ORIGINAL ARTICLE

Nurses' knowledge, beliefs and practices regarding the screening and treatment of postpartum depression in maternal and child health clinics: A cross-sectional survey

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Abstract

Background: Postpartum depression (PPD) affects 10-15% of women worldwide, and screening is recommended by clinical guidelines. In Malaysia, nurses in maternal and child health (MCH) clinics provide postpartum care.

Aim: To determine nurses' level of knowledge, beliefs and practices regarding PPD and factors associated with screening practices.

Methods: A cross-sectional study using universal sampling was conducted on nurses from seven government MCH clinics in Malaysia. Data was collected from March until April 2016 through a self-reported questionnaire. Univariate and multivariate analyses were performed to identify factors associated with having ever performed PPD screening.

Results: Of the 108 nurses, 55.6% scored above the median total knowledge score (17 out of 24 points). Despite a high proportion of nurses believing that they were responsible for PPD screening (72.2%), counselling depressed mothers (72.2%) and referring mothers for further treatment (87.0%), only 64.8% and 51.9% were confident in recognizing PPD and counselling depressed mothers, respectively. Only 25.9% had ever practiced PPD screening, which was associated with beliefs concerning screening taking too much time (adjusted odds ratio [AOR]=0.13, 95% confidence interval [CI]= 0.02–0.74, P=0.022) and that screening is their responsibility (AOR=14.12, 95%CI=1.65-120.75, P=0.016).

Conclusion: More than half of the nurses scored above the median total knowledge score and had positive beliefs towards PPD screening. However, PPD screening practices were poor, and this outcome was associated with their beliefs regarding time and responsibility.

Introduction

Postpartum depression (PPD), which affects 10% to 15% of women worldwide,[1] results in negative impacts, morbidity and even mortality for mothers, babies, and families. In the Diagnostic and Statistical Manual of Mental Disorders, fifth edition (DSM V), PPD is defined as a major depressive episode within 4 weeks after delivery.[2] However, in clinical practice and research, the duration of depression is often extended to 12 months postpartum.[3] In Malaysia, the prevalence ranges from 14.3% to 31.7%; this range of prevalence is likely to be due to the different inclusion criteria and screening tools used in different studies.[4,5]

Screening for PPD is strongly recommended by clinical guidelines.[6] Numerous screening tools for PPD are available, such as the Edinburgh Postnatal Depression Scale (EPDS), the Postpartum Depression Screening Scale (PDSS), the Patient Health Questionnaire (PHQ-9), the Beck Depression Inventory (BDI) and the two-question screen test. In Malaysia, the DASS-21 is used in the mental health screening program. However, to date, there is no recommendation on the best instrument for PPD screening.

Community and clinic nurses receive midwifery training during their nursing and post-basic courses, respectively. They are taught about PPD in midwifery training, and only nurses who have midwifery training can provide postpartum care. They follow up with mothers regularly up until one- month postpartum and meet mothers during healthy baby check-ups and immunization visits. Thus, they are well-positioned to perform PPD screening. After screening, mothers with

mild symptoms can be counselled by nurses, whereas those with moderate and severe symptoms should be referred to a doctor for further evaluation and treatment.

Studies among nurses in Malaysia have reported inadequate PPD knowledge, limited abilities in identifying mothers with PPD, no formal PPD assessment and barriers to PPD management, such as patients' failures to disclose symptoms and preferences for complementary medicine to treat PPD.[7,8] However, these studies did not assess nurses' knowledge, beliefs, and practices quantitatively. Therefore, this study aimed to determine the nurses' knowledge levels, beliefs and practices regarding PPD and also the factors associated with their screening practices.

Methods

A cross-sectional study was conducted from March until April 2016 in seven government MCH clinics in the Kepong district, which is an urban district in Kuala Lumpur, Malaysia. We obtained a list of nurses from the matron in charge of each clinic. Altogether, there were 133 MCH nurses in the Kepong district. All nurses who provide postpartum care were recruited using universal sampling. Nurses who were not available during the data collection period or who did not provide postpartum care were excluded. Participant information sheets and questionnaires were distributed to the nurses. Written consent was obtained from all participants.

