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Mentoring Pregnant Women to Enhance the Utilization of the Maternal and Child Health Handbook

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ABSTRACT

The suboptimal utilization of the Maternal and Child Health Handbook (MCH Handbook) can result in low coverage and low completion rates. Efforts to increase the utilization rate of the MCH Handbook include mentoring pregnant women on how to complete and utilize the MCH Handbook. The purpose of this study was to evaluate the effectiveness of mentoring in improving knowledge and completion rates of the MCH Handbook among pregnant women in the community. This study used a one-group pretest and posttest design, involving 40 purposively selected pregnant women at the Tanah Kali Kedinding Community Health Center in Kenjeran District, Surabaya. Knowledge was measured using a questionnaire, while completion rates were measured through observation. The results were then compared before and after the training. The study results showed an increase. This community service activity used a focused group discussion method. This activity increased the knowledge of pregnant women by 92.5%, while the utilization rate of the MCH Handbook, in terms of completion rates, increased by 100%. It was concluded that the training successfully increased the knowledge and completion rates of the MCH Handbook among pregnant women.

Keywords: maternal and child health handbook; pregnant women; mentoring

INTRODUCTION

The maternal mortality rate (MMR) per 100,000 live births in East Java showed a declining trend from 2011 to 2015, decreasing from 104.3 to 89.6. Despite this improvement, vigilance remains essential, as the rate could rise again at any time. Moreover, East Java continues to be one of the highest contributors to maternal mortality in Indonesia. According to data from the Surabaya City Health Office (2016), maternal deaths in Surabaya rose significantly in 2012 to 60 cases, compared to 47 in 2011. Although the number declined to 49 in 2013, the subsequent three years (2014–2016) showed no substantial reduction, with figures ranging between 39 and 37. Infant mortality also declined from 381 in 2012 to 254 in 2013, but showed limited progress thereafter.⁽¹⁾

In response, the government has adopted a continuum of care approach, ensuring quality health services across all life stages through comprehensive interventions, promotive, preventive, curative, and rehabilitative. One key initiative is the implementation of the Maternal and Child Health (MCH) Handbook, known locally as Buku KIA (Kesehatan Ibu dan Anak), which is promoted through community empowerment and health campaigns.⁽²⁾

The MCH Handbook was formalized through the Minister of Health Decree No. 284/Menkes/SK/III/2004. It serves as a tool for early detection of maternal and child health issues, a medium for communication and education, and a record of essential services including antenatal care, nutrition, immunization, and child development. It is designed to provide a complete health record from pregnancy through postpartum, and from birth until the child reaches five years of age.⁽³⁾

While the use of the MCH Handbook does not directly reduce maternal, infant, or child mortality, its proper utilization can enhance preventive and promotive efforts by mothers and families.⁽⁴⁾ These efforts help identify and address health risks that contribute to mortality. However, suboptimal use of the handbook is often linked to limited knowledge, attitudes, and awareness among mothers, resulting in low commitment to its proper use.

Interviews with healthcare workers revealed that all pregnant women visiting health centers (*puskesmas*) are provided with the MCH Handbook. Mothers with young children also receive the handbook if they had not obtained one during pregnancy. Nevertheless, preliminary findings from Tanah Kalikedinding Health Center, Surabaya indicate that although 100% of pregnant women possess the handbook, it is rarely read or studied. Common reasons include lack of time, difficulty understanding the content, and the perception that the handbook is solely for healthcare providers. In some cases, the handbook was found to be damaged or poorly maintained.

Therefore, a study is needed to evaluate the effectiveness of mentoring programs on the use of the MCH Handbook. The goal is to improve maternal knowledge and increase the completeness of handbook entries at the community level.

This initiative is expected to serve as a foundation for stimulating maternal and child health and contribute to the reduction of maternal and infant mortality rates.

METHODS

This study was conducted in 2022 within the service area of Tanah Kali Kedinding Public Health Center (Puskesmas Tanah Kali Kedinding) in Surabaya, East Java. The research focused on pregnant women residing in the catchment area of the health center. Participants were selected using a purposive sampling technique, targeting individuals who met specific inclusion criteria relevant to the study objectives.

