



# The Relationship Between Knowledge and the Utilization of the Maternal and Child Health (MCH) Book Among Pregnant Women at Tanjung Rejo Public Health Center, Deli Serdang Regency

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#### **ABSTRACT**

Maternal Mortality Rate (MMR) remains a significant global health problem requiring urgent attention. In 2022, Deli Serdang Regency recorded the highest AKI in North Sumatra Province at 16 per 42,363 live births. One effort to reduce this is the use of the Buku Kesehatan Ibu dan Anak (KIA) [Maternal and Child Health Book (KIA)]. This study analyzes the relationship between pregnant women's knowledge and their use of buku KIA [KIA books] at the Tanjung Rejo Health Center, Deli Serdang Regency. Using an analytical observational design with a cross-sectional approach, 100 pregnant women participated. Data were collected via questionnaires and analyzed with the Spearman statistical test. Usage of buku KIA [KIA books] was assessed through readability, comprehension, and application indicators, while knowledge was measured by mastery of buku KIA [KIA book] content. Results showed most pregnant women were of healthy reproductive age (55%), poorly educated (72%), unemployed (89%), and had high parity (56%). Poor utilization of buku KIA [KIA books] was reported in 73% of respondents, with 79% showing low knowledge levels. Statistical analysis revealed a significant relationship between knowledge level and buku KIA [KIA books] use (p = 0.001). Pregnant women's knowledge significantly affects the use of buku KIA [KIA books]. Strengthening educational efforts is crucial to optimizing buku KIA [KIA] usage and reducing maternal mortality.

**KEYWORDS** 

AKI, Utilization, KIA Books, Pregnant Women, Knowledge



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#### **INTRODUCTION**

Public health development is carried out by improving public health status. Several efforts to improve health status are characterized by lowering the Maternal Mortality Rate (MMR), Infant Mortality Rate (AKB), stunting prevalence, and malnutrition prevalence (Siboro and Handini, 2021). AKI is one of the indicators used to assess the degree of health and measure maternal health (Ainiyah et al., 2018; Dharmawan et al., 2021). Therefore, the government participates in efforts to reduce AKI through health programs that will be provided. With the right planning of strategies, policies, and clear goals, the efficiency and effectiveness of health development implementation will be improved (Izzatil Munna, Jannah, and Susilowati, 2020).

AKI remains a major problem worldwide because maternal mortality is still very high. Data from the World Health Organization (WHO) in 2020 states that maternal mortality is estimated at around 287,000 women, and the results also show that maternal mortality in 2020 was one-third lower than in 2000, which was estimated at around 446,000 maternal deaths (Yanagisawa et al., 2015). Globally in 2020, the CPI is estimated at 223/100,000 KH (World Health Organization, 2020). Nationally, AKI in Indonesia in 2020 was 189/100,000 KH or 4,672/4,740,342 KH, so these results must be encouraged and maintained to improve toward the target for 2024, which is 183/100,000 KH (North Sumatra Health Office, 2022). The results also noted that in 2020, West Java Province had the highest AKI of 85.77/100,000 KH or

745/880,250 *KH* (West Java Health Office, 2020). With these results, Indonesia is expected to achieve the Sustainable Development Goals (SDGs) target in 2030 by reducing the ratio of *AKI* to less than 70/100,000 *KH* (Indonesian Central Statistics Agency, 2020).

The main causes of maternal death in 2020 included 1,330 cases of reported bleeding, 1,110 cases of hypertension in pregnancy, 216 cases of infection, 230 cases of circulatory system disorders such as stroke, 144 cases of metabolic disorders such as diabetes mellitus, and 33 cases of heart failure, plus 5 cases of COVID-19, and 1,584 cases of other causes (Ministry of Health of the Republic of Indonesia, 2020). Generally, maternal mortality in North Sumatra Province has increased or decreased unpredictably. In 2019, North Sumatra reported 202 maternal deaths, comprising 87 maternal deaths, 62 postpartum deaths, and 53 maternal deaths (North Sumatra Health Office, 2019). In 2020, the number decreased to 187 maternal deaths, including 64 maternal deaths, 61 postpartum deaths, and 62 maternal deaths (North Sumatra Health Office, 2020). In 2021, there was an increase to 254 maternal deaths, with 95 maternal deaths, 92 postpartum deaths, and 67 maternal deaths, followed by a decrease in 2022 to 131 maternal deaths, including 74 postpartum maternal deaths, 32 maternal deaths, and 25 maternal deaths (North Sumatra Health Office, 2022).

