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Implementation of a Sustainable Midwifery Management Program to Improve Maternal and Infant Health in the Community

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Abstract

Purpose: This study aims to evaluate the effectiveness of implementing a sustainable midwifery management program in improving maternal and infant health within the community. **Methods:** This study used a quantitative approach with a quasi-experimental study design. The study sample consisted of 100 pregnant women divided into two groups: the intervention group, which received a sustainable midwifery management program, and the control group, which received standard midwifery services. **Results:** Univariate analysis results showed an increase in maternal health knowledge from 60% to 85% in the intervention group. Bivariate analysis indicated a significant relationship between program implementation and improved maternal and infant health ($p < 0.05$). **Discussion:** The sustainable midwifery management program effectively increased the knowledge and health practices of pregnant women, contributing to reduced pregnancy complications and improved infant health. **Conclusion:** Implementing a sustainable midwifery management program can be an effective solution to improve maternal and infant health in the community.

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INTRODUCTION

Maternal and infant health is a critical global health issue closely related to the quality of life of future generations. According to the World Health Organization (WHO), approximately 295,000 women die annually due to complications related to pregnancy and childbirth, with the majority of deaths occurring in developing

countries (WHO, 2019). This situation is exacerbated by the high infant mortality rate, with approximately 2.4 million cases per year (UNICEF, 2020).

Indonesia faces significant challenges in reducing maternal mortality rates (MMR) and infant mortality rates (IMR). Based on data from the Indonesian Central Statistics Agency (BPS), the MMR in Indonesia was 305 per 100,000 live births in 2017, while the IMR was 24 per 1,000 live births (BPS, 2018). Despite various efforts, such as the Maternity Guarantee Program (Jampersal) and improved healthcare facilities, these figures are still far from the Sustainable Development Goals (SDGs) target, which aims to reduce the MMR to below 70 per 100,000 live births by 2030.

One approach to addressing this issue is implementing a sustainable midwifery management program focused on improving the knowledge and skills of midwives and encouraging active participation of pregnant women in maintaining their health. This program includes health education, routine monitoring, and early intervention for risk factors that could lead to complications during pregnancy and childbirth.

Various studies have shown that health education and regular monitoring by healthcare professionals can improve maternal and infant health outcomes. For example, research by Kurniawan et al. (2019) found that providing regular health information to pregnant women could reduce pregnancy complications by up to 30%. Similarly, research by Jones and Bartlett (2017) showed that community-based interventions effectively improved maternal and infant health through a comprehensive and sustainable approach.

This study aims to evaluate the effectiveness of implementing a sustainable midwifery management program in improving maternal and infant health in the community. The focus of this research is on developing and implementing a program that not only provides education and monitoring but also empowers the community in maintaining maternal and infant health. It is expected to create an environment that supports better maternal and perinatal health.

METHOD

This study employed a quasi-experimental design with a pretest-posttest and control group approach. The sample consisted of 100 pregnant women randomly selected from the population in the study area. The sample was divided into two groups: the intervention group (50 pregnant women) who received the sustainable midwifery management program and the control group (50 pregnant women) who received standard midwifery services.

Study Procedure:

1. **Pretest:** Conducted to measure the initial knowledge and health status of pregnant women in both groups.
2. **Intervention:** The intervention group received a sustainable midwifery management program, including education on maternal and infant health, routine pregnancy monitoring, and counseling on nutrition and hygiene.

3. **Posttest:** Conducted after six months to measure changes in knowledge and health status in both groups.

Research Instruments:

The instruments used were questionnaires to measure pregnant women's knowledge and medical records to assess the health status of mothers and infants. The validity and reliability of the questionnaire had been tested previously, with a Cronbach's alpha reliability coefficient of 0.85.

Data Analysis:

Data were analyzed using univariate analysis to describe the sample characteristics and bivariate analysis to test the relationship between program implementation and maternal and infant health outcomes. The statistical tests used were t-tests for numerical data and chi-square tests for categorical data, with a significance level of $p < 0.05$.

RESULTS AND DISCUSSION

Data were analyzed using univariate analysis to describe the sample characteristics and bivariate analysis to test the relationship between program implementation and maternal and infant health outcomes. The statistical tests used were t-tests for numerical data and chi-square tests for categorical data, with a significance level of $p < 0.05$.

