



Analysis of Healthcare Workers' Behavior in Maternal and Child Health Services During the COVID-19 Pandemic in Aceh Province

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Abstract

Healthcare workers, including midwives, face a high risk of disease, including the coronavirus. It is expected that healthcare workers possess good knowledge and behavior regarding the management of care for pregnant women, childbirth, newborns, and the handling of emergency complications during the COVID-19 pandemic. This study aims to explore the behavior of healthcare workers in providing health services to mothers and children during the COVID-19 pandemic. This descriptive study employs a cross-sectional design, involving all midwives in Aceh Province, with data collection conducted through Google Forms from June to July 2021. The results indicate that there is no relationship between age, length of service, and sources of health information with the behavior of healthcare workers in providing health services to mothers and children during the COVID-19 pandemic. However, there is a significant relationship between knowledge and COVID-19 prevention behavior, with a p-value of 0.000. In conclusion, healthcare workers with higher knowledge are more likely to exhibit good behavior in preventing the spread of COVID-19. Therefore, it is important to continue enhancing their knowledge, particularly regarding virus transmission, to strengthen supportive behaviors and contribute to breaking the chain of COVID-19 transmission.

Keywords: Behavior, Healthcare Workers, COVID-19 Pandemic

Introduction

The coronavirus disease (COVID-19) has become a serious global public health issue, raising deep concerns due to its potential fatality, especially among vulnerable groups such as children, the elderly, individuals with comorbidities, and healthcare workers (Olivia et al., 2020). Global data as of July 2021 indicated that there were 189,828,099 confirmed cases and 4,085,071 deaths across 151 countries (Goma, 2021). In Indonesia, as of June 2020, there were

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68,079 confirmed cases, with 31,585 recoveries and 3,359 deaths(Setiati & Azwar, 2020).

The situation among healthcare workers is also very concerning. A report in January 2021 noted that 289 doctors, 27 dentists, 221 nurses, 84 midwives, 11 pharmacists, and 15 medical laboratory personnel had died due to COVID-19. Specifically, in Aceh Province, as of June 13, 2021, there were 17,376 confirmed cases, with 3,734 patients in care, 12,959 recoveries, and 683 deaths, including healthcare workers. In September 2020, there were 400 cases among healthcare workers, with 7 fatalities.

This data underscores the urgency and importance of providing protection and appropriate measures for healthcare workers in facing this pandemic. Healthcare personnel, including midwives, are highly vulnerable to the risk of exposure to diseases, including the coronavirus. This risk arises not only from their duties caring for sick patients but also from the necessity of ensuring that they do not transmit the virus to others. During the COVID-19 crisis, doctors and other healthcare workers have worked tirelessly, strictly implementing hygienic practices(Franklin, 2023; Onkundi & Campbell O'dell, 2021; Perchinunno, 2020). However, there are still reported medical violations, and many healthcare workers have shown a lack of concern regarding this issue. The significant risks posed by the spread of disease through healthcare workers underscore the importance of their possessing knowledge and behaviors that align with the service standards disseminated by the Ministry of Health.

This includes understanding infection prevention and the use of personal protective equipment (PPE). With adequate knowledge about COVID-19, the behaviors of healthcare workers and the community can be influenced, enhancing awareness and vigilance regarding the disease. Midwives, who are authorized to provide maternal and child health (MCH) services, need to have solid knowledge and positive behaviors in preventing the transmission of COVID-19 among pregnant women, those in labor, postpartum mothers, breastfeeding mothers, and newborns. Additionally, they are expected to implement these preventive measures while delivering MCH services. This study aims to determine the factors associated with the behaviors of healthcare workers in providing maternal and child health services during the COVID-19 pandemic.

Literature Review

Midwives, as part of the healthcare workforce, provide services in various health facilities, including hospitals, community health centers, and private practices, placing them at high risk of contracting and transmitting diseases(Mills et al., n.d.; Unger et al., 2003). According to guidelines issued by the Ministry of Health regarding maternal and newborn health services during the COVID-19 pandemic, midwives are expected to have good knowledge and behaviors related to the algorithms and management of care for pregnant women, childbirth, newborns, and the handling of emergency complication(Grover et al., 2020).