The total maternal deaths across all districts in North Sumatra Province have been accumulated annually. In 2022, AKI was 50.60/100,000 KH or 131/258,884 KH; in 2021, 106.15/100,000 KH or 254/238,342 KH; in 2020, 62.50/100,000 KH or 187/299,198 KH; and in 2019, 66.76/100,000 KH or 202/302,555 KH (North Sumatra Health Office, 2022). Deli Serdang Regency recorded the highest maternal mortality in 2022, with 16 maternal deaths, followed by Labuhanbatu Regency with 10, and Medan City with 9 and 3 maternal deaths (North Sumatra Health Office, 2022). In 2019, Deli Serdang reported 14 maternal deaths, comprising 8 postpartum maternal deaths and 6 maternal deaths; in 2020, this decreased to 12 deaths, including 8 postpartum maternal deaths, 3 maternal deaths, and 1 maternal mortality. It increased again in 2021 to 23 deaths, with 14 postpartum maternal deaths, 5 maternal deaths, and 4 maternal deaths, and finally in 2022, maternal deaths totaled 16, with 14 postpartum mothers, 1 pregnant woman, and 1 maternal mother (Deli Serdang Health Office, 2022). Causes in 2022 include 6 cases of bleeding, 5 cases of hypertension disorders, and 5 cases of other causes (Deli Serdang Health Office, 2022). In 2021, causes included 3 cases of bleeding, 4 cases of hypertension disorders, 4 circulatory system disorder cases such as stroke or heart disease, and 12 other causes (Deli Serdang Health Office, 2021). In 2020, causes were 6 cases of bleeding, 1 infection, and 5 other causes, while 2019 involved 1 bleeding case, 4 hypertension disorders, 2 infections, and 7 other causes (Deli Serdang Health Office, 2020, 2019).

The number of maternal deaths in the region of 22 sub-districts in Deli Serdang Regency is accumulated annually. In 2022, AKI was 16/42,363 KH (Deli Serdang Health Office, 2022), in 2021, 23/41,886 KH; in 2020, 12/44,298 KH; and in 2019, 14/44,434 KH (Deli Serdang Health Office, 2019, 2020, 2022). WHO states that the causes of maternal death often stem from complications during pregnancy or childbirth that could be prevented or treated if detected early. Complications like postpartum bleeding and hypertension during pregnancy, which worsen without proper management, account for nearly 75% of maternal deaths (Dewie, 2021). Pregnant women need to be aware of warning signs during pregnancy to seek timely medical help, which can significantly reduce maternal mortality.

In response, the government issued the Minister of Health Regulation 284/MENKES/SK/III/2004 regarding the *KIA* (Maternal and Child Health) book. Using this book is a key effort to enhance the quality of maternal and child health services. The *KIA* book helps detect early health issues, facilitates communication and counseling, and serves as a standard record for maternal and child health services—including immunization, nutrition, growth, and developmental monitoring (Herfanda and Subiyatun, 2021). Proper utilization of the *KIA* book enables early recognition of danger signs and quick response, improving maternal health outcomes.

