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FACTORS INFLUENCING HEALTH CARE PROVIDER IN CODUNCTING PREECLAMPSIA SCREENING

Iflah Aninda Wahdani [1], *Muhammad Ardian Cahya Laksana*[2], *Ivon Diah Wittiarika*[1]

[1] Midwifery Study Programme, Faculty of Medicine, Universitas Airlangga, Surabaya, Indonesia
[2]Department of obstetrics and gynecology at the Faculty of Medicine, Universitas Airlangga, Surabaya, Indonesia

Correspondence address: Surabaya, Indonesia
Email : @aninwahdani.gmail.com

Abstract

Background: Preeclampsia is responsible for maternal health globally due to its high morbidity and maternal mortality rates, especially in low-income countries such as Indonesia. Primary care providers, including general practitioners, midwives, and nurses, have a crucial role to play in the early assessment of preeclampsia screening. It was noted that factors affecting mortality were the lack of preparedness of officers in managing and responding to pregnancy emergencies, delayed recognition of worsening clinical signs of preeclampsia, as well as inadequate assessment and treatment for preeclampsia. This study aims to analyze the driving factors that influence health care provider in conducting preeclampsia screening in Gresik District. **Methods:** This research was an observational analytical study with a cross-sectional approach. The population in this study consisted of all doctors and midwives at the primary health facilities in the Gresik Regency area. The sample was taken from 159 respondents who were service providers in 20 primary health facilities in Gresik using simple random sampling. The variables in this study were the knowledge and attitudes of healthcare workers toward implementing preeclampsia screening. Data collection in this study used an online questionnaire conducted after issuing the Ethical Approval Letter until October 2023, which was then analyzed using a chi-square test with a significance level of 0.05. **Results:** Only 27% of respondents demonstrated a good level of knowledge about preeclampsia, which affected the effectiveness of preeclampsia screening (p-value 0.04). A total of 86.2% of respondents showed a high level of attitude toward preeclampsia screening. However, this study found no significant relationship between healthcare workers' attitudes and preeclampsia screening (p-value 0.171). **Conclusion:** There is a significant link between the knowledge of the healthcare provider and the optimization of preeclampsia screening so new methods of training are needed that are assessed as effective and accompanied by rigorous monitoring and evaluation to enhance healthcare provider knowledge, especially concerning preeclampsia screening.

keyword : Attitude, health care provider, knowledge, preeclampsia screening, primary health facilities

INTRODUCTION

Preeclampsia is responsible for maternal health globally due to its high morbidity and maternal mortality rates, especially in low-income countries such as

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Indonesia. (Aldika Akbar et al., 2018). The global maternal death rate from preeclampsia is around 50,000 every year, with different frequencies in each geographical area. (Lamma et al., 2021). The incidence of preeclampsia in Indonesia itself is 128.273/year or about 5.3%.

Preeclampsia is a serious pregnancy complication characterized by hypertension and damage to other organs, most commonly the liver and kidneys. It usually develops after 20 weeks of gestation and is a leading cause of maternal and neonatal morbidity and mortality worldwide. The exact etiology of preeclampsia remains unclear, but factors such as placental dysfunction, immune system irregularities, and genetic predisposition are believed to contribute. Several risk factors have been identified, including obesity, advanced maternal age, multiple gestations, and pre-existing conditions like hypertension and diabetes (Garovic et al., 2022).

Healthcare providers play a crucial role in the early detection and management of preeclampsia. Routine antenatal care that includes blood pressure monitoring and urine testing for proteinuria is essential for timely diagnosis. Providers' knowledge and attitudes significantly influence patient outcomes, as they are responsible for implementing screening protocols and educating patients on modifiable risk factors. However, challenges in resource-limited settings, such as lack of access to diagnostic tools and inconsistent provider knowledge, can impede effective care. Studies have underscored the need for enhanced training for healthcare workers to improve preeclampsia management and reduce its associated risks (Pasternak et al., 2021; Tarca et al., 2022).

