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BABY BLUES SCREENING ON POST-PARTUM MOTHER BY COMPARING EPDS AND PHQ-9 METHODS FOR HEALTH-CARE SERVICE AND PUBLIC APPLICATIONS IN LUBUK BUAYA COMMUNITY HEALTH CARE PADANG CITY, INDONESIA

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ABSTRACT

Studies find out that baby blues and postnatal depression on mother are quite a lot. One of two recent-childbirth mothers (50%) might ever experience baby blues, and around 10% will continue to become a post-natal depression. Around 70% of all post-partum mothers experience baby blues, and around 10-20% puerperal mothers get post-partum depression. The effort to detect baby blues is to conduct screening with EPDS and PHQ-9. The objectives of this study were to get validity and reliability of questionnaire by EPDS and PHQ methods to screen baby blues in post-partum mothers and to find out the right method of conducting screening. This study was using descriptive-correlation design to describe the result of baby blues screening of post-partum mother by EPDS and PHQ-9 methods. The Study population was a post-partum mother from one week to six weeks that amounted to 60 subjects where all of them were sample in this study. Data analysis was conducted to validate questionnaire by EPDS and PHQ-9 methods and tested with sensitivity and specificity testing, and the data was processed to describe screening result so that it could draw motherwith baby blues syndrome. Screening result became positive if the score was ≥ 10 and negative if the score was < 10 for EPDS method. While baby blues screening with The PHQ-9 method used 9 questions and score of ≥ 5 resulted in baby blues syndrome. Study result showed that sensitivity and specificity testing on EPDS screening method were 46.7% and 66.7%, respectively; testing result on PHQ-9 method were 46.7% and 73.3%, respectively. From this study, it can reveal that both methods can detect baby blues inthe post-partum mother. EPDS and PHQ-9 methods can be applied to the same level of confidential to screen baby blues on the post-partum mother.

Keywords: Baby blues, Post-partum, EPDS, PHQ-9

INTRODUCTION

The birth of a child can trigger multiple emotions on mother. Emotions that emerged are not only happiness but also anxiety and paranoid. This commonlyhappens to a mother with first-time baby-birth. The peak of this anxiety can be accumulated into depression.

Baby blues is one of mild depression which can happen to post-partum mother wherethe mother has hypochondria onset and it is accompanied by related symptoms. Recent studies find out that baby blues and post-natal depression on recent-childbirthmother is quite high. One of two recent-childbirth mothers (50%) gets baby blues and 10% continue to develop post-natal depression. Around 70% of all mothers which have been delivering get baby blues onset and 10-20% mothers get post-partum depression(Anderson & Maes, 2013).

Many post-partum mothers are experiencing excessive emotions such as deep sadness with motiveless crying. In this mental state, we cannot see mother smiling or feels happy. Some mothers feel afraid, worried and tense. Small minor problems can trigger baby blues if it is not settled at once(Botulinum & Study, 2014).

Some mothers also feel uncomforted, pain, agony, and it cannot be relived with any prescription. Almost all of them feel tired, weak, or stressed at any time after childbirth. Besides, it is frequently to be finding that they have a sleep disorder and sometimes they not to sleep a wink.

Oftentimes, family and health-care staffs are not aware of baby blues inpost-partum mother. Whereas it can be screened by health-care staff or public to detect depression on the recent-childbirth mother; one of the screening methods is Edinburgh postnatal depression scale (EPDS) (El-Hachem *et al.*, 2014). EPDS is one of the screening methods to detect post-partum

depression(Gondo, 2012). Although it is uncommon, EPDS can be easily used in six weeks after childbirth. EPDS is a questionnaire that consisted of 10 questions about mother feelings in last seven days(Shrestha *et al.*,2016).

Based on a study(Horowitz, Christine &Murphy, 2012), 144 of 674 mothers experienced baby blues or mild post-partum depression which had been evaluated by EPDS method.

Beside EPDS, screening also can be conducted by Patient Health Questionnaire-9 (PHQ-9) method. PHQ-9 is also a questionnaire that consisted of 9 questions which have a function to detect early-depression in the post-partum mother; this screening is the primary discovery that can quickly develop a diagnosis.

