

THE EFFECT OF EDUCATION USING KIA BOOKS ON PREGNANT WOMEN KNOWLEDGE

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ABSTRACT

Background: The trend of maternal mortality in recent years has fluctuated. One way to prevent maternal mortality is to increase the use of KIA books. However, the current KIA books are not being used optimally, so many mothers do not have knowledge about KIA books.

Purpose: To determine the effect of education on the use of KIA books on the knowledge of pregnant women at the Daleman Community Health Center in Sampang Regency.

Methods: This study used a descriptive-quantitative method, with sampling using total sampling. The population of this study consisted of 17 people with a sample of 23 respondents, using a questionnaire instrument with a Wilcoxon test.

Results: The Wilcoxon test showed that the pre-test and post-test values obtained a result of 0.000 with a significance of $p (<0.05)$, which means that the education provided significantly increased the knowledge of pregnant women at the Daleman Community Health Center, Sampang Regency.

Conclusion: The results of the study indicate that education on the use of the KIA book influences the improvement of knowledge among pregnant women at the Daleman Community Health Center in Sampang District. Therefore, it is recommended that education on the Mother and Child Health Handbook be conducted regularly and continuously by health workers, and developed using attractive and easy-to-understand media in order to increase awareness and optimal use of the KIA book among pregnant women.

Keywords: Education, KIA Book, Pregnant Women

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BACKGROUND

The health status of pregnant women is an important indicator in determining the quality of medical services in a region. The Maternal and Child Health Handbook serves as a very important communication, information, and education tool for pregnant women, families, and health workers. KIA Handbook is designed to provide comprehensive guidance on maternal health care, childbirth, and child growth and development, thereby supporting efforts to improve the quality of life of families. Globally, maternal mortality rates remain a serious public health issue.

According to the WHO, maternal mortality rates reach 500,000 lives each year worldwide. The ASEAN region, including Indonesia, has a relatively high MMR. Pregnant women's lack of knowledge about the use of the Maternal Health Record Book can hinder routine Ante Natal Care (ANC) recording, early detection of risks, and prevention of pregnancy complications. Low use of the Maternal Health Record Book by mothers independently can have an impact on important decision-making during pregnancy.

The trend shows that the maternal mortality rate in Indonesia is declining, but it is still high compared to other ASEAN countries. Locally, the Sampang District Health Office report recorded an increase in the maternal mortality rate from 12 cases in 2022 to 22 cases in 2023. Based on the 2023 Sampang District MPDN, the MMR in the Kedungdung Community Health Center area reached a total of 3 people, divided into the Kedungdung District with 1 maternal death during the postpartum period, the Kedungdung District Bato Poro Village with 1 maternal death during the postpartum period, and 1 maternal death during childbirth in Daleman Village, Kedungdung District(Agus Mulyadi, 2024a). Meanwhile, in 2024, the MMR in the Kedungdung subdistrict was 1 maternal death during childbirth in Daleman Village (Agus Mulyadi, 2024b).

However, in the Daleman Polindes area of Sampang District, the rate of KIA book use by pregnant women is still low. This increase indicates that health promotion and early detection efforts are not yet optimal. A gap was found at the primary service level, where preliminary studies in the Daleman Polindes area showed that of the 10 pregnant women interviewed, most had never read the KIA book because they thought it was only filled out by health workers. Relevant research (Dedy, 2016). shows that the optimal implementation of the KIA Book for pregnant women has only reached 46%, with the main reason being a lack of knowledge and education about its contents.

The results of observations by Sugiati and Kurniadi (2020) in (Wijayanti et al., 2020). concluded that education for pregnant women about the KIA book was only 23.3%. The awareness of the implementation of the MCH book, which is directly supported by the central government, is one of the programs to support maternal and child health, ensuring that health workers are adequately equipped to provide maternal and child health services in accordance with applicable SOPs and perform their duties properly and correctly. It is one of the efforts in providing personal service to mothers, in an effort to maintain health during pregnancy, childbirth, postpartum, immunization, and toddler growth and development, so that it can help facilitate mothers and families, including health workers in monitoring the health history of mothers and children (Suhartini & Rosmiyati, 2021). In order to strengthen the health system in the use of KIA books, the Ministry of Health has issued a policy involving health education institutions as a form of community empowerment in health efforts.

Based on the above background, it is important to conduct research entitled "The Effect of Education on the Use of KIA Books on the Knowledge of Pregnant Women at the Daleman Polindes in Pamekasan Regency." This is based on the fact that pregnant women in the Daleman Polindes area have insufficient knowledge about the use of KIA books, which is one of the factors supporting MMR.

OBJECTIVE

The purpose of this study was to determine the effect of education on the use of KIA books on the knowledge of pregnant women at the Daleman Community Health Center in Sampang Regency, as inadequate understanding and low utilization of the KIA book have been identified as contributing factors to delayed risk detection and the persistently high maternal mortality rates in the region. Therefore, assessing the impact of educational interventions is essential to support efforts in improving maternal health outcomes.