The research employed a simple experimental design, specifically the *one-group pretest-posttest* model.⁽⁵⁻⁷⁾ This design allowed for the measurement of changes in outcomes before and after the intervention within the same group, thereby enabling an assessment of the intervention's effectiveness without the use of a control group.

The intervention consisted of structured mentoring sessions delivered by trained healthcare professionals to pregnant women. This mentoring served as the independent variable. The dependent variables were twofold: (1) the level of maternal knowledge regarding the Maternal and Child Health (MCH) Handbook, known locally as *Buku Kesehatan Ibu dan Anak* (Buku KIA), and (2) the completeness of entries recorded in the MCH Handbook. These outcomes were measured both prior to and following the intervention to evaluate its impact.

Maternal knowledge was assessed using a standardized questionnaire administered before and after the mentoring sessions. Meanwhile, the completeness of MCH Handbook documentation was evaluated through direct observation using a structured checklist. The collected data were then analyzed by comparing pre-intervention and post-intervention results to determine the effectiveness of the mentoring program in enhancing both knowledge and documentation practices among the participants.

The study was conducted in strict adherence to established ethical principles for health research. Informed consent was obtained from all participants after a thorough explanation of the study's purpose, procedures, potential risks, and benefits. Confidentiality and anonymity were maintained throughout the research process. The study ensured that no harm would be inflicted upon participants and that their participation would yield potential benefits, particularly in terms of increased awareness and improved health practices. Furthermore, the research upheld general ethical standards, including respect for persons, beneficence, and justice, which are essential when engaging with community-based populations.

RESULTS

The mentoring program was conducted in 2022 at Tanah Kali Kedinding Public Health Center, Surabaya, targeting pregnant women as the primary participants. A total of 40 pregnant women participated in the activity. Based on initial profiling: 77.5% were multigravida (had experienced multiple pregnancies), while 22.5% were primigravida (first-time pregnancies). The majority (97.5%) were literate, with only one participant (2.5%) identified as illiterate.

Table 1. The demographic characteristics of pregnant women at Tanah Kali Kedinding Health Center, Surabaya

Demographic variable	Frequency	Percentage
Age		
Primigravida	9	22.5
Multigravida	31	77.5
Literacy		
Literate	39	97.5
Illiterate	1	2.5

To enhance maternal knowledge and engagement with the Maternal and Child Health (MCH) Handbook (*Buku KIA*), a peer group model was introduced during the mentoring sessions. Evaluation results showed a significant improvement in participants' knowledge after the training: the proportion of mothers with "good" knowledge increased from 35% to 55%; those with "poor" knowledge decreased from 50% to 7.5%.

Table 2. Evaluation results of maternal knowledge at Tanah Kali Kedinding Health Center, Surabaya

Knowledge	Before mentoring		After mentoring	
	Frequency	Percentage	Frequency	Percentage
Good	14	35	22	55
Moderate	6	15	15	37,5
Poor	20	50	3	7,5

Commitment to utilizing the MCH Handbook was assessed through interviews and observational data. Prior to the training: 37.5% of participants had read the handbook, only 12.5% had implemented its guidance, and 50% had never read it; while after the training: reading increased to 52.5%, implementation rose to 45%, and non-readership dropped drastically to 2.5%.

Table 3. Evaluation results of MCH handbook utilization at Tanah Kali Kedinding Health Center, Surabaya

Utilization	Before mentoring		After mentoring	
	Frequency	Percentage	Frequency	Percentage
Read	15	37.5	21	52.5
Implemented	5	12.5	18	45
Not read	20	50	1	2.5

All participants (100%) owned the MCH Handbook. Post-training interviews revealed a strengthened commitment among mothers to use the handbook as a communication tool with healthcare providers and as an educational resource. The mentoring emphasized: enhancing perception of the handbook's benefits, reducing perceived barriers to its use, and increasing self-efficacy and positive attitudes toward its application.

These behavioral shifts are expected to foster both direct and indirect improvements in maternal health practices through strengthened commitment to action. The mentoring sessions were delivered as part of a community service initiative. Training was defined as a process of transferring knowledge and skills to empower individuals in performing specific roles, in this case, the effective use of the MCH Handbook. The training was conducted over three consecutive days, facilitated by qualified health professionals.

