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Short Communication

Exploring perinatal mental health in Indonesia: A mixed-method study in Mataram, West Nusa Tenggara

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Abstract

A significant number of postpartum mothers are at risk of experiencing perinatal mental health (PMH) due to various factors. The aim of this study was to investigate risk factors for PMH issues and explore the current implementation of early screening for PMH in Mataram, West Nusa Tenggara, Indonesia. A mixed-method study, cross-sectional and ethnographic approach, was conducted at Babakan Public Health Center, Mataram, West Nusa Tenggara, Indonesia, from July to August 2023. A cross-sectional study involved 33 postpartum mothers and analyzed seven potential risk factors: age, parity, age at marriage, type of childbirth, type of family, history of adolescent mental disorder, and history of mental disorder during pregnancy. An ethnographic approach, using in-depth interviews, was utilized to gain insights regarding the implementation of PMH screening, included seven healthcare workers: six midwives and one nurse. Among the seven risk factors analyzed, only a history of adolescent mental disorder acted as risk for high PMH with an odds ratio (OR) 1.17 and p=0.03. In-depth interviews revealed a consistent lack of understanding among all healthcare workers regarding PMH screening implementation: absence of early screening, lack of knowledge regarding PMH and how to identify them, reliance solely on subjective assessments for early screening, and a lack of standardized adequate PMH management. In conclusion, the history of adolescent mental disorder could lead to the development of PMH in postpartum mothers. Current screening implementation is still lacking among healthcare workers and public health centers. Therefore, integrating various stakeholders in early PMH screening is crucial to prevent future PMH in mothers and babies.

Keywords: Perinatal mental health, maternal mental health, screening, qualitative study, observational study

Introduction

Developing mental health is crucial, yet not universally attainable. Approximately one in five mothers globally are estimated to be at risk of experiencing perinatal mental health (PMH) issues [1]. Previous studies have indicated a rising trend in the proportion of postpartum mothers at risk of PMH issues, increasing from 45.5% in 2017 to 70.58% in 2023 [2,3]. Various risk factors have been identified for PMH issues. Domestic violence has been identified as a significant risk factor for PMH issues [4-6]. Previous psychiatric illness can exacerbate risk in postpartum mothers with mental health histories [7-11]. Moreover, postpartum social support, demographic factors, food insecurity, physical health conditions, breastfeeding satisfaction, and life-threatening social

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situations are also risk factors for PMH issues [8,12-15]. In addition, postpartum mothers living in extended family without adequate familial support are at risk of experiencing PMH issues [15-17].

Healthcare workers play a crucial role in mitigating the negative effects of PMH through early screening [18-20]. However, many postpartum mothers with perinatal depression do not receive adequate care, as healthcare workers often fail to recognize PMH symptoms [21,22]. Furthermore, psychosocial support, healthcare workers' knowledge and skills, cultural beliefs, social context, and policy regulations pose challenges in implementing early detection of PMH symptoms [23-25]. Herein, the aim of this study was to investigate risk factors for PMH issues and explore the current implementation of early screening of PMH in Mataram, West Nusa Tenggara, Indonesia.

Methods

Study setting and design

A mixed-method study, cross-sectional study and ethnographic approach, was conducted in Babakan Public Health Center, Mataram, West Nusa Tenggara, Indonesia, in December 2023. A cross-sectional study was employed to investigate risk factors for PMH issues.

Participants and sampling method

The subjects in this study were postpartum mothers and midwives who worked at the Babakan Public Health Center. The sample in this study was postpartum mothers living in Mataram City, West Nusa Tenggara, Indonesia. The inclusion criteria were postpartum mothers in the first one month who lived in the working area of the Babakan Health Center. All postpartum mothers who experienced complications during childbirth, such as bleeding, preeclampsia, and uterine atony, and had severe diseases were excluded. A successive sampling method was used, resulting in 33 postpartum mothers involved in the study.

In qualitative study, there were six informants, consisting of five midwives as the main informant and one supporting informant for triangulation, a nurse responsible for mental health programs at the Babakan Public Health Center. The selection of these subjects was considered as a rich informant who had sufficient information related to PMH in postpartum mothers. In-depth interview subjects were selected purposefully.

Study variables

The dependent variable in this study was the presence of PMH. The Edinburgh Postnatal Depression Scale (EPDS) questionnaire was calculated to confirm PMH issue in included postpartum mothers. The questionnaire contains 10 items, each with four answer options: very often (3), often (2), sometimes (1), and never (0). Scores range from 0 to 30. EPDS scores of 0–3 indicated as normal, and >4 classified as a risk for postpartum maternal mental health disorders, such as depression. Seven potential risk factors were analyzed: age, parity, age at marriage, type of childbirth (vaginal birth or suction curettage), family type (extended family or nuclear family), history of adolescent mental disorder, and history of mental disorder during pregnancy.

Data collection

In quantitative study, postpartum mothers who met the criteria were asked to inform consent of willingness as respondents. Mothers who came to the Health Center examination and met the inclusion criteria were selected as samples. The data were collected using a questionnaire through Google Forms. Before the Google Forms link was provided, informed consent was carried out to the postpartum mother. Mothers who did not have a smartphone were helped using enumerators' smartphone.

