

Factors Related to the Implementation of Complementary Midwifery Services in Indonesia

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ABSTRACT

Background: In developing nations like Indonesia, maternal mortality rates (MMR) and infant mortality rates (IMR) continue to be the key issues. **Methods:** A descriptive analysis with a cross-sectional approach was conducted in West Sumatra Province, Indonesia, from June to November 2021. The participants consisted of 83 midwives who had Midwife Independent Practice. The instrument in this study was a questionnaire developed by the researcher. Data were analyzed using the Spearman rank statistical method for bivariate analysis. **Results:** The results of the study showed that most of the participants did not implement complementary midwifery services and there were only 30% of the participants provided complementary services to mother and babies included baby massage, pregnancy exercise, Pilates, yoga and aromatherapy. Based on the relationship analysis, it was found that training factors, sources of information, knowledge, and attitudes had a significant relationship with the implementation of complementary midwifery services ($p < 0.05$). However, the factors of age, education, occupation, and length of practice did not have a significant relationship with the implementation of complementary midwifery in the independent practice of midwives. **Conclusion:** It can be concluded that the low implementation of complementary midwifery in the practice of independent midwives can be related to several factors, both internal and external. Particularly, the source of information was more correlated with the implementation of comprehensive midwifery services than other factors in this study. It indicates that information about the importance of complementary midwifery services is likely to be slightly more supportive of the utilization of complementary services in midwifery practice. **Recommendation:** Further study is expected to be necessary to design an appropriate approach model for solving problems in the implementation of complementary midwifery, especially in the practice of independent midwives.

Keywords: *Complementary Midwifery Services; Independent Practice of Midwives; Midwifery*

INTRODUCTION

Maternal Mortality Rates (MMR) and Infant Mortality Rates (IMR) are still the main problems in developing countries, including Indonesia. MMR can be an indicator of the level of women's health that describes the level of access, integrity, and effectiveness of the health sector of a country (Tajmiati *et al.*, 2019). Recently, the MMR was around 305 per 100,000 live births and the IMR was rated at 15 per 1000 live births in Indonesia (Indonesia Directorate General of Public Health, 2019).

A holistic approach to midwifery services needs to be developed in conjunction with local wisdom. Such as an integration of complementary therapy in midwifery services (Tiran, 2003). According to the World Health Organization (WHO), 80% of health practitioners in developing countries prefer alternative medicine over chemical drugs. WHO recommends traditional medicine as part of complementary techniques in public health maintenance, prevention, and treatment that may support the effectiveness of conventional services (WHO, 2013).

Previous studies reported that 74.8% of people used complementary therapy methods in developing countries. The use of complementary practices is not something new and tends to increase significantly (Pallivalapila *et al.*, 2015). The utilization of these traditional health services increased to 31.4% in 2018, which was categorized as prepared ingredients (48%), homemade ingredients (31.8%), manual skills (65.3%), thinking

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skills (1.9%), and energy skills (2.1%) (Riska, 2019).

Nevertheless, the implementation of complementary services was not performed in all independent midwifery practices. Septiani and Lestari (2019) reported that several factors, including age, years of service, sources of information about complementary practices, and training received, were related to the implementation of complementary midwifery services. Another study by Kostania (2015) also reported age, last education, knowledge of midwives, and length of practice associated with the implementation of complementary midwifery services (Kostania, 2015).

Therefore, several strategies are needed to detect the impediment to the integration of conventional midwifery services with complementary therapy in order to improve maternal and child health (Tiran, 2003). Scientific evidence supports the benefits of complementary therapy in supporting midwifery services, both in promotion and prevention but also curatively and rehabilitatively (Nurfatihah, 2021). The critical and conceptual approach used in this study emphasizes creative efforts that aim to produce a problem-solving approach model to become a framework for regulating and implementing complementary midwifery services (Setyani, 2021).

Objectives

The purpose of the study was to identify factors related the implementation of complementary midwifery services in independent midwife practices.