Primary care providers, including general practitioners, midwives, and nurses, have a vital role to play in the early assessment of preeclampsia screening, early intervention in women with high risk factors for preeclampsia for prevention and related complications. (Laura Costa et al., 2022). One study showed that 76% of women who died from preeclampsia had an adequate frequency of ANC visits. It was noted that factors affecting mortality were the lack of preparedness of officers in managing and responding to pregnancy emergencies, delayed recognition of worsening clinical signs of preeclampsia, as well as inadequate assessment and treatment for preeclampsia (Morton et al, 2019).

The number of maternal deaths in Gresik district alone reached 315.75 per 100,000 live births where the figure has not reached the SDGs target (DinKes Province, 2021). The preeclampsia incidence in Gresik in 2021 is two cases. Maternal death due to preeclampsia in 2021 of two cases (Dinkes Province, 2021) while in 2022 the case of preeclampsia has increased to six cases. (Dinkes Gresik, 2022). Therefore, researchers are interested in analyzing the factors that influence the screening of preeclampsia in the Gresik district.

METHOD

This research was an observational analytical study with a cross-sectional approach. The population in this study consisted of all doctors and midwives at the primary health facilities in the Gresik Regency area. The sample was taken from 159 respondents who were service providers in 20 primary health facilities in Gresik using simple random sampling. The variables in this study were the knowledge and attitudes of healthcare workers toward implementing preeclampsia screening. Data collection in this study used an online questionnaire adapted from Jayanti et al.'s 2018 research, which analyzed the influence of healthcare providers on the implementation of preeclampsia screening. The questionnaire was modified and had undergone validity and reliability tests. Data collection was conducted after the issuance of the Ethical Approval Letter by the Ethics Committee of the Faculty of Medicine, Universitas Airlangga, and continued until October 2023. The data were then analyzed using a chi-square test with a significance level of 0.05.

RESULT AND DISCUSSION

The respondents in this study were midwives and doctors from 20 public health centers in Gresik District, totaling 159 individuals. The samples were taken from respondents who met the predetermined inclusion and exclusion criteria. The respondents were grouped based on profession, age, education, length of service, and employment status. The complete characteristics of the respondents are presented in the table below.

Table 1. Frequency Distribution of Respondent Characteristics

Respondent characteristics	Frequency	Percentage (%)
Profession		
Midwife	141	88.7
Doctor	18	11.3
Age		
21-30	21	13.2
31-40	61	38.4
41-50	56	35.2
51-60	21	13.2
Education level		
D III	115	72.3
D IV	15	9.4
S1	7	4.4
Midwive Profession	8	5.0
General practitioner	14	8.8
Length of service		
0-9	59	37.1
10-19	41	25.8
20-29	41	25.8
30-35	18	11.3
Employment status		
Civil servant (PNS)	116	73.0
Temporary employee (PTT)	4	2.5
Contract employee	22	13.8
Honorary staff	16	10.1
Volunteer	1	0.6

Characteristic of majority respondents is health workers with the age range of 31 – 40 years. The majority of respondents to this study are midwifes. Most of the respondents' education is D-III. Based on the length of working hours, the majority of respondents were in the time range of 0 to 9 years. Based on employment status, the majority of respondents have civil servant status.

Table 2. Analysis of the Relationship Between Knowledge Level and Optimality of Preeclampsia Screening

Knowledge	Frequency	Percentage (%)	p value
Less	77	48.4	0.044
Enough	39	24.5	
Good	43	27.0	
Total	159	100	

Based on the table above, the knowledge variable indicates that the majority of respondents have a knowledge level categorized as insufficient, with 77

respondents (48.4%), while a small proportion are at a sufficient knowledge level, totaling 39 respondents (24.5%).

Based on the results of the exact fisher test for the relationship of knowledge level with preeclampsia screening of 0.044, it can be concluded that there is a significant relationship between the level of knowledge of health care and preeclampsia screening. Similar research by Tahir et al shows that the knowledge and skills of midwives and screening, prevention, and treatment of early preeclampsia are closely linked. (Mardiar Tahir, Catherine Jusuf and Halomoan Simarmata, 2023). Good knowledge of preeclampsia by officers and midwives has a direct impact on the quality of childbirth, childcare, and efforts to reduce maternal mortality rate (Khodijah et al., 2021).