In view of the small population size, the finite population correction method was used to determine the required sample size as follows:[9]

$$n' = \frac{NZ^2P\ (1 - P)}{d^2\ (N - 1) + Z^2P\ (1 - P)}$$

n' = sample size with finite population correction,
N = Population size,
Z = z-statistic for a level of confidence,
P = Expected proportion, and
d = Precision.

Using the proportion of nurses practicing PPD screening from a study by Golbasi (16.2%),[10] a 95% confidence level, a 5% margin of error and a population size of 133, the sample size required for this study is 82.

This study was approved by the Medical Ethics Committee of the University of Malaya Medical Centre and the Medical Research and Ethics Committee of the Ministry of Health, Malaysia. Permission was obtained from both the Kuala Lumpur and Putrajaya Health Departments and Kepong District Health Officers.

Questionnaire

A self-reported questionnaire was developed by the researcher based on a conceptual framework used by Leiferman et al. (**Figure 1**)[11] and the questionnaires used in previous studies (with permission).[12,13] It consisted of sociodemographic characteristics, 24 items on knowledge (general information, risk factors, symptoms, complications and treatments), 12 items on beliefs (socio-cultural beliefs, importance of screening, self-perceived responsibility and confidence level) and 11 items on practice (having ever performed PPD screening and screening tool awareness and utilization).

In the knowledge section, three response options were provided: "true", "false" and "I do not know". In the belief section, a 5-point Likert scale was used to rate the extent to which the participant agreed with each statement: "strongly disagree", "disagree", "neutral", "agree" and "strongly agree".

The questionnaire underwent face and content validation by an expert panel comprised of two primary care lecturers, one family medicine specialist, two psychiatrists and two obstetricians and gynaecologists. It was then forward- and backward-translated into the Malay language and pilot tested on 15 outpatient nurses who were not from the study population.
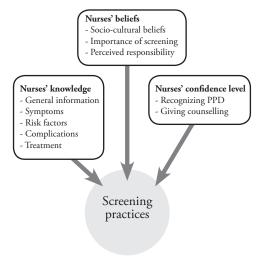

Figure 1: Conceptual framework used to determine the factors associated with nurses' PPD screening practices.

Statistical Analysis

Statistical analyses were performed using the SPSS version 23.0 for Windows (IBM Corp., Armonk, New York, USA). Continuous data which were normally distributed were expressed as means ± standard deviations (SDs), and continuous data which were not normally distributed were expressed as medians with interquartile ranges (IQRs). Categorical data were presented as the actual numbers and percentages.

In the knowledge section, 1 point was given for each correct response, and 0 points were given for each incorrect or "I do not know" response. The minimum score was 0, and the maximum total score was 24. By totaling the scores in each domain, the median total knowledge score was obtained. The results for each nurse were then expressed as above or below the median score.

The 5-point Likert scales were recategorized into 2 groups: "strongly agree" and "agree" were combined into the "agree" group, and the other responses were combined into the "did not agree" group to rate the extent of agreement with items in the belief section. Each statement was treated as an individual item.

The association between nurses' sociodemographic characteristics and PPD knowledge with having ever practiced PPD screening was analyzed using simple logistic regression. Differences in belief variables between the screening and non-screening groups were analyzed using the Chi-square test or Fisher's exact test when more than 20% of the expected values of the cells were below 5.

The variables with P-values of <0.25 from the univariate analyses were selected for multivariate logistic regression analysis to determine their association with having ever practiced PPD screening.[14] A P-value of <0.05 was considered significant.

Results

Of the 133 nurses in this district, 15 did not provide postpartum care, 2 were on maternity leave, 6 were pursuing post-basic courses and 2 refused to give consent. Hence, there were 108 participants with a response rate of 98.2%.

All participants were female with a mean age of 35.04 ± 7.58 years. The majority were Malay (90.7%) and married (87%). There were 46 (42.6%) clinic nurses and 62 (57.4%) community nurses in this study. The median years in nursing and MCH were 10.00 (IQR=5.00–15.00) and 4.50 (IQR= 2.12–9.00), respectively. Eighty-seven percent of the participants had received training on PPD. Family history of PPD was indicated by 3.7% of the participants, and none of the participants had a history of PPD (**Table 1**).