METHODOLOGY

Research Design

A cross-sectional descriptive correlational design was conducted in the period between June and July 2021. The population of the study was made up of midwives who had independent practice in Bukittinggi, West Sumatra, Indonesia. According to Polit and Beck (2017), to achieve alpha of 0.05, power (p) of 0.80, at least 76 participants were required. Additionally, to prevent type II error of this study, the sample size needs to increase by 10 % (Polit & Beck, 2012). Thus, the total sample of this study was 83 participants. The sampling technique was purposive sampling based on inclusion criteria, including being 15 years of age or older and having voluntary consent to participate in this study.

Measurement

The instrument of the study used three self-report questionnaires that were developed by the researchers and relied on a demographic questionnaire, a knowledge and attitude questionnaire, and the implementation of complementary midwifery services. The 40 items of the questionnaire cover all contexts of the study, comprising 6 items related to demographic and characteristic characteristics of the respondents, including ages, level of education, occupation, length of practice, source of information, 10 items related to knowledge, 10 items related to attitude, and 14 items related to the implementation of complementary midwifery services.

The knowledge questionnaire contains 10 questions with positive and negative answers. Each question was scored on the basis of one point for a correct answer and no points for an incorrect answer. The interpretation of this questionnaire uses a cutoff point with a score > 15, which is categorized as having good knowledge, and less than 15, which is categorized as having less knowledge. Meanwhile, 15 questions on a five-point Likert scale were used to assess the participants' attitudes. The total scores for each were used as the cutoff point for the mean value, so that the distribution of positive attitude categories was > the mean and negative if the cutoff point was the mean. Further, all participants signed the informed consent form to participate in this correlation study. In order to protect human rights and the welfare of health research subjects.

Validity and Reliability

The content validity of the instruments of the study were assessed and validated by a panel of three experts. According to the validity test of the instruments, the scale content validity index (S-CVI) was 0.87. According to Polit and Beck (2017) mentioned that the scale of validity index is above 0.80 indicated valid instrument. Moreover, the reliability of the instrument was tested in ten midwives who met same inclusion criteria with the actual study and found that the Cronbach alpha $\alpha = 0.78$. Taber (2017) stated that the Cronbach alpha coefficient is more than 0.70 can be determined that the instrument is reliable to use in the actual study (Taber, 2017).

Data Analysis

Descriptive statistics using frequency and percentage were performed to describe the demographic characteristics, level of knowledge, and attitude of the participants. A Spearman rank test was used for the inferential statistic to detect any relationship between each independent variable and the implementation of complementary midwifery services.

Ethical Consideration

This study was approved by the Research Ethics Committee of the Faculty of Medicine, Andalas University West Sumatra, Indonesia, on August 25, 2021, with reference no. 483/UN.16.2/KEP-FK/2021.

RESULTS

Characteristics of the Respondents

A total of 83 midwives who are either certified midwives or licensed midwives were eligible to participate in the study. As shown in Table 1, characteristics of the participants in this study included age, level of education, occupation, length of practice, information sources, level of knowledge, attitude, and their implementation in complementary midwifery services. In terms of age, 62.7% of the participants were less than 40 years old. Following the allocation frequency of education levels, 53.4% of participants hold a bachelor's degree in midwifery, and 85.5% of those who participated in the survey work as civil servants in a hospital or public health center. Besides that, 81.9% of individuals with more than 10 years of independent practice were discovered among the 83 responses.

According to the source of information about complementary midwifery services, more than half of the participants, namely 68.7%, have never attended complementary training. Another characteristic, which includes knowledge and attitudes, showed that the distribution of knowledge regarding complementary midwifery services showed that more than half of the participants (65.1%) had high knowledge, and some had a positive attitude toward the implementation of complementary midwifery services (61.4%).