The *KIA* book offers many benefits. It provides easy access to health information for pregnant women, functioning as their personal health record that they can carry home, read, and understand independently—thus removing dependency on healthcare providers (Ahmad, Hendari, and Rahmad, 2022). It contains important information about maternal health during pregnancy, childbirth, postpartum, Family Planning (KB), and child care aspects—including newborn and toddler care, feeding, and managing illnesses (Ambarita et al., 2021). Its use ensures pregnant women can recognize risk signs, understand health guidance, and access healthcare facilities promptly. It also serves as a screening, counseling, and monitoring tool and facilitates early detection of health threats during pregnancy, labor, postpartum, and childhood (Dewie, 2021).

Based on the 2018 *Basic Health Research* (RISKESDAS), approximately 60% of mothers could show their *KIA* books during examinations, 10% could not, and 30% did not possess one at all. This indicates that *KIA* ownership remains below the 100% target (Izzatil Munna, Jannah, and Susilowati, 2020). Data from RISKESDAS between 2013 and 2018 shows a decline in *KIA* ownership among pregnant women from 80.8% to 75.2% (Hasanah and Susanti, 2023). The 2022 data from the Ministry of Health shows that the percentage of toddlers with *KIA* books in Indonesia is 69.6%, down from 81.8% in 2021. Provincial disparities are notable, with East Nusa Tenggara at 29.7% and South Sulawesi at 95.7%. The distribution of *KIA* books in Indonesia has yet to reach the 100% target (Ministry of Health of the Republic of Indonesia, 2022).

Puskesmas (Community Health Centers) are the primary health service units within districts or cities, with their main function as first-level providers. Their coverage spans one sub-district, supported by auxiliary units like Pustu, mobile Puskesmas, and village midwives. In 2023, Deli Serdang Regency had 24 hospitals, 34 health centers, auxiliary health centers, and 109 Posyandu, with a total of 1,478 units across the sub-districts (Deli Serdang Central Statistics Agency, 2023). The KIA book distribution in 2022 in all 34 health centers reached 100%, indicating successful coverage for pregnant women and toddlers. The total number of children with KIA books in Deli Serdang Regency reached 204,949 (North Sumatra Health Office, 2022).

Previous studies, such as Suparmi et al. (2018), showed a significant association between *MCH* book ownership and the utilization of maternal health services, including antenatal visits (K4), skilled birth attendance, and facility-based deliveries (OR = 2.31; 4.49; 2.71). This large-scale national dataset (Sirkesnas 2016) demonstrated the relevance of the *MCH* book in enhancing maternal service utilization. However, being cross-sectional limited causal interpretations, and the study only examined book ownership as a single determinant without exploring mediating factors like maternal literacy or healthcare system variables. Another

study by Amalia et al. (2022) found that pregnant women's knowledge and attitudes significantly influenced *KIA* use. Their research included psychosocial variables, providing behavioral insights, but was limited to a small, localized sample and did not link *KIA* use directly to maternal health outcomes such as maternal mortality (MMR).

This study aims to analyze the relationship between pregnant women's *knowledge* levels and *KIA* book utilization at the Tanjung Rejo Health Center, Deli Serdang Regency. It seeks to expand beyond prior fragmented research by mapping key determinants, identifying methodological gaps—such as the prevalence of cross-sectional and single-site studies—and developing an integrated model connecting *MCH* book use to maternal health outcomes and policy effectiveness.

#### **METHOD**

Before the research was conducted, the researcher carried out a validity test to ensure the accuracy of the research instrument. The measurement of maternal knowledge and the use of KIA books was carried out using primary data obtained through questionnaires. The questionnaire was filled out by pregnant women through direct interviews conducted by researchers at the Batang Kuis Health Center, Deli Serdang Regency. To ensure that each question item in the questionnaire is really able to measure the variable in question, a validity test was carried out using the Pearson Correlation method with a significance level of 0.05 (2-tailed). The test results showed that all question items had a significant correlation value (<0.05), so that the instrument was declared valid and suitable for use in this study. In addition, all variables in the statement are also declared reliable because they have met the required value, namely with Cronbach's Alpha > value of 0.6. This shows that the research instrument has good internal consistency and can be reliably used to measure the variables being studied.