Qualitative study

The ethnographic approach, using in-depth interviews as data collection method, was utilized to gain insights into the implementation of PMH screening. There were eight questions asked with two themes: screening PMH and implementing PMH. The theme of PMH screening consists of two questions, namely what health workers know about PMH screening and what type of

screening is used. While the theme of implementing PMH screening consists of six questions. As for the questions asked about PMH symptom signs, screening, how to do screening, screening needs, tools needed, how to classify and follow-up evaluation. A purposive selection method was employed, resulting in seven healthcare workers selected as participants in the study: six midwives and one nurse. The characteristics of the informants were 25–52 years old, had a diploma 3 education, and worked in the postpartum mother care room. A semi-structured interview guideline was developed to guide in-depth interviews. A voice recorder, notebook, and mobile phone camera were employed to capture data and generate field notes.

Statistical analysis

The quantitative data was analyzed using Chi-squared test to assess the risk factors of PMH. SPSS version 25.0 software (IBM SPSS, Chicago, IL, USA) was employed for statistical analysis, with $p \leq 0.05$ considered statistical significance. In qualitative study, the data was processed and analyzed using the NVivo software (QSR 12 Pro), by entering the results of interview audio recordings, then preparing transcripts, coding, and reducing data in the last stage of visual data analysis.

Results

Factors associated with high risk of PMH

The data indicated that 45.5% of postpartum mothers were identified as at risk of developing PMH issues (**Table 1**). Among total samples, 84.8% (n=28) were aged between 20 and 35 years. More than 50% of postpartum women belonged to the primiparous and secundipara groups (n=21, 63.6%). The majority of postpartum mothers were married at the age of 18 or older (n=28, 84.8%), had a history of vaginal birth (n=23, 69.7%), and belonged to nuclear families (n=20, 60.6%). The number of postpartum mothers with a history of mental health disorder during adolescence and pregnancy was consistent (n=26, 78.8%). Among the seven risk factors analyzed, only a history of adolescent mental health showed a significant association with high PMH risk (odds ratio OR) 1.17; p=0.03) (**Table 1**).

Table 1. Postpartum mothers' characteristics and their associations with risk of PMH (n=33)

Parameters	n (%)	At risk of PMH, n (%)	No risk of PMH, n (%)	Odds ratio (OR)	*p*-value
Score EPDS		>4	0–3		
Age (years)					
20–35	28 (85.8)	11 (39.3)	17 (60.7)	0.01	0.970
<20 and >35	5 (15.2)	4 (80.0)	1 (20.0)		
Parity					
Primipara and secundipara	21 (63.3)	11 (52.4)	10 (47.6)	0.50	0.488
Multipara and grand multipara	12 (36.4)	4 (33.3)	8 (66.7)		
Age at marriage					
<18 years	5 (15.2)	3 (60.0)	2 (40.0)	0. 28	0.639
≥18 years	28 (84.8)	12 (42.9)	16 (57.1)		
Types of childbirth					
Vaginal birth	23 (69.7)	11 (45.8)	13 (54.2)	1.05	0.627
Suction curettage	10 (30.3)	4 (44.4)	5 (55.6)		
Family type					
Extended family	13 (39.4)	5 (38.5)	8 (61.5)	0. 15	0.770
Nuclear family	20 (60.6)	10 (33.3)	10 (66.7)		
History of adolescent mental health disorder					
Yes	7 (21.2)	6 (85.7)	1 (14.3)	1.17	0.030
No	26 (78.8)	9 (34.6)	17 (65.4)		
History of mental health disorder during pregnancy					
Yes	7 (21.2)	5 (71.4)	2 (28.6)	0.64	0.203
No	26 (78.8)	10 (38.5)	16 (61.5)		

EPDS: Edinburgh postnatal depression scale; PMH: Perinatal mental health

Implementation of PMH screening

Through an ethnographic approach, healthcare workers provided seven key insights: knowledge of PMH screening, types of screening methods, recognition of signs and symptoms, approaches to screening, implementation of screening procedures, identification of PMH cases, and follow-up and evaluation processes. The findings revealed that healthcare workers only knew about PMH based on reading material in the maternal and children handbook. Regarding the type of screening, healthcare workers solely employed their subjective assessment to screen PMH issues – relying on observation as the main screening method.

> *All this time, I have never heard of early screening for postpartum maternal mental health (Healthcare worker 1)*

The findings revealed a consistent understanding among all healthcare workers: there has been no specific screening in place for early screening of postpartum maternal mental health. One healthcare worker remarked on her lack of awareness regarding early screening for postpartum mothers. Another mentioned the absence of mental health screening altogether in postpartum care. Most healthcare workers noted that screening, particularly from public health centers, has not been implemented, with no formal program in place.