Furthermore, the implementation of complementary midwifery services among 83 midwives in this study revealed that 71.1% of participants did not utilize complementary midwifery services in their independent practices. The most quoted complementary midwifery services offered to all participants included baby baby massage, pregnancy exercise, Pilates, yoga and aromatherapy.

Table 1: Characteristics of the Participants (N=83)

Characteristics	f	%
Age		
≤ 40years old	52	62.7
> 40 years old	31	37.3
Educational Level		
Diploma of midwifery	37	44.6
Bachelor of midwifery	46	55.4
Employment Status		
Civil servants	71	85.5
Non civil servants	12	14.5
Length of Practice		
≥ 10 years	68	81.9
< 10 years	15	18.1
Source of Information		
Good	26	31.3
Bad	57	68.7
Level of Knowledge		
High	54	65.1
Low	29	34.9
Attitude		
Positive	51	61.4
Negative	32	38.6
Midwife's Complementary Services		
Implemented	24	28.9
Not implemented	59	71.1

Factors related to The Implementation of complementary Midwifery Services

Demographic Factors

Following the research findings regarding demographic factors related with the implementation of complementary midwifery services (refer to Table 2), it has showed that 36.1% of respondents (aged ≤ 40 years) did not implement complementary midwifery services. The statistical test on the age variable with the implementation of complementary midwifery services indicated a significant relationship ($p = 0.00$, $\rho = 0.38$). According to the educational background of respondents with a bachelor degree in midwifery, 31.6% of the respondents did not implement complementary midwifery services in their independent practice. This research also discovered that there is no statistically significant relationship between educational background and the implementation of complementary midwifery services ($p = 0.19$, $\rho = 0.141$).

The occupation status showed that 65.1% of the respondents with the occupation as civil servant did not provide complementary midwifery services in their practice. The p -value was 0.016 ($\rho = 0.27$) based on a Spearman rho statistical test indicated that there is a significant relationship between occupation and the implementation of complementary midwife services. Moreover, it was found that there is no significant relationship between the length of practice and the implementation of complementary services which 55.4% of the respondents who had worked for over than 10 years did not provide complementary midwifery services.

Furthermore, 9.6% of respondents who had adequate information regarding complementary midwifery services did not utilize it in their practice. according to data from 21 respondents who had inadequate information sources. The statistical test on the information source and the implementation of complementary midwifery services indicating that there is a significant relationship ($p = 0.00$, $\rho = 0.60$).

Table 2: The Relationship between Demographic Factors with the Implementation of Complementary Midwifery Services in Midwife Independent Practice (N=83)

Variables	Complementary Midwifery Services				<i>p</i>	<i>rho</i>
	Not Implemented		Implemented			
	f	%	f	%		
Age						
≤ 40 years old	30	36.1	22	26.5	0.001	0.383
> 40 years old	29	34.9	2	2.4		
Educational level						
Diploma of midwifery	29	24.9	8	9.6	0.191	0.141
Bachelor of midwifery	30	31.6	16	19.3		
Occupation						
Civil servants	54	65.1	17	20.5	0.016	0.267
Non civil servants	5	6.0	7	8.4		
Length of Practice						
≥ 10 years	46	55.4	22	26.5	0.144	0.161
< 10 years	13	15.7	2	2.4		
Source of Information						
Good	8	9.6	18	21.7	0.000	0.601
Bad	51	61.4	3	7.2		

Knowledge and Attitude

According to the relationship between knowledge and attitude with the implementation of complementary midwifery services (refer to Table 3), the study result revealed that 28.9% of the respondents in this study had a high level of knowledge regarding complementary services and implemented them in their independent practice. The correlational statistical tests found that there was a significant relationship between knowledge and the application of complementary midwifery services ($p = 0.00, rho = 0.47$). Similarly, of the 83 respondents studied, it was found that 21% had a positive attitude and had implemented complementary services. The p -value of the Spearman Rho statistical test showed that there was a significant relationship between attitudes and the implementation of assisted midwifery services ($p = 0.00, rho = 0.34$).