Based on a study finding 45 of 506 mothers (8.9%) get severe post-partum depression onset with the application of PHQ-9 screening method(Gjerdingen *et al.*, 2009).

In this study, the researcher is interested to use both screening methods to compare the faster time to detect depression on the post-partum mother, so that health-care staff and family can detect post-partum depression in an early stage.

METHODS

This study used descriptive-correlation design to describe screening result of baby blues on the post-partum mother by EPDS and PHQ-9 methods. Population and sample in this study are post-partum mothers after one week to six weeks after childbirth which were amounted to 60 subjects. Data analysis was conducted to validate questionnaire with EPDS and PHQ-9 methods by sensitivity and specificity testing, and the data was processed to describe screening result so that it could draw mother with baby blues syndrome. Screening result was positive if the score was ≥ 10 and negative if it was < 10 for EPDS method. Meanwhile, baby blues screening with a PHQ-9 method which had 9 questions would be positive if the score was ≥ 5.

RESULT

This study of baby blues screening had been conducted in ± 6 months with EPDS and PHQ-9 methods in Community Health Care Center Lubuk Buaya Padang city. This study used two different methods to reveal the amount of post-partum mother that experienced baby blues.

1. Respondent characteristic

Table 1: Respondentt Characteristic

Variable	Category	f	%
Age	20-35 years > 35 years	53 7	88,3 11,7
Parity	- Single Parity - Multy Parity	21 39	35,0 65,0
Education	- Elementary - Junior Elementary - High School - University	4 11 36 9	6,7 18,3 60,0 15,0
Job	- Unemployed - Employed	53 7	88,3 11,7

Based on table 1, respondent age was 20-35 years old (88.3%) and > 35 years old (11.7%). It showed that majority of respondent age was 20-35 years old at the time of the study.

Majority of respondent parity was multi-parity as much as 65%, while single parity was 35%. It showed that multi-parity respondent was greater than single-parity respondent.

In respondent education, mostly respondent had senior high school education (60%) and the least quantity of respondent education was an elementary school (6.7%), while junior high school education level was 18.3% of all respondents and 15% of all respondents went to university.

The biggest proportion of respondent's job status was unemployed (88.3%), and employed respondents were 11.7%.

1. Baby Blues Screening

Table 2: Baby Blues Screening With EPDS

EPDS Methode	Baby Blues			Validity, %			
	No	Yes	Total	Sensitivity	Spesificity	PPV	NPV
Negative	20	16	36	46,7	66,7	58,3	55,6
Positive	10	14	24				
Total	30	30	60				

Based on table 2, sensitivity testing showed the indication that 46.7% respondents were experienced baby blues, while specificity testing showed that 66.7%

respondents were not indicated to have baby blues symptoms.

The score of Positive predictive Value (PPV) almost the same with Negative Predictive Value (NPV); the result showed that baby blues screening could predict mother who got baby blues syndrome by application of EPDS where respondents who did baby blues positive were 58.3%. Meanwhile, 55.6% respondents that had baby blues negative were completely fit (free from baby blues).

Table 3: Baby Blues Screening WithPHQ-9

PHQ-9 Method	Baby Blues			Validity, %			
	No	Yes	Total	Sensiti vity	Spesifi city	PPV	NPV
Negative	22	16	38	46,7	73,3	63,6	57,9
Positive	8	14	22				
Total	30	30	60				

Based on table 3, sensitivity testing showed the indication that 46.7% respondents were experienced baby blues, while specificity testing showed that 73.3% respondents were not indicated to have baby blues symptoms.

The score of Positive Predictive Value (PPV) almost the same with Negative Predictive Value (NPV); the result showed that baby blues screening could predict mother who got baby blues syndrome by application of PHQ-9 where respondents who did baby blues positive were 63.3%. Meanwhile, 57.9% respondents that had baby blues negative were completely fit (free from baby blues).

