care in Rumbai District (p value = 0.029) with the degree of weak relationship (Contingency Coefficient (C) value = 0.211).

Table 4. The Relationship between the Attitude of Midwives and the Implementation of 10T Antenatal Care

Attitude	Implementation				*P-value*	OR
	Incomplete		Complete			
	N	%	N	%		
Not accepting (<60)	9	28.1	23	71.9	0.048	1.391
Accepting (≥60)	0	0	11	100		
Total	9	20.9	34	79.1		

Based on table 4, there is a significant relationship between the attitude of midwives and the implementation of 10T antenatal care in Rumbai District (p = 0.048) with an odds ratio (OR) of 1.391.

DISCUSSION

Based on the results of this study, it can be concluded that there is a significant relationship between the educational level and knowledge level of midwives and the implementation of 10T antenatal care in the Rumbai sub-district. Midwives with an associate degree (D3) showed 88.3% (20 out of 24), those with a bachelor's degree showed 77.8% (14 out of 18), and those with a master's degree showed 0% (0 out of 1) completion of 10T implementation. This indicates that midwives with an associate degree (D3) had the highest level of implementation compared to those with bachelor's or master's degrees.

This finding is consistent with a study conducted in Manado in 2018, which reported a relationship between the level of knowledge and the performance of midwives in implementing 10T antenatal care service standards.[7] A study conducted in Kendari in 2017 also reported a similar finding, showing a relationship between midwives' knowledge and the implementation of 10T antenatal care service standards.[8] Another study in Kendari in 2018 found a relationship between midwives' knowledge of ANC standards and the implementation of these standards at the Abeli Public Health Center.[9]

Theoretically, knowledge is the result of "knowing" and occurs after a person perceives an object.[10] Education is one of the factors that influences knowledge; higher levels of education generally facilitate the acquisition of information.[11] However, knowledge alone is not sufficient to change behavior. Knowledge is defined as the facts, information, and skills acquired through experience or education, and it is the expected outcome of educational processes. As such, knowledge can be categorized into general (informational) knowledge, knowledge that enhances personal awareness, and knowledge that develops skills. In the context of health behavior change, increasing general knowledge alone is often insufficient. Individuals must understand why changes are necessary and how to implement them.[12]

Behavioral change is influenced by multiple factors related to the individual, including physical factors (such as age, health status, illness, pain, and the effects of substances or medications), personal and emotional factors (such as personality, beliefs, expectations, emotions, and mental health), life experiences (including family, culture, peers, and life events), individual needs and desires, ongoing situations, environmental conditions, and responses from others.[13]

Other factors influencing midwives' ability to implement standard antenatal care, apart from knowledge, include years of service, experience, number of pregnant patients, availability of facilities, and midwives' attitudes toward antenatal care standards. These factors significantly affect the implementation of standard antenatal care. Although knowledge influences actions, good knowledge alone is insufficient without adequate motivation.[8]

Based on the results of this study, it can also be concluded that there is a significant relationship between tenure and midwives' attitudes and the implementation of 10T antenatal care in the Rumbai sub-district. This finding is consistent with a study conducted in Deli Serdang Regency in 2019, which reported a significant relationship between midwives' attitudes and the implementation of the 10T program in antenatal care services.[14]

This study is also consistent with research conducted in the working area of the Lambuya Health Center, which demonstrated a relationship between midwives' knowledge and attitudes and the implementation of ANC 10T.[15]

According to theory, negative experiences tend to be forgotten, whereas positive experiences create strong and lasting impressions that can shape positive attitudes.[11] A positive attitude may develop when midwives have pleasant experiences in implementing the ANC 10T standard.[15]

The relationship between attitudes and behavior is complex and influenced by multiple interrelated factors. Human behavior is closely associated with attitudes, and positive attitudes and behaviors can be developed through learning and training processes influenced by education level, social support, and access to information from various media.[16] Nonetheless, the relationship between attitudes and behavior is not always linear. Various factors may influence this relationship, including barriers or enabling conditions related to behavior. Therefore, further investigation is needed to explore other influencing factors.[17]

CONCLUSIONS

There is a significant relationship between the attitude of midwives and the implementation of 10T antenatal care in the Rumbai sub-district. As for the relationship between the education level and knowledge level of midwives and the implementation of the 10T antenatal care, there was a relationship found but with a weak and very weak degree of relationship for years of service and the implementation of the 10T antenatal care. Midwives with associate degree (D3) have the highest level of implementation compared to bachelor's degree or even master degree. Furthermore, suggestions for future research, the author suggests conducting research on a larger sample to reduce research bias. Research in a wider area can also be carried out, where the research results can be used by related parties and even the local government.

ACKNOWLEDGEMENT

Author would like to tell the gratitude to Allah SWT because of His grace the author was able to complete this manuscript. Special thanks to teachers, colleagues, and the countless thanks of beloved family who always provide support so that the author could complete this manuscript well.

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