Table 3. Analysis of the Relationship Between Attitude Level and Optimality of Preeclampsia Screening

Attitude level	Frequency	Percentage (%)	p value
Low	5	3.1	0.171
Moderate	17	10.7	
High	137	86.2	
Total	159	100	

The independent variable analysis showed that the majority of respondents were at a high level of attitude, which was 137 respondents (86.2%). Followed by a moderate level of 17 respondents (10.7%). Then the low level became a minority in this study, which is only 5 respondents (3.1%).

The exact fisher value for the relationship of the attitude level with the preeclampsia screening is 0.171, it can be concluded that there is no significant relationship between the level of health energy attitude and the screening of preeclampsia. This research line with Jayanti's (2018) study that states that midwife attitudes have no significant impact on the success of preeclampsia screening programs. (Jayanti, Prasetyo and Chalidyanto, 2018).The results of this study contradict Green's theory, which states that attitude is a predisposition component that affects one's behavior. The level of organization, such as workload and work environment, including supervision that supports employment relationships and the availability of infrastructure and facilities, are other components that influence

attitudes. Community cultural beliefs can also influence the views and behaviour of healthcare providers. (Mannava et al., 2015).

The role of healthcare providers in the screening and management of preeclampsia is crucial, as they are on the front lines of monitoring maternal health during pregnancy. Effective screening requires not only adequate knowledge and training of providers but also systematic approaches to care. A qualitative study in Ghana indicated that obstetric providers faced challenges in diagnosing preeclampsia due to limited resources and inadequate support systems for managing hypertension during pregnancy, highlighting the importance of provider training and resources to ensure timely interventions and improve maternal outcomes (Atluri Namratha AND Beyuo, 2023). Furthermore, several factors contribute to the incidence of preeclampsia, including maternal age, obesity, and a history of hypertension. Research suggests that higher maternal age is associated with increased risk, particularly in women over 35 years, while lifestyle factors and pre-existing health conditions also significantly impact the development of preeclampsia (Chaiworapongsa et al., 2014; Garovic et al., 2022). Addressing these risk factors through comprehensive healthcare provider training and public health initiatives can enhance the effectiveness of preeclampsia screening and management efforts.

CONCLUSION AND SUGGESTION

Based on the results of research, one of the factors influencing the health examination is the knowledge of the health care provider. Characteristic of majority respondents is health workers with the age range of 31 – 40 years. The majority of respondents to this study are midwifes. Most of the respondents' education is D-III. Based on the length of working hours, the majority of respondents were in the time range of 0 to 9 years. Based on employment status, the majority of respondents have PNS status. There is a relationship between the level of health care knowledge and preeclampsia screening. There is no relationship between the level of health energy attitude and the screening of preeclampsia. The majority of respondents showed a high level of attitude, but the majority were less informed, so this was indicated as a cause of an insignificant link between health care attitude and preeclampsia

screening. Provide training of health workers with new methods that are judged to be effective in improving the knowledge and skills of the health workers in the Gresik district followed by strict monitoring and evaluation by the coordinator midwife, the head of the primary health care, and the health service needs to be done in an effort to improve the knowledge of health personnel, especially related to preeclampsia screening.

DECLARATION

Conflict of Interest

Author declare there is no conflict of interest in this research

Authors' Contribution

All authors contributed significantly from the beginning to the end of the research, including study design, data collection, analysis, article writing, and final revisions and approval.

Ethical Approval

Ethical Approval Letter by the Ethics Committee of the Faculty of Medicine, Universitas Airlangga.
No. 214/EC/KEPK/FKUA/2023

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This research was self-funded by the authors.

Data Availability

The data that support the findings of this study are available from the corresponding author upon reasonable request. The datasets generated and analyzed during the current study are not publicly available due to privacy concerns but may be made available by institutional policies.

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