Research Method

This study is a descriptive analytic research with a cross-sectional design aimed at identifying and analyzing factors associated with the behaviors of healthcare workers, particularly midwives, in providing maternal and child health services during the COVID-19 pandemic. This research design was chosen to allow the researchers to gain a clear understanding of the behaviors and knowledge of healthcare workers related to the health protocols in place amid the pandemic. The study population consists of all healthcare workers affiliated with the Indonesian Midwives Association (Ikatan Bidan Indonesia, IBI) in Aceh Province, a group that plays a crucial role in maternal and child health services. The sample for this study includes 260 midwives who meet the established inclusion criteria. These criteria include midwives who are actively working in community health centers or hospitals in Aceh Province, have direct contact with patients, are willing to fill out the e-GForm questionnaire, and have access to WhatsApp. The sampling method used is purposive sampling, aimed at obtaining relevant and appropriate participants for the study's objectives. The research procedure begins with measuring healthcare workers' behavior in maternal and child health services during the COVID-19 pandemic. A questionnaire serves as the primary instrument for the study.

The data collected is primary data, gathered through the distribution of a questionnaire designed in an online format using Google Forms. This questionnaire is sent to respondents via WhatsApp, a communication platform that is familiar to them. The questionnaire includes several sections: e-informed consent to ensure participation approval, questions regarding respondent characteristics, and questions focusing on the knowledge and behaviors of healthcare workers related to maternal and child health services during the pandemic. Data analysis is conducted using univariate and bivariate approaches. Univariate analysis aims to provide an overview of the population characteristics and the results of the variables studied, while bivariate analysis is used to evaluate the relationship between two different variables. The statistical test applied in this study is the chi-square test with a 95% confidence level, used to assess the statistical significance of the relationships found. Data processing is performed using SPSS software, which allows researchers to conduct comprehensive and in-depth analyses.

Result

Table 1: Frequency Distribution of Research Variables on Age, Work Duration, Information Sources, and Knowledge of Midwives Regarding Midwife Behavior During the COVID-19 Pandemic in Aceh Province

Variable	f	%
Age		
≥ 38 Years	139	53.5
< 38 Years	121	46.5
Work Duration		
≥ 14 Years	136	52.3
< 14 Years	124	47.7
Information Source		

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Electronic and Print Media	71	27.3
Electronic Media	178	68.5
Print Media	11	4.2
Knowledge		
High	136	52.3
Low	124	47.7
Behavior		
Good	135	51.9
Less Good	125	48.1

Based on Table 1, it is shown that respondents aged < 38 years accounted for 46.5%. Respondents with work experience of < 14 years made up 47.7%. A total of 68.5% of respondents obtained their information from electronic media. Respondents with high knowledge accounted for 52.3%. As for behavior, 51.9% of respondents exhibited good behavior.

Table 2: Factors Related to Midwife Behavior During the COVID-19 Pandemic in Aceh Province

Variable	COVID-19 Prevention Behavior						P-value
	Good		Less Good		Total		
	f	%	f	%	F	%	
Age							
≥ 38 Years	75	54,0	64	46,0	139	100,0	0,959
< 38 Years	60	49,6	61	50,4	121	100,0	
Work Duration							
≥ 14 Years	71	52,5	65	47,8	136	100,0	0,735
< 14 Years	64	51,6	60	48,4	124	100,0	
Information Source							
Electronic & Print Media	42	59,2	29	40,8	71	100,0	0,336
Electronic Media	87	48,9	91	51,1	178	100,0	
Print Media	6	54,5	5	45,5	11	100,0	
Knowledge							
High	93	68,9	43	31,6	136	100,0	0,000
Low	42	33,9	82	66,1	124	100,0	