METHODS

Study Design

This study employed a pre-experimental design with a one-group pretest–posttest approach.

Study Subject

Respondents were given a pretest to measure their initial condition before the intervention. The intervention consisted of education on the use of the MCH (KIA) Handbook, followed by a posttest. The study was conducted on February 1, 2025, and the posttest was administered on March 1, 2025, at the Daleman Community Health Center within the working area of the Kedundung Health Center, Sampang Regency. The study population consisted of 17 second and third-trimester pregnant women who underwent antenatal check-ups at the Daleman Community Health Center. A total sampling technique was used, resulting in a sample size of 20 pregnant women.

Instruments

This study used a questionnaire (Sugiyono, 2020). The Researcher used a questionnaire assessment on the use of the KIA Book is designed to measure the extent to which participants understand the meaning, purpose, and contents of the MCH handbook; understand its benefits and how to use it; and are able to apply the information contained therein to support decision-making regarding maternal health. The final score achieved will be categorized ordinally: a Good result indicates mastery between 76% and 100%, a Fair result is in the range of 56% to 75%, and a Poor result is given to participants with an achievement below 56%.

Data Analysis

Data processing was performed using Microsoft Office 2021 and IBM SPSS Version 25 software. The data processing process consisted of editing, coding, and tabulating.

RESULTS

General Data

Table 1. Distribution of respondents based on the age of pregnant women.

Age	Frequency	Percentage
<20 th	4	24%
20-35 th	10	59%
>35 th	3	18%
Total	17	100%

Table 1 shows that most of the respondents studied were aged 20-35 years old, totaling 10 people (59%), while a small number of respondents were aged >35 years old, totaling 3 people (18%).

Table 2. Distribution of respondents based on the education level of pregnant women.

Education	Frequency	Percentage
Elementary School	1	6%
Junior High School	3	18%
High School	12	71%
Higher Education Institution	1	6%
Not in School	0	0%
Total	17	100%

Table 2 shows that most respondents had a high school education, totaling 12 people (71%), and none of the respondents had no schooling, totaling 0 people (0%).

Table 3. Distribution of respondents based on the occupation of pregnant women.

Work	Frequency	Percentage
Working	5	29%
Not Working	12	71%
Total	17	100%

Table 3 shows that most respondents were unemployed (12 people, or 71%), while nearly half of the respondents were employed (5 people, or 29%).

Table 4. Distribution of respondents based on MCH book education

Provision of MCH book education	Frequency	Percentage
Education has been provided	6	35%
Not yet provided with education	11	65%
Total	17	10%

Table 4 shows that most respondents had not received MCH book education, totaling 11 people (65%), while nearly half of the respondents had received MCH book education, totaling 6 people (35%).

Special Data

Table 5. Respondent-specific data prior to education on the use of KIA books in improving the knowledge of pregnant women

Level of Knowledge	Frequency	Percentage
Pretest		
Good	1	5,88%
Enough	4	23,53%
Less	12	70,59%
Total	17	100%

Table 5 shows that prior to education about the use of MCH books, most pregnant women at the Daleman Sampang Polindes were in the poor category, with 12 women (70.59%), while a small number of pregnant women were in the good category, with 1 woman (6%).

Table 6. Specific data on respondents after education on the use of KIA books in increasing the knowledge of pregnant women

Level of Knowledge	Frequency	Percentage
Posttest		
Good	17	100%
Enough	0	0%
Less	0	0%
Total	17	100%

Table 6 shows that the level of knowledge after education about the use of MCH books among pregnant women at the Sampang Daleman Polindes was good for all 17 pregnant women, with a percentage of 100%.

Table 7. Specific data on respondents before and after education on the use of KIA books in improving the knowledge of pregnant women

Variable		Mean	Sum	Wilcoxon	P-Value
l	N	Rank	Of Rank	Statistik	
Pre test	17	0,00	0,00	-3.644	0,000
Post test	17	9,00	153,00		

Based on Table 7, specific data on respondents before and after education on the use of the MCH book in the Wilcoxon signed-rank test conducted on 17 pregnant respondents showed a significant difference between the pre-test and post-test scores. The mean (average rank) score for the pre-test was 0.00, while the post-test score increased to 9.00. These data show that there was an increase in scores after the education was conducted. The sum of ranks for the pre-test was 0.00, while for the post-test it was 153.00, which means that all rank differences were concentrated in the post-test group. The Wilcoxon (Z) statistical value obtained was -3.644, which means that the Z value did not show a decrease but rather showed a significant difference in the direction of an increase. The final P-value was 0.000, which means that this difference is statistically significant ($p < 0.05$).

Table 8. Results of the Wilcoxon Signed Rank Test for pre-test and post-test education on the use of KIA books for pregnant women.