Table 3: The Relationship between Level of Knowledge and Attitude with the Implementation of Complementary Midwifery Services in Midwife Independent Practice (N = 83)

Variables	Complementary Midwifery Services				p	rho
	Not Implemented		Implemented			
	f	%	F	%		
Level of Knowledge						
High	30	36.1	24	28.9	0.000	0.467
Low	29	34.9	0	0		
Attitude						
Positive	30	36.1	21	25.3	0.002	0.341
Negative	29	34.9	3	3.6		

DISCUSSION

The Implementation of Complementary Midwifery Services

The results of this study indicate that the implementation of complementary midwifery services in the independent practice of midwives in Bukittinggi City is still low. Congruently, a study by Kostania (2015) showed that respondents who implemented complementary midwifery services were less likely to be pregnant than respondents who implemented conventional midwifery services. It was found that there were only 14.4% of the 181 respondents (Kostania, 2015). Similarly, a study in the United States found that only 38% of midwives implemented complementary and alternative medicine (CAM) in the previous 12 months (NCCIH, 2016). On the other hand, a study in Iran found that 66.3% of midwives used complementary therapies in their independent services (Kalahroudi, 2014). In Africa, it was also found that around 20% to 80% of midwives used complementary therapies that were not supported by health insurance providers (Peprah *et al.*, 2017).

Recently, the use of complementary services and alternative therapies has increased significantly (Bayrami, Taghipour & Ebrahimipour, 2015). In Scotland, 61.4% of pregnant women used complementary services during the third trimester of their pregnancy (Pallivalapila *et al.*, 2015). In Indonesia, the use of complementary practices is not something new and tends to increase. The utilization of these traditional health efforts tends to increase. Households using traditional health services were 30.4% and increased to 31.4%, which divided into prepared ingredients (48%), homemade ingredients (31.8%), manual skills (65.3%), thinking skills (1.9%), and energy skills (2.1%) (Akhiriyanti & Nisa, 2020).

The World Health Organization (WHO) stated that the utilization of complementary and alternative therapies is a series of health practices that are not part of the country's own tradition and are not integrated into the main health care system. Complementary midwifery services are a way of dealing with disease that is carried out as support for medical or conventional treatment (Tiran, 2003). Complementary midwifery services are part of the application of complementary and alternative medicine in the midwifery setting. WHO recommends traditional medicine as part of complementary techniques in public health maintenance, prevention, and treatment of disease,

especially for chronic diseases, degenerative diseases, and cancer. WHO also supports efforts to increase the safety and efficacy of traditional medicines.

A midwife is a health profession with a main focus on maternal and child health. Midwives can integrate conventional midwifery services with complementary services as a complement to overcoming maternal and child health problems. Currently, the service that is expected by the community is not only healing but also a sense of comfort that is obtained without side effects (Hall, Griffiths & McKenna, 2012). The low practice rate of midwives who implemented complementary midwifery services can be influenced by various factors in the implementation of complementary midwifery services, such as age, years of service, sources of information about complementary practices, and training that has been obtained.

Factors related to the implementation of complementary midwifery services

Demographic Factors

The results of this study showed that most of the respondents were in the mature age category. Similarly, most respondents in a survey by Febrianti, Rahayu & Zakiyah (2020) were over the age of 40 years. The older they become, the stronger their grasping power and thinking, allowing them to acquire more and more knowledge (Febrianti, Rahayu & Zakiyah, 2020). The same finding was also found in a study by Feijen-de Jong *et al.* (2015) that showed most of the respondents were in the age category of 41 to 50 years old. An older person may relate to the level of maturity and strength of a person's way of thinking and working. Age may have effects on a person's perception and mindset. The older they get, the more developed is their grasping power and mindset, so that more and more knowledge will be obtained (Febrianti, Rahayu & Zakiyah, 2020). Age is also related to the ability to work, be active, and be productive in their field; it is also related to adaptability and enthusiasm for life to accept new challenges. This age of maturity also determines the midwife's ability to carry out complementary midwifery services (Kostania, 2015).