This study uses an analytical observational design with a cross-sectional cross-sectional cross-sectional approach, namely data collection on independent and dependent variables is carried out at the same time. The research has obtained ethical approval from the Health Research Ethics Committee of the University of North Sumatra with approval number 828/KEPK/USU/2024. The study population was pregnant women in the third trimester who made antenatal care (ANC) visits at the Deli Serdang Regency Health Center from July to October 2024. The number of samples was determined using the Lemeshow formula because the number of populations was unknown, so 100 respondents were obtained. Sample selection was carried out by the non-probability consecutive sampling method based on inclusion and exclusion criteria. The inclusion criteria in this study were: (1) pregnant women in the third trimester who have KIA books, (2) pregnant women who attend ANC visits, and (3) pregnant women who are willing to be respondents. Meanwhile, the exclusion criteria include: (1) pregnant women who do not have a KIA book, (2) pregnant women who are not willing to participate, and (3) pregnant women in the first and second trimester of pregnancy.

The characteristics of pregnant women studied included age, education, occupation, and parity. Age is categorized into high-risk (<20 years and >35 years) and low-risk (20–35 years). The level of education is divided into high (high school/diploma/college) and low (not school/elementary/junior high). Employment status was grouped into employed and non-employed, while parity was classified into low (<3 children) and high ( $\ge3$  children). Mother's knowledge was assessed on an ordinal scale with a good grade of >75% and poor  $\le75\%$ . The

use of KIA books was also measured on an ordinal scale using the same criteria, namely good (>65%) and poor ( $\leq$ 65%). All collected data was analyzed using SPSS software version 27. The analysis was carried out univariate to describe the distribution of data and bivariate to test the relationship between variables using the Spearman test. The results of the study are statistically significant if p < 0.05.

#### RESULT AND DISCUSSION

#### **Respondent Profile**

In the profile of the respondents in this study, the characteristics are described based on age, last education, employment status, and parity among pregnant women, with a total of 100 respondents based on prospective data. The results obtained are as follows:

**Table 1. Respondent Profile** 

Category	Frequency	Percentage	
Age			
Low Risk (20 - 35 Years Old)	55	55.0	
High Risk (<20 Years Old/>35 Years Old)	45	45.0	
Total	100	100	
Final Education			
Lower Level (Not School/Elementary/Junior High School)	21	21.0	
Upper Level (High School/Diploma/Undergraduate)	79	79.0	
Total	100	100	
Employment Status			
Work	11	11.0	
Not Working	89	89.0	
Total	100	100	
Parity			
Low (<3 children)	44	44.0	
High (>3 children)	56	56.0	
Total	100	100	

source: processed data

Based on Table 1, the majority of respondents were in the healthy or low-risk reproductive age group (20–35 years), which was 55 people (55.0%), while respondents with high-risk age (<20 years or >35 years) amounted to 45 people (45.0%). This shows that most of the respondents are at a relatively safe age to have a pregnancy. When viewed from the last level of education, most of the respondents had higher education (high school/diploma/higher education), which was 79 people (79.0%), while respondents with low education (nonschool/elementary/junior high) only amounted to 21 people (21.0%). This condition shows that the majority of respondents have a good educational background so it should potentially be easier to understand health-related information, including the use of KIA books. Based on employment status, most of the respondents were unemployed, namely 89 people (89.0%), while only 11 people (11.0%) worked. This illustrates that the majority of respondents are more housewives with the possibility of having more time to attend ANC visits. Furthermore, from the aspect of parity, the majority of respondents had high parity (≥3 children), which was 56 people (56.0%), while respondents with low parity (<3 children) amounted to 44 people (44.0%). This indicates that most respondents have had the experience of pregnancy and childbirth more than three times. Overall, the profile of respondents in this study shows that the majority of pregnant women are of healthy reproductive age, highly educated, not working, and have high parity.