All participants attended consistently, demonstrating high levels of enthusiasm and engagement. The sessions were designed to be practical, interactive, and aligned with the objectives of promoting the MCH Handbook as a tool for: monitoring maternal health during pregnancy, childbirth, and postpartum; supporting newborn care and early childhood development; and facilitating communication between mothers and healthcare providers. The successful implementation of this training underscores the importance of community-based educational interventions in improving maternal and child health outcomes.

DISCUSSION

The findings from the mentoring program conducted at Tanah Kali Kedinding Public Health Center in Surabaya reveal several important insights into maternal health education and behavioral change. The demographic profile of the participants, predominantly multigravida and literate suggests a population with prior exposure to maternal health services, which may have influenced their receptiveness to the intervention. The high literacy rate (97.5%) is a notable strength, as it implies that most participants had the basic capacity to engage with written health materials such as the Maternal and Child Health (MCH) Handbook. This foundational skill is essential for any educational intervention relying on printed resources.

The most compelling outcome of the study is the significant improvement in maternal knowledge following the mentoring sessions. The proportion of mothers with good knowledge increased from 35% to 55%, while those with poor knowledge dropped from 50% to just 7.5%. This shift demonstrates the effectiveness of peer group-based mentoring as a pedagogical strategy. It aligns with existing literature that emphasizes the role of participatory learning and peer support in enhancing health literacy and self-care behaviors among pregnant women.^(8,9) The mentoring model appears to have created a supportive environment that encouraged active learning and reflection, which are critical for internalizing health messages.^(10,11)

Equally important is the behavioral change observed in the utilization of the MCH Handbook. Prior to the intervention, half of the participants had never read the handbook, and only 12.5% had implemented its guidance. After the mentoring, readership increased to 52.5%, and implementation rose to 45%, while non-readership dropped dramatically to 2.5%. These results suggest that knowledge alone is insufficient to drive behavior; rather, structured mentoring that addresses perceptions, barriers, and self-efficacy is necessary to translate awareness into action.

The study's strengths lie in its practical design, community-based approach, and clear outcome measures. The use of pretest-posttest comparisons allowed for a direct assessment of intervention impact, while the three-day training format ensured continuity and depth of engagement. The consistent attendance and enthusiasm of participants further validate the feasibility and acceptability of the program. Moreover, the integration of observational data and interviews adds qualitative depth to the quantitative findings, enriching the interpretation of behavioral shifts.⁽¹²⁻¹⁵⁾

However, the study is not without limitations. The absence of a control group restricts the ability to attribute changes solely to the intervention, as external factors may have influenced outcomes.⁽¹⁶⁻¹⁸⁾ The sample size, while adequate for a pilot study, limits generalizability to broader populations. Additionally, the short duration of follow-up means that long-term retention of knowledge and sustained behavior change remain unverified.⁽¹⁹⁻²¹⁾ Future research should consider a

longitudinal design with control comparisons to strengthen causal inferences and explore the durability of intervention effects.

Moving forward, the mentoring model demonstrated in this study offers a promising framework for scaling maternal health education in similar settings. It is recommended that future programs incorporate digital tools to complement printed materials, especially for literate populations. Moreover, integrating the MCH Handbook into routine antenatal care protocols and community health campaigns could reinforce its role as both a communication tool and a behavioral guide. Policy-level support to institutionalize mentoring as part of maternal health services would further enhance its reach and sustainability. Ultimately, the study underscores the critical importance of empowering mothers not only with information but with the confidence and commitment to act on it, an approach that holds transformative potential for reducing maternal and infant mortality in Indonesia.

CONCLUSION

The mentoring program significantly improved pregnant women's knowledge and utilization of the Maternal and Child Health (MCH) Handbook at Tanah Kali Kedinding Health Center. Post-training, more mothers read and applied the handbook, showing stronger commitment and self-efficacy. While the study lacked a control group and long-term follow-up, its results highlight the value of community-based education in promoting maternal health. Future efforts should expand mentoring, integrate digital tools, and evaluate sustained behavioral change to support reductions in maternal and infant mortality.

Ethical consideration, competing interest and source of funding

- All ethical principles are upheld in this research.
- The authors declare that there is no conflict of interest.
- Source of funding is authors.

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