Test Statistics^a

Post test - Pre test	
Z	-3.644
Asymp. Sig. (2-tailed)	.000

Table 8 shows that before education on the use of the MCH book was provided to pregnant women at the Sampang Polindes, the mean pretest rank was 0.00, while after education was provided, the mean posttest rank was 9.00. The Wilcoxon signed test for the difference between the pretest and posttest knowledge levels of respondents before and after receiving education on the use of the KIA book yielded a significant value of 0.000 ($p < 0.05$).

DISCUSSION

The results of this study indicate that education on the use of the KIA book significantly improves the knowledge level of pregnant women at the Daleman Community Health Center in Sampang District. Data prior to the intervention (pre-test) showed that the majority of respondents had a low level of knowledge, which is consistent with the findings of (Sari, 2017), who also found a high percentage of pregnant women with low knowledge regarding the contents of the KIA book.

This low level of prior knowledge can be attributed to several factors, one of which is employment status and optimization of education (Al farisi & et al, 2021). This study found

that pregnant women who are not employed tend to have greater opportunities to access information (Fajriani R & Sulastri A, 2022). However, the more dominant factor is the suboptimal provision of education about the KIA book. Most respondents admitted that they had not received education, which is in line with the research by (Putri & Sari, 2023) . which emphasized the importance of systematic education in increasing the knowledge of pregnant women. This shows that the routine health information delivery system in these facilities still has gaps, so that the knowledge of pregnant women, which is the basis of good health behavior, is in the poor category.

After the education (post-test), all respondents demonstrated a good level of knowledge. This improvement was supported by the results of the Wilcoxon Signed Rank Test, which showed a significant effect of the educational intervention. These findings reinforce previous literature (Aminatus zahro. F & Arifah . N, 2023), which confirms that providing structured information through the KIA Book can strengthen the capacity and awareness of pregnant women. In addition, the high school education level of the majority of respondents was also a supporting factor for this success, in line with (Rahayu, 2020) and (Ellyda, 2021), who stated that the higher a person's education, the easier it is for them to absorb educational material.

The results of this study are consistent with the findings of the majority of the literature (Nurlaela & Damayanti, 2024) , which states that KIA book - based education is an effective intervention for improving the knowledge of pregnant women. There is a caveat or new insight that emerges from this study, namely the respondents' dependence on health workers when filling out the post-education questionnaire. Although quantitatively the knowledge scores increased dramatically, the assistance of midwives in filling out the questionnaire sheet shows that this increase does not fully reflect independent understanding and internalization of the material. This suggests that a one-time education may not be sufficient to achieve success in terms of independent application or self-efficacy. Measurable knowledge improvement does not necessarily correlate perfectly with sustainable independent behavioral change, which is in line with the findings of (Guantara E & Rahmania S, 2024) that good knowledge is not always followed by good utilization behavior.

The new knowledge that emerged from this study is that although a one-time educational intervention can significantly improve the knowledge scores of pregnant women (as seen from the post-test improvement), it does not necessarily guarantee that mothers will be able to understand and apply the KIA book independently without the help of health workers.

The KIA book education program needs to be developed from a one-time counseling model into continuous coaching that is integrated into every Antenatal Care (ANC) visit. Health workers must ensure that pregnant women fully understand and are able to fill out the KIA book independently, as well as identify danger signs without assistance. For working mothers in particular, an adaptive approach is needed, such as digital media or concise and flexible education sessions.

Thus, the results of this study provide additional insight that efforts to improve the knowledge of pregnant women must go beyond test scores, focusing on transforming knowledge into independent skills for the safety of mothers and babies.

This study has several limitations that need to be considered when interpreting the results and generalizations; the study was conducted in one location (Polindes Daleman, Sampang District). The sample representation was limited to pregnant women in that area, so the generality (external validity) of the results to pregnant women in different geographical or demographic areas may be limited. Despite the increase in scores, the finding that respondents received assistance from health workers when completing the post-test questionnaire may limit the internal validity of the scores produced. This suggests that the post-test scores may be too high (positive bias) and do not fully reflect the respondents' actual and independent level of understanding. This study only measured knowledge immediately after the intervention. The time constraints of the study did not allow for measuring knowledge retention and long-term behavioral changes in pregnant women regarding the use of the KIA book after several weeks or months.

CONCLUSION

This quantitative study confirms that structured educational interventions using KIA book have a very significant effect on improving the knowledge scores of pregnant women at the Daleman Community Health Center in Sampang District. The data show that there was a transformation in the level of knowledge from the majority of respondents in the low category (pre-test) to the good category (post-test), which is supported by significant statistical test results. Theoretically, these findings support the literature that states the effectiveness of KIA book -based education. However, the finding that respondents depended on health workers when filling out the post-intervention questionnaire indicates that the increase in knowledge scores is not fully correlated with the achievement of independence of pregnant women in understanding and applying the KIA book without assistance. Therefore, the substantive conclusion of the study is that although one-time education is effective for increasing knowledge scores, it does not necessarily guarantee the internalization of material for sustainable independent behavioral change.

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CONFLICT OF INTEREST

There are no conflicts of interest in this research

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