# **Instrument and Data Quality Test Validity Test**

What was done before showing that all the indicators of the statement were suitable as research instruments was to conduct a validity test with a sample of 30 respondents. By analyzing whether the data is valid or not by comparing the value of Pearson Product Moment Correlation to the r table. The significance level is 5% if r is calculated > r table then the statement is valid. Meanwhile, if r counts < r table, the statement is invalid. The following are the results of the validity test:

**Table 2. Validity Test Results** 

Table 2. Validity Test Results							
Variable	Indicator	r count	R table	Information			
Knowledge	KL1	0.806	0.361	Valid			
	KL2	0.515	0.361	Valid			
	KL3	0.516	0.361	Valid			
	KL4	0.556	0.361	Valid			
	KL5	0.515	0.361	Valid			
	KL6	0.537	0.361	Valid			
	KL7	0.550	0.361	Valid			
	KL8	0.603	0.361	Valid			
	KL9	0.556	0.361	Valid			
	KL10 AM	0.518	0.361	Valid			
The Utilization of	KP1	0.559	0.361	Valid			
the MCH Book	KP2	0.559	0.361	Valid			
	KP3	0.760	0.361	Valid			
	KP4	0.691	0.361	Valid			
	KP5	0.707	0.361	Valid			
	KP6	0.602	0.361	Valid			
	KP7	0.602	0.361	Valid			
	KP8	0.602	0.361	Valid			
	KP9	0.835	0.361	Valid			
	KP10	0.559	0.361	Valid			
	KP11	0.526	0.361	Valid			

source: processed data

Based on the results of the validity test with a total of 30 respondents in table 2, it can be seen that all variable statements submitted to respondents are valid because seen from the r value of the r calculation of the table (0.361) so that it can be concluded that all statements in the questionnaire can be said to be feasible as an instrument to measure research data.

#### Reliability Test

What was done after showing that all statement variables were suitable as research instruments was to conduct a reliability test with a sample of 30 respondents. The statement can be said to be reliable if Cronbach's Alpha value > 0.6. The following are the results of the reliability test:

**Table 3. Reliability Test Results** 

Variable	Cronbach's Alpha	N	Information
Knowledge	0,855	10	Reliable
The Utilization of the MCH Book	0,849	11	Reliable

source: processed data

Based on table 3 of the reliability test results of 30 respondents, it can be seen that all variables in the statement are declared reliable because they have met the required value, namely with a Cronbach Alpha value of > 0.6.

#### Pregnant Women's Knowledge of KIA Books

Maternal knowledge about the MCH Book is likely to have an impact on how well pregnant women utilize the information contained in it. Here are the results that have been obtained.

Table 4. Distribution of Knowledge for Pregnant Women at the Tanjung Rejo Deli Serdang Health

	Center		
	Characteristics	Frequ	ency (n) Percentage (%)
Knowledge	Good	21	59.3
	Bad	79	28.0
	Total	100	100

source: processed data

Based on Table 4 presents information about the frequency distribution and percentage of knowledge level of pregnant women who are respondents in this study. Pregnant women's knowledge is categorized into two groups based on their level of understanding, namely the group with poor knowledge and the group with good knowledge. The poor knowledge group includes pregnant women who have a knowledge level below 75%, while the good knowledge group includes pregnant women who have a knowledge level above or equal to 75%.

Based on the data obtained, the majority of pregnant women who were respondents in this study were classified as poor knowledge, with a total of 79 people or 79% of the total respondents. This suggests that most of the pregnant women in this study have limited knowledge about various aspects of pregnancy-related health, which could potentially influence their decisions and actions in caring for pregnancy and fetal health. Meanwhile, only 21 pregnant women or 21% had good knowledge, with a knowledge level that exceeded 75%, reflecting a better understanding of the importance of pregnancy care and maternal and fetal health.

#### **Utilization of KIA Books by Pregnant Women**

The utilization of the MCH Book is likely to have an impact on how pregnant women monitor and care for their pregnancy. Therefore, at this stage, the level of utilization of the MCH Book will be assessed, including aspects such as reading, understanding, bringing the book during ANC visits, and applying the information in daily life. Here are the results that have been obtained.