Table 1: Sociodemographic characteristics of participants (n=108).

Variables	n (%)	Mean ± SD/ Median (IQR)
Age, years		35.04 ± 7.58
Female	108 (100)	
Race		
Malay	98 (90.7)	
Indian	4 (3.7)	
Other	6 (5.6)	
Religion		
Muslim	100 (92.6)	
Hindu	3 (2.8)	
Christian	5 (4.6)	
Marital status		
Married	94 (87.0)	
Single	12 (11.1)	
Divorced	1 (0.9)	
Widowed	1 (0.9)	

Variables	n (%)	Mean ± SD/ Median (IQR)
Number of children		2.00 (0 – 2.75)
Position		
Clinic nurse	46 (42.6)	
Community nurse	62 (57.4)	
Number of years in nursing		10.00 (5.00 – 10.00)
Number of years in MCH		4.50 (2.12 – 9.00)
Training in PPD		
Yes	94 (87.0)	
No	14 (13.0)	
Family history of PPD	4 (3.7)	
Self-experience of PPD	0 (0.0)	

SD = Standard deviation; IQR = Interquartile range;
MCH = Maternal and Child Health.

The median total knowledge score was 17 out of the maximum of 24 points, and 55.6% of the participants scored above this value. Participants did better in the risk factor, symptoms and complications of PPD domains, but poorer in the general information and treatment of PPD domains (**Table 2**).

Table 2: PPD knowledge scores of the participants (n=108).

Domains	Maximum score	Median (IQR)	Above median, n (%)
General information about PPD	5	2 (2 – 3)	50 (46.3)
Risk factors of PPD	5	4 (4 – 4)	88 (81.5)
Symptoms of PPD	6	5 (4 – 5)	77 (71.3)
Complications of PPD	4	4 (3 – 4)	69 (63.9)
Treatments for PPD	4	2 (1 – 2)	69 (63.9)
Total score	24	17 (16 – 18)	60 (55.6)

IQR = Interquartile range

Out of 108 participants, only a few correctly identified the following statements as true or false: "PPD only happens in the female, but not in the male" (5.6%), "taking methyldopa is a risk factor for PPD" (37.0%), "electroconvulsive therapy can be used in PPD" (25.9%) and "an antidepressant is contraindicated in breastfeeding mothers" (29.6%). Approximately 80% of them were not clear about the definition of the postpartum blues.

Table 3 displays the beliefs of participants towards PPD. Almost 80% agreed with "it is our culture that mothers do not discuss their depression with nurses" and "mothers with PPD prefer to seek alternative treatment for their depression". Screening for PPD was believed to be necessary and most of them did not agree that screening takes too much time. A majority perceived of screening for PPD, counselling depressed mothers and referring depressed mothers for further assessment as part of their job responsibilities. However, only 64.8% and 51.9% of them were confident in recognizing PPD and counselling depressed mothers, respectively. Overall, the participants had positive beliefs towards their role in PPD treatment.

Table 3: Beliefs of the participants towards PPD (n=108).

Items	Agree n (%)	Did not agree n (%)
PPD is a social stigma.	46(42.6)	62(57.4)
It is our culture that mothers do not discuss their depression with nurses.	85 (78.7)	23(21.3)
Mothers with PPD prefer to seek alternative treatment for their depression.	86 (79.6)	22 (20.4)
Screening for PPD is necessary.	94 (87.0)	14 (13.0)
Screening for PPD takes too much time.	26 (24.1)	82 (75.9)
Screening for PPD is my responsibility.	78 (72.2)	30 (27.8)
Giving counselling to mothers with PPD is my responsibility.	78 (72.2)	30 (27.8)
Referring mothers with PPD for further treatment is my responsibility.	94 (87.0)	14 (13.0)
I am confident in recognizing PPD.	70 (64.8)	38 (35.2)
I am confident in giving counselling to mothers with PPD.	56 (51.9)	52 (48.1)
I am comfortable in talking with postpartum mothers about depression.	67 (62.0)	41 (38.0)
It is rewarding to care for mothers with PPD.	62 (57.4)	46 (42.6)

Of the 108 participants, only 28 (25.9%) of them had ever conducted PPD screening. Twenty (18.5%) of the participants were aware of the availability of PPD screening tools, but only 15 (13.9%) of them used it in their clinical practice. When they used a tool, it was the DASS-21.