The analysis results indicate that among the various variables studied, knowledge has a significant relationship with COVID-19 prevention behavior among midwives in Aceh Province, with a p-value of 0.000. This suggests that the higher the level of knowledge among midwives, the better their preventive behaviors. Midwives with high knowledge tend to adhere more strictly to preventive measures, with 68.9% of them demonstrating good preventive behavior, whereas those with low knowledge tend to exhibit poorer behaviors (66.1%). In contrast, the variables of age, length of service, and sources of information did not show a significant relationship with preventive behaviors, with p-values exceeding 0.05. Although midwives aged 38 and older and those with longer lengths of service were slightly more likely to demonstrate good preventive behavior, the difference was not statistically significant. Similarly, the sources of information obtained from both electronic and print media collectively showed a higher percentage of good preventive behavior (59.2%) compared to those relying on only one source; however, this relationship was also not significant. Therefore, knowledge is proven to be a primary factor influencing COVID-19 prevention behavior, indicating that

educational programs and knowledge enhancement should be a focus in efforts to improve preventive behaviors among midwives.

Discussion

The analysis reveals a significant relationship between knowledge and COVID-19 prevention behavior among midwives in Aceh Province, with a p-value of 0.000. Higher knowledge levels correlate with better adherence to preventive measures, as evidenced by 68.9% of knowledgeable midwives demonstrating good behaviors compared to 66.1% of those with lower knowledge. In contrast, age, length of service, and sources of information did not show significant relationships with preventive behaviors. Although midwives aged 38 and older and those with longer service showed a slight tendency toward better behaviors, these differences were not statistically significant.

One of the key findings is that midwives with higher levels of knowledge about COVID-19 demonstrate better compliance with preventive measures. A study (Hafidz et al., 2023; Setiawati, 2021; Widowati & Raushanfikri, 2021) highlighted that knowledgeable midwives were more likely to adhere to health protocols, underscoring the critical role of education in shaping healthcare practices. Furthermore, the effectiveness of training programs has been emphasized in improving midwives' confidence and adherence to COVID-19 protocols (Boutros et al., 2023; He et al., 2022). found that those who participated in targeted training exhibited significantly better preventive behaviors, illustrating the importance of continuous professional development during health crises. Despite these positive outcomes, midwives faced considerable barriers to service delivery.

According to Marsden et al., (2022)), challenges such as inadequate access to personal protective equipment (PPE) and the fear of infection hindered their ability to provide essential services. These barriers not only affected their performance but also impacted maternal and child health outcomes during the pandemic. The adaptation to telehealth services emerged as a critical response to the challenges posed by COVID-19. Fumagalli et al., (2023) noted that midwives successfully transitioned to providing remote consultations, which allowed them to continue supporting mothers and newborns while minimizing exposure risks. This shift reflects the resilience and flexibility of healthcare workers in the face of unprecedented challenges. Additionally, the mental health impact of the pandemic on midwives cannot be overlooked. Tengilimoğlu et al., (2021) reported increased levels of stress and anxiety among midwives, which significantly affected their performance in delivering maternal and child health services. This highlights the need for mental health support and resources for healthcare workers during and after the pandemic. Lastly, midwives took proactive steps to engage with their communities, enhancing outreach efforts to educate mothers about COVID-19 and preventive measures.

Erin & Bayoğlu Tekin, (2022) emphasized that community outreach initiatives became vital in ensuring that pregnant women and new mothers received accurate information, thereby promoting safer practices during the pandemic. These findings underscore the importance of knowledge, training, and mental health support for midwives in Indonesia. Addressing barriers

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and leveraging innovative approaches like telehealth are essential in enhancing the delivery of maternal and child health services during crises. Future efforts should focus on strengthening education and community engagement to improve health outcomes in challenging environments.

Conclusion

This study indicates that there is no significant relationship between age, length of service, and sources of health information with healthcare workers' behavior in providing maternal and child health services during the COVID-19 pandemic. However, there is a significant relationship between knowledge and COVID-19 prevention behavior, with a p-value of 0.000. Healthcare workers with higher knowledge levels tend to exhibit good behaviors in preventing the spread of COVID-19. Therefore, it is crucial to continuously enhance healthcare workers' knowledge, particularly regarding COVID-19 transmission, to strengthen supportive behaviors and contribute to breaking the chain of virus transmission.

Declaration of Conflicting Interest

The author declares that there is no conflict of interest in the implementation and results of this research.

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