Table 5. Distribution of KIA Book Utilization at Tanjung Rejo Deli Serdang Health Center

	Characteristics	Frequency (	n) Percentage (%)
Knowledge	Good	27	27.3
	Not Good	73	73.0
	Total	100	100

source: processed data

Based on Table 5. presented data on the distribution of frequency and percentage of KIA book utilization by pregnant women who were respondents in this study. The use of KIA books is grouped into two categories based on the level of utilization, namely the categories of poor and good. The poor category includes pregnant women who use KIA books with a percentage of less than 65%, while the good category includes pregnant women who use KIA books with a percentage of more than or equal to 65%. Based on the results of the study, the majority of pregnant women involved were in the category of poor use of KIA books, with a total of 73 people, who contributed 73% of the total respondents. This shows that most pregnant women still do not make optimal use of the KIA book, even though it has great potential to improve pregnant women's understanding of their health and the fetus they are carrying. On the other hand, only 27 people or 27% of the total respondents made good use of KIA books, namely with more than 65% utilization

## To analyze the relationship between pregnant women's knowledge and the utilization of the MCH Book using a bivariate test

Bivariate tests aim to determine the relationship between pregnant women's knowledge and the utilization of the MCH Book. The variables analyzed included maternal age, education level, employment status, and parity. The method used in this study was the Spearman correlation test, where if the significance value obtained was < 0.05, it could be concluded that there was a significant relationship between the variables. The following are the results of the bivariate test that have been carried out:

**Table 6. Bivariate Test** 

Knowledge	MCH Book Utilization: Good (n)	Good (%)	Poor (n)	Poor (%)	Total (n)	Total (%)	P Value
Good	20	20%	1	1%	21	21%	0.001
Poor	7	7%	72	72%	79	79%	
Total	27	27%	73	73%	100	100%	

source: processed data

Based on table 6. showed the relationship between the level of knowledge of pregnant women and the use of KIA books at the Tanjung Rejo Deli Serdang Health Center. Of the 21 respondents who had good knowledge, the majority of pregnant women, namely 1 person (1%), showed poor use of KIA books, while the majority, namely 21 people (21%), used KIA books well. On the other hand, of the 79 respondents who had poor knowledge, the majority, as many as 72 people (72%), also showed poor use of KIA books, while only 7 people (7%) made good use of KIA books.

The results of statistical analysis showed a value of p = 0.001 (p < 0.05), which means that it can be concluded that there is a significant relationship between the level of knowledge of pregnant women and the use of KIA books at the Tanjung Rejo Deli Serdang Health Center. These findings suggest that well-informed pregnant women tend to be better at using KIA books, although there is a small percentage of them who still use the book less optimally. On the other hand, pregnant women with poor knowledge also lack awareness of the importance of using KIA books.

#### **Discussion**

Based on the results of the calculations in tables 5 and 6, it shows that out of a total of 100 respondents studied, most pregnant women have a poor level of knowledge about pregnancy health, which is as many as 79 people (79%), while only 21 people (21%) have good knowledge. Meanwhile, Table 5.5 reveals that the majority of pregnant women are also in the category of poor use of KIA books, namely 73 people (73%), and only 27 people (27%) use KIA books well. From this data, it can be concluded that many pregnant women at the Tanjung Rejo Deli Serdang Health Center have limited knowledge about their health and do not make optimal use of KIA books.

This study uses questionnaires to score on two main variables, namely the knowledge of pregnant women and the use of KIA books. The questionnaire consisted of 20 questions, of which 11 questions were used to assess the use of the KIA book, and the other 10 questions were used to measure the level of knowledge of pregnant women. The knowledge of pregnant women is categorized into two groups, namely good and poor, while the use of KIA books is also divided into two categories, namely good and poor.