The age factor in this study can be described as an older age that may affect the characteristics of midwives as caregivers. The age range of midwives above 40 years presents a great opportunity for midwives as implementers to carry out complementary midwifery services because it is closely related to emotional stability and the amount of work experience and network that has been formed. This is closely related to their emotional stability, extensive work experience, and well-established professional networks.

According to this study, it was found that 63.3% of the participants aged less than 40 years old did not perform complementary midwifery services. An inferential statistical test found that there is a significant relationship between age and the implementation of complementary midwifery services, with a p value of 0.001 ($p > 0.05$). The results of this study were similar to those of a study that also found a relationship between age and complementary midwifery service (Jumiatur & Nani, 2020). They also stated that there are six physical factors that can hinder the process in adults, thus reducing the power of thinking. A study by Septiani & Lestari (2020) showed that there is a relationship between age and complementary midwifery practice due to the fact that people of productive age have the ability to carry out complementary midwifery practices in times that have begun to prioritize non-conventional medicine (Febrianti, Rahayu & Zakiyah, 2020). Therefore, it can be assumed that age cannot necessarily be used as a benchmark in analyzing the relationship between the implementation of complementary midwifery services.

The educational background of the participants in this study showed that more than half of the respondents had a bachelor's degree in Midwifery (55.4%). Nevertheless, the results of the study indicate that the implementation of complementary midwifery services is still low among midwives with a bachelor's degree and that there is no significant relationship between both variables. According to a study by Kostania (2015), most of the respondents had a diploma in midwifery. The findings of this study were the same as those of a study by Jumiatur & Nani (2020) that found most midwives had a diploma in midwifery. Education is one of the factors that influence aspects of knowledge. Education also affects the learning process; the higher a person's education, the easier it is for that person to receive information (Wawan & Dewi, 2010). This also has an impact on knowledge, whereas someone with a high level of education has a more logical mindset (Saputri, 2016). The level of education in general will affect a person's knowledge and behavior when deciding something. Someone with a higher level of formal education will have higher knowledge than those with a lower education; this is related to the knowledge

that has been obtained in college (Febrianti, Rahayu & Zakiyah, 2020). According to Nursalam & Pariani (2000), if the level of education is low, it will hinder the development of a person's behavior in receiving information and developing new values (Yuliwati, 2012).

Furthermore, study results found that 68.8% of respondents with a diploma in midwifery were not providing complementary midwifery services. A Spearman rank statistical test revealed that there is no significant relationship between education and the implementation of complementary midwifery services ($p = 0.191$, $\rho = 0.141$). A related study by Septiani & Lestari (2020) also found no relationship between education and the implementation of complementary midwifery services. In order to enhance performance, an educational background may be linked to expertise in carrying out an activity. Essentially, knowledge about complementary services used in midwifery practice can be gained through various training, learning, and experiences; therefore, educational factors may not play a significant role in its implementation.

Based on the respondent's occupation, this study found that almost all of the respondents worked as civil servants (85.5%), and 65.1% of them did not perform complementary midwifery services. A statistical test found a significant relationship between work and the implementation of complementary midwifery services, with a p value of 0.016 (> 0.05). Respondents' occupations in this study indicated that their job status was classified as good. Occupation is something that is done to earn a living or livelihood. The work environment can form knowledge because of the exchange of information between friends in the work environment (Hall, Griffiths & McKenna, 2012). Occupation is one of the factors of social structure in the theory of Health System Models that can encourage someone to take action for their health (Notoatmodjo, 2003).