> *As far as I know, there has been no screening for mental health in postpartum mothers (Healthcare worker 2)*

> *There is indeed no screening for PMH, especially from public health center; we just go with the flow, there is no such program in our public health center (Healthcare worker 3)*

Some healthcare workers expressed that they had not received formal or informal training about the PMH screening process. Still, they were only instructed to fill out forms and maternal and children handbook if there were postpartum mothers.

> *I was never personally trained about PMH screening process; I was only asked to fill out maternal and children handbook if there were postpartum mothers (Healthcare worker 4)*

Healthcare workers stated postpartum maternal mental health screenings were not routinely conducted due to the lack of a designated program from the public health center. They cited busy schedules as a barrier. However, a mental health program was conducted when encountering potential PMH issues.

> *PMH screening only occurs when we make a deliberate effort, given our busy schedules. It is a task that not all midwives can handle, requiring considerable time, especially when dealing with numerous patients (Healthcare worker 2)*

> *If there is indeed a problem indicative of a mental disorder, we consult a mental health program manager in our public health center (Healthcare worker 5)*

For identifying maternal mental health issues in postpartum mothers, signs and symptoms from both mothers and babies were assessed, included: sadness, depression, fatigue, anxiety, and thoughts of self-harm. Observations also include mothers' reluctance to interact with or care for their babies. Additionally, patients with mental health concerns are assessed through observation, extending to include their families.

> *In the maternal and children handbook, symptoms of PMH listed include feeling sad, depressed, tired, worrying about not being a good mother, and wanting to hurt oneself (Healthcare worker 6)*

The symptom I have observed is that the mother does not want to see the baby or interact with them (Healthcare worker 2)

Postpartum mothers are categorized as either at risk or not at risk of PMH. Those identified as at risk are recommended to receive regular follow-up from healthcare workers, along with education about PMH. The postpartum mothers may also be referred to a general practitioner or hospital for further assessment. Conversely, postpartum mothers identified as not at risk were solely provided with education about PMH.

We assess mental health problems through observation, including both patients and their families (Healthcare worker 7)

Discussion

A history of adolescent mental health disorder showed a significant correlation to PMH risk (OR 1.17; p=0.030). A history of mental health disorders can exacerbate the mental health condition of postpartum mothers [7,8]. Consequently, those with such a history may require regular care to maintain their mental well-being, such as using a patient navigation model [7,26,27]. However, Singla *et al*. found no correlation between patient navigation assistance and postpartum maternal mental health care [28]. This disparity might be attributed to differences in knowledge and behavior of navigators accompanying postpartum mothers.

In the present study, healthcare workers emphasized absence of screening for early detection of postpartum maternal mental health issues. Health workers are unaware of such screening procedures, which are crucial for identifying potential problems. Failure to detect PMH issues lead to deprived mental health care for affected postpartum mothers [24,29,30]. Support from healthcare workers is crucial in reducing adverse effects of PMH issues, facilitating timely intervention and emotional support for postpartum mothers [18]. Yet effectiveness of screening depends on the expertise and attitudes of healthcare professionals [23].

Furthermore, healthcare workers in the present study rely solely on subjective assessments for early screening of postpartum maternal mental health, lacking guidance and standardized screening forms. Effective and efficient screening requires standardized tools such as screening forms and guides [22,31]. Self-Reporting Questionnaire (SRQ) can be employed for PMH screening, yet not specifically tailored for postpartum mothers but rather for general psychiatric disorders [33]. SRQ screening is conducted based on age groups, indicating its broader applicability beyond postpartum care [33].

Healthcare workers in the present study mentioned that PMH screening was not regularly conducted; it occurred only if they remembered and patient numbers were manageable. Despite potential PMH issues observed during the study period, a lack of support meant healthcare workers often forgot about early screening, leading to neglect. Several factors have been identified influencing screening success, including demographic factors, income, education level, health insurance, prospective participants, healthcare systems, and policy regulations [23,32]. Furthermore, limited time, insufficient training and awareness among health workers, underutilization of screening tools, and lack of routine implementation hindered screening effectiveness [24,29,30].

Most healthcare workers agreed on postpartum mother who identified as at risk of PMH issues are recommended to receive regular follow-up from healthcare workers, along with education about PMH. If a patient's needs surpassed healthcare worker's capabilities, Healthcare workers would coordinate with mental health program manager at public health center and postpartum mothers may also be referred to a general practitioner or hospital for further assessment. World health organization (WHO) advocates for essential care services to tackle mental health disorders in postpartum mothers, suggesting that severe cases necessitate referral while mild issues are addressed through educational interventions [1,32].

Conclusion

A history of adolescent mental health disorder could lead to the development of PMH in postpartum mothers. However, current screening implementation is still lacking among healthcare workers and public health centers. Hence, integrating various stakeholders in early PMH screening is crucial to prevent future harm to postpartum mothers and their babies.

Ethics approval

This research was approved by the Research Ethics Committee of the Faculty of Public Health, Universitas Diponegoro, Semarang, prior to conducting the study (No 571/EA/KEPK-FKM/2023).

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Competing interests

All the authors declare that there are no conflicts of interest.

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Underlying data

Derived data supporting the findings of this study are available from the corresponding author on request.

How to cite

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