This finding is in line with previous research conducted on 80 respondents in the Sipayung Health Center Working Area, which also produced a p value of 0.000, further strengthening the evidence of a very significant relationship between pregnant women's knowledge and the use of KIA books. This shows that the increase in pregnant women's knowledge about health and the importance of KIA books has a great effect on increasing the use of books in order to monitor maternal and child health. (Halida, Anggreni and Wulandhari, 2022)

A correlation of 0.792 was obtained between the level of knowledge of pregnant women and the use of KIA books, which shows that the relationship between the two variables is relatively strong and unidirectional, or in other words, the higher the level of knowledge of pregnant women, the better the use of KIA books is carried out. This strong correlation indicates that pregnant women's knowledge plays a very significant role in influencing how optimally they utilize the KIA book in monitoring maternal and child health development during pregnancy, childbirth, and postpartum. The accuracy of this correlation value was further confirmed through the results of cross-tabulation which showed that of the 22 respondents who had good knowledge, all (100%) made good use of the KIA book, without any of the respondents recording poor utilization. This shows that there are no pregnant women with good knowledge who do not take advantage of KIA books.

Research conducted by Halida, Anggreni and Wulandhari (2022) revealed that pregnant women with good knowledge tend to make optimal use of KIA books. These pregnant women not only always carry a KIA book every time they check their pregnancy, but also carefully follow the advice and recommendations given by health workers. On the other hand, pregnant women who do not make good use of KIA books are generally due to their lack of understanding of the content and functions of the KIA book, which ultimately makes them less likely to use it. A similar study conducted by Cahyawati (2020) showed that pregnant women who had low knowledge about the use of KIA books tended to rarely read the book. After checking her pregnancy, they usually just keep the KIA book without reading it again, which causes them not to get the maximum benefit from the information contained in the book. The same thing was also expressed by Ruslinawati, Sukarlan and Hanan (2016), who stated that the

higher the level of knowledge of pregnant women about the importance of KIA books, the higher the behavior of pregnant women in using the book. By using the KIA book regularly, including reading and understanding its contents, pregnant women can obtain very valuable information about their health records and development as well as the health of the baby, as well as various care steps that need to be taken during pregnancy, childbirth, postpartum and in infancy and toddlerhood.

#### **CONCLUSION**

Research at Tanjung Rejo Public Health Center, Deli Serdang Regency, revealed that most pregnant women were of reproductive age, educated, unemployed, and had high parity. However, 79% had poor knowledge of the Maternal and Child Health (MCH) Book, and 73% poorly utilized it. A significant positive correlation (p = 0.001) was found between maternal knowledge and MCH Book use, indicating that better knowledge leads to more optimal utilization. This underscores the crucial role of maternal knowledge in effective MCH Book use. To enhance utilization, continuous health education, counseling, and support from healthcare workers are vital, alongside routine monitoring and active encouragement to ensure pregnant women effectively use the book for maternal and child health. Future research should explore the impact of tailored educational interventions on improving both knowledge and utilization of the MCH Book and investigate how its use influences maternal and child health outcomes across diverse populations.