The results indicated that there was no statistically significant relationship between length of practice and the implementation of complementary midwifery services. The result revealed that 55.4% of the respondents with a length of practice of more than ten years did not implement complementary midwifery services in their independent practice. Mitchell (2006) mentioned that the period of work or length of work makes a person have broad insight and form a mindset that is more effective in solving problems that occur at work in accordance with his experience during work (Mitchell *et al.*, 2013). Feijen-de Jong *et al.* (2015) considered that a longer length of practice indicates a person's experience is greater than that of other colleagues who have a shorter length of practice. This also affects experience in problem management and one's skills (Feijen-de Jong *et al.*, 2015). A person's behavior is determined by knowledge, attitudes, beliefs, and traditions prevailing in society (Septiani & Lestari, 2020). The length of practice determines a person's experience and ability to take action, so they are called experts and skilled. The four levels of action are perception, guided response, mechanism, and adaptation. Someone with a high level of experience's adaptation response has developed well without reducing the truth of the action (Pallivalapila *et al.*, 2015).

Further, a significant relationship between the source of information and the implementation of complementary midwifery services was found in this study. Sources of information are everything that becomes an intermediary in conveying information, including information media for mass communication (Jumiatun & Nani, 2020). Sources of information can be obtained through print media (newspapers, magazines), electronic media (television, radio, internet), and through health worker activities such as training held (Notoatmodjo, 2003). Information obtained from various sources will affect the level of knowledge. Sources of information are media that play an important role in determining someone's attitudes and decisions to act. The more someone gets information from various sources, the more likely it is for them to have a positive attitude about something. Therefore, sources of information related to the implementation of complementary midwifery services may be caused by exposure to information about complementary midwifery services that leads to the adoption of behavior that begins with an interest in an object.

Knowledge and Attitude

The results of this study indicated that there was a significant relationship between knowledge and the implementation of complementary midwifery services. Knowledge regarding complementary therapy among midwives was higher than among respondents who did not implement it in their independent practice (Tiran, 2003). Similarly, a study by Wahidin, Martini & Ajeng (2022) stated that there was a positive and significant relationship between knowledge of complementary midwifery services (Wahidin, Martini & Ajeng, 2022).

Knowledge is an important domain for the formation of one's actions. Knowledge as a predisposing factor could facilitate the occurrence of health behaviors, particularly regarding the implementation of complementary midwifery services (Achmadi, 2013). Behavior based on knowledge will be more lasting than that that is not based on knowledge (Notoatmodjo, 2005). Knowledge could be directly associated with the decisions of midwives to carry out complementary services because they may feel ready and confident to carry out the complementary services in their independent practice.

Additionally, this study also found that there is a significant relationship between attitudes and the implementation of complementary midwifery services. Attitude has a strong influence on the formation of behavior. Attitude is a closed response that can be supportive or unsupportive towards a person, place, object, or event (Achmadi, 2013; Bayrami, Taghipour & Ebrahimipour, 2015). Attitude is not an action or activity but something that facilitates the occurrence of a behavior. A positive attitude towards an object affects acceptance of something, including behavior (Septiani & Lestari, 2020). Therefore, cultural and geographical differences must be studied in terms of motivating factors in the use of traditional and complementary therapies during pregnancy, and obstetrics both for nurses and midwives and they should actively involve education programs for their advancement (Küçükaya, & Işık, 2023). A crucial component of midwifery practice is using complementary and alternative therapies. It may be an unconventional form of treatment that works to enhance health status by efforts in promotion, prevention, cure, and rehabilitation while maintaining high standards for quality, safety, and efficacy. Complementary therapy is a recognized traditional practice that is used in conjunction with conventional medical therapy. It is risk-free, side-effect-free, and adds value to the Independent Practice of Midwives by raising the standard of healthcare. But in midwifery, unfavorable attitudes can be caused by doubts about the implementation of complementary midwifery services related to the ability to carry out services and readiness, both in terms of skills and the availability of infrastructure and operational funds for services.

CONCLUSION

The result of this study determined that demographic factors including age, occupation, source of information, knowledge, and attitudes had a significant relationship with the implementation of complementary midwifery services.

Conflict of Interest

The authors declare that there is no conflict of interests regarding the publication of this article.

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