DISCUSSION

1. Respondent characteristic

Based on table 1, the biggest respondent age proportion was 20-35 years old (88.3%), and respondents > 35 years old were 11.7%. It showed that majority of respondent age was 20-35 years old at the time of the study.

One study revealed that woman with advanced age was vulnerable to depression (Tsivos *et al.*, 2015). This study was in line with a study that showed a small correlation between post-partum baby blues and mother's age of ≥ 30 years old, and it was related to the mental readiness of recent-childbirth mother.

Optimal woman age for childbirth was 20-35 years old (less confinement risk). In this period, it was expected that a woman/mother had an ability to solve problems stoically and control her emotion before and after childbirth .

Researcher assumed that post-partum baby blues on mother was susceptible to be continued as baby blues in the age of 20-35 years old where it was related to the emotional composure of post-partum mother.

Majority of respondent parity was multi-parity as much as 65%, while single parity was 35%. It showed that multi-parity respondent was greater than single-parity respondent.

It was parallel with theory stated that psychology and physic stress that related to obligation of new-mother could trigger an emotional crisis that could obstruct mother adaptation to maternal roles (Bobak, Jenson & Leonard, 1995).

Researcher assumption, in this case, was averagely multi-parity mother experienced baby blues because she was not ready to have another child and worried that she could not take care of her child.

Based on study finding, unemployed respondents were higher than employed respondents (88.3% and 11.7% respectively). Based on (Kurniasari & Astuti, 2015), mother status as an employee (had fixed income) or unemployed (full-time housewife) had no influence on the psychology of post-partum mother, because job-status was more related to additional household income.

The job also a risk determinant in a specific area of work; job could be health and location predictors of a population (Wahyuni & Murwati, 2014).

Researcher assumption of job status was related to household income where post-partum mother wanted to fulfill new-born baby needs, such as diapers, clothes, etc.

Based on the study, mostly respondent had senior high school education (60%) and the least quantity of respondent education was an elementary school (6.7%), while junior high school education level was 18.3% of all respondents and 15% of all respondents went to university.

Higher education woman faced role and conflict between propulsion to work (or had outside home) and

her role as housewife and mother .

In this study, researcher assumed that mother with high school level of education had lower comprehension on health issues than mother that enrolled in college. Averagely new-mother was reluctant to look for any information related to baby blues symptoms.

2. Baby Blues Screening

The presence of post-partum other who was experienced post-partum baby blues was triggered by some factors, and to showed post-partum baby blues on mother it could be done by various instruments. In this study, the researcher used two methods of questionnaires which were EPDS and PHQ-9.

Study finding showed results of sensitivity and specificity testing on EPDS screening method was 46.7% and 66.7% respectively, and results testing on PHQ-9 testing were 46.7% and 73.3% respectively. In could be inferred that both methods could detect post-partum baby blues on recent-childbirth mother.

Based on study finding by (Zhong *et al.*, 2015), it revealed that EPDS and PHQ-9 methods could be applied in the same level of confidential to screen baby blues on post-partum mother where the result of EPDS and PHQ-9 screening had a whit more difference one another (83.5% for EPDS result and 82.2% for PHQ-9 result).

It was in line with (Zhong *et al.*, 2014), where the result of both instruments (EPDS and PHQ-9) had the same an internal consistency to screen baby blues with reliability and validity of *P* value was 0.0001.

The screening was important to detect baby blues symptoms. Based on , screening was a process to identify health-issues by application of large-scale testing. In this study, screening was conducted by EPDS method to detect depression post-partum which had 10 questions where baby blues was indicated by a score of $\geq$ 10. Meanwhile, baby blues screening by a PHQ-9 method which had 9 questions indicated baby blues on the score of ≥ 5 .

Researcher assumed that mother that vulnerable to post-partum baby blues based on study finding was 20-35 years old, multi-parity (previously had a child), level of education was senior high school graduated, and unemployed.

CONCLUSION

From the results of research that has been done can be drawn conclusion as follows: the sensitivity and specificity test of EPDS screening methods have the same percentage with PHQ-9 screening method. EPDS and PHQ-9 can be applied with the same belief in performing baby blues screening on postpartum mothers.

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