#### REFERENCES

- Ahmad, D., Hendari, R. dan Rahmad, I. (2022) 'Hubungan Pemanfaatan Buku KIA Pada Ibu Hamil Dengan Pengetahuan Ibu Tentang Perawatan Kehamilan Di Wilayah Kerja Puskesmas Penanae Kota Bima Tahun 2021', Empiricism Journal, 3(2), pp. 202–206.
- Ainiyah, N., Hakimi, M., & Anjarwati, A. (2018). The use of Maternal and Child Health (MCH) handbook improves healthy behavior of pregnant women.
- Amalia, R. dan Windarti, Y. (2022) 'Optimalisasi Pengisian Buku KIA Dalam Penerapan Formula 6 Kunjungan Nifas', pp. 1–5.
- Ambarita, E. et al. (2021) 'Faktor-Faktor Yang Memengaruhi Pemanfaatan Buku Kesehatan Ibu dan Anak (KIA) Oleh Ibu Hamil Yang Mempunyai Balita Di Puskesmas Saitnihuta Kabupaten Humbang Hasundutan Tahun 2021'.
- Ayu Purnama Dewi, K. et al. (2023) 'Faktor-Faktor Yang Mempengaruhi Pemanfaatan dan Kelengkapan Pengisian Buku KIA Pada Ibu Hamil'.
- Azzahra, L. dan Irawan, D. (2023) 'Pentingnya Mengenalkan Alqur'an Sejak Dini Melalui Pendidikan Agama Islam', pp. 13–20.
- Badan Pusat Statistik Deli Serdang (2023) 'Kabupaten Deli Serdang Dalam Angka "Deli Serdang Regency In Figures" 2024'.
- Badan Pusat Statistik Indonesia (2020) 'Hasil Long Form Sensus Penduduk 2020 Indonesia', (09), pp. 5, 23.
- Cahyawati, F.E. (2020) 'Gambaran Tingkat Pengetahuan Ibu Hamil Tentang Pemanfaatan Buku Kesehatan Ibu dan Anak', Media Ilmu Kesehatan, 9(1), p. 40.
- Darma Isasih, W. dan Inayati, R. (2023) Karakteristk Ibu Hamil Dalam Pemanfaatan Buku Kia Sebagai Media KIE, Jurnal IMJ: Indonesia Midwifery Journal.

- Darsini, Fahrurrozi dan Agus Cahyono, E. (2019) Pengetahuan; Artikel Review, Jurnal Keperawatan.
- Darungan, A.I., Kadir, A. dan Haq, N. (2020) 'Strategi Pemerintah Dalam Mengurangi Angka Kematian Ibu (AKI) Melahirkan di Kabupaten Enrekang', 2(2).
- Dewie, A. (2021) 'Pengetahuan dan Sikap Tentang Tanda Bahaya Kehamilan Berhubungan Dengan Pemanfaatan Buku KIA', pp. 138–146.
- Dharmawan, Y., Mawarni, A., Handayani, N., & Pradana, A. (2021). *Knowledge & Attitudes towards Family Use of Maternal Child Health Handbook*.
- Halida, N., Anggreni, E. dan Wulandhari, Y. (2022) Hubungan Pengetahuan Ibu Hamil Tentang Buku KIA Dengan Pemanfaatan Buku KIA di Wilayah Kerja Puskesmas Sipayung Tahun 2022.
- Hasanah, M. dan Susanti, D. (2023) 'Faktor-Faktor Yang Berhubungan Dengan Pemanfaatan Buku Kesehatan Ibu Dan Anak (KIA) Oleh Ibu Hamil', pp. 465–472.
- Herfanda, E. dan Subiyatun, S. (2021) 'Gambaran Pemanfaatan Buku Kesehatan Ibu dan Anak (KIA) Oleh Ibu Hamil', 13(2), pp. 123–139.
- Izzatil Munna, A., Jannah, M. dan Susilowati, E. (2020) 'Hubungan Tingkat Pengetahuan Dengan Perilaku Ibu Hamil Trimester III Dalam Pemanfaatan Buku Kesehatan Ibu dan Anak (KIA) di Puskesmas Tlogosari Kulon Kota Semarang', 16(2), pp. 74–82.
- Ruslinawati, Sukarlan dan Hanan (2016) 'Perbedaan Status Pekerjaan Ibu Hamil Dengan Frekuensi Kunjungan Antenatal Care (ANC) di Wilayah Kerja Puskesmas Pekauman Kota Barjarmasin Tahun 2016'.
- World Health Organization (2020) 'Trends In Maternal Mortality 2000 to 2020'.
- Yanagisawa, S., Soyano, A., Igarashi, H., Ura, M., & Nakamura, Y. (2015). Effect of a maternal and child health handbook on maternal knowledge and behaviour: a community-based controlled trial in rural Cambodia. *Health Policy and Planning*.