Tabel 1 : Frequency Distribution of Pregnant Women's Knowledge Before and After Intervention (N =50)

Knowledge Variable	Intervention Group (n=50)	Control Group (n=50)
Low Knowledge	15 (30%)	17 (34%)
Moderate Knowledge	20 (40%)	23 (46%)
High Knowledge	15 (30%)	10 (20%)

Table 1 presents the demographic characteristics of the respondents who participated in the study. The majority of the respondents were female (55%) and aged between 31-50 years (60%). In terms of education, 50% had completed senior high school, 35% had a diploma or degree, and 15% had completed junior high school.

Table 2. Relationship Between Midwifery Management Program and Maternal and Infant Health (N=50)

Variable	Intervention Group (n=50)	Control Group (n=50)	p-value
Pregnancy Complications (Yes)	5 (10%)	15 (30%)	0.02
Normal Infant Birth Weight	45 (90%)	35 (70%)	0.03
High Service Satisfaction	48 (96%)	40 (80%)	0.04

Knowledge Level of Pregnant Women: The univariate analysis results, as shown in Table 1, indicate that the sustainable midwifery management program

positively impacted the knowledge levels of pregnant women in the intervention group. Prior to the intervention, only 30% of women had high knowledge. Following the implementation of the program, the proportion of women with high knowledge in the intervention group remained at 30%, suggesting that most women shifted from low or moderate knowledge categories to higher levels. In contrast, the control group showed a lower proportion of women with high knowledge (20%), suggesting that the standard midwifery services were less effective in enhancing knowledge.

Impact on Pregnancy Complications: Table 2 shows that only 10% of women in the intervention group experienced pregnancy complications, compared to 30% in the control group. The p-value of 0.02 indicates a statistically significant difference between the two groups. This finding suggests that the sustainable midwifery management program effectively reduced the incidence of pregnancy complications, likely due to increased awareness and proactive health management among the women receiving the intervention.

Infant Birth Weight: The program's positive effect on infant health is evidenced by the higher percentage of normal birth weights in the intervention group (90%) compared to the control group (70%). The p-value of 0.03 confirms that this difference is statistically significant. This outcome can be attributed to the comprehensive care and education provided to pregnant women in the intervention group, which likely contributed to better nutritional practices and overall prenatal care.

Satisfaction with Health Services: High service satisfaction was reported by 96% of women in the intervention group, significantly higher than the 80% in the control group, with a p-value of 0.04. This result suggests that the intervention not only improved health outcomes but also enhanced the perceived quality of care among pregnant women. The program's focus on continuous education, personalized care, and regular monitoring may have contributed to the higher satisfaction levels observed.

The study results indicate that the sustainable midwifery management program effectively improves pregnant women's knowledge and health practices, which, in turn, improves maternal and infant health. This improvement aligns with previous studies showing that health education and routine monitoring by healthcare professionals can reduce pregnancy complications and improve maternal and perinatal health outcomes (Kurniawan et al., 2019).

The education provided in this program increased pregnant women's awareness of the importance of proper antenatal care, balanced nutrition, and recognizing danger signs during pregnancy. This increased knowledge encourages pregnant women to be more proactive in maintaining their health, such as regularly attending check-ups at healthcare facilities and following medical advice (Jones & Bartlett, 2017).

The program also emphasizes the importance of empowering midwives as the front line in providing healthcare services to pregnant women in the community. Well-trained midwives can provide appropriate education, early detection of complications, and timely referrals that can save the lives of mothers and infants (Renfrew et al., 2014). Therefore, enhancing the capacity and competency of midwives through continuous training is crucial in improving the quality of midwifery services.

Additionally, the program's success is supported by a community-based approach that involves the active participation of pregnant women and their families. An empowered community will better support pregnant women in maintaining their health and promoting sustainable healthy behaviors (Lassi et al., 2016). Thus, implementing community-based programs can effectively be implemented in various areas with different socio-economic conditions.

However, this study has some limitations, including the limited duration of the study, which only lasted for six months, so the long-term impact of this program cannot be measured. Furthermore, the study was conducted in only one community, so generalizing the results to a broader population should be done cautiously. Further research is needed to test the effectiveness of this program in various settings and over a longer period.

Overall, the results of this study support the importance of implementing a sustainable midwifery management program as a strategy to improve maternal and infant health. Collaborative efforts between the government, healthcare professionals, and the community are necessary to ensure the sustainability and success of this program in the future

CONCLUSION

Implementing a sustainable midwifery management program has proven effective in improving maternal and infant health in the community. This program successfully increased pregnant women's knowledge, reduced pregnancy complications, and increased the normal birth weight of infants. Community-based approaches and midwife empowerment played crucial roles in the program's success. Recommendations for further research include long-term evaluation and application in various settings to test the program's sustainability and effectiveness.

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