Logistic regression analysis showed that only the number of children (OR=1.44, 95%CI=1.06-1.95, P=0.021), the number of years in nursing practice (OR=1.06, 95%CI=1.01-1.13, P=0.033) and MCH (OR=1.09, 95%CI=1.02-1.16, P=0.012) were associated with having ever practiced PPD screening.

Between the screening and no-screening groups, three statements with significantly different responses were identified, which were "It is rewarding to care for mothers with PPD" (P=0.029), "I am confident in recognizing PPD" (P=0.010) and "I am confident in giving counselling to mothers with PPD" (P=0.016).

Multivariate logistic regression analysis showed that participants who agreed that screening for PPD takes too much time were less likely to have ever conducted PPD screening (AOR= 0.13, 95% CI=0.02–0.74, P=0.022), while participants who agreed that screening for PPD was their responsibility were more likely to have ever conducted

PPD screening (AOR=14.12, 95% CI=1.65–120.75, P=0.016). The knowledge score had no significant association with PPD screening practice (P=0.408).

Discussion

PPD, a topic integrated into the midwifery curriculum, is not unfamiliar to the nurses in our study. Eighty-seven percent of them received PPD training through attending seminars or courses, including through continuing medical education (CME) or continuing nursing education (CNE) courses. They scored well on the knowledge component, with the exception of the treatment domain. Nurses are not involved directly in PPD treatment, thus only a few have knowledge concerning the use of antidepressants in breastfeeding mothers and the use of electroconvulsive therapy in PPD. It is worrying that nurses did not know the definition of postpartum blues, about paternal PPD or that consumption of "methyldopa" is a risk factor for PPD. Education may focus more on these topics in future.

In our study, we observed that PPD screening practice had no significant association with the knowledge score. Nurses' knowledge levels did not reflect their actual care delivery. This theory-practice gap has been addressed widely worldwide.[15] Apart from having good knowledge, clinical skills are required

to identify mothers with the symptoms and risk factors associated with PPD. Midwifery training focusing on both theory and clinical practice is lacking. Efforts to minimize this gap are crucial.

Among our study population, none of the participants reported having their own experiences with PPD, and only four participants (3.8%) reported having a family history of PPD. Compared to the worldwide (10-15%)[1] and local (14.3%)[4] prevalence rates, these rates are low. It is likely that there may have been response bias in the self-reporting of PPD since close to half of the nurses agreed that PPD is a social stigma. Nurses with this belief may avoid discussion about depression with postpartum mothers as well.

The socio-cultural beliefs that "mothers prefer alternative treatments for their depression" and "it is our culture that depressive mothers do not discuss depression with nurses" were reported in a qualitative study conducted by Jalil in a rural area in Malaysia.[7] Although the use of alternative treatments in rural areas is higher,[16] many of our nurses in Kepong, an urban area, also agreed with these beliefs. We hypothesized that these beliefs may have an association with the PPD screening practices. However, that was not the case in this quantitative study.

Up to 94% of the nurses agreed that screening for PPD is necessary, but only 78% perceived of it as their responsibility. Leiferman et al. reported that those who felt responsible for identifying PPD were more likely to assess postpartum mothers for PPD and manage PPD actively.[11,13] Similarly, our study also showed a positive association between the belief that "screening for PPD is my responsibility" and screening practice. When given more opportunities to see postpartum mothers, nurses should be empowered to perform the screening. In order to make them more aware of this responsibility, the screening can be integrated into the scope of their jobs and motivational training can be utilized.

On the other hand, nurses who agreed with the statement that "screening for PPD takes too much time" were less likely to have ever performed PPD screening as compared to those who did not agree. Time is a limitation. Excessive workloads and staff shortages are common in most areas of the health care system.[17] This situation results in poorer job performance and patient care.[18,19] In addition, increasing pressures in terms of work productivity and lack of reward may make this screening a low priority for nurses in this working environment. Therefore, the PPD screening process must be simple and not time consuming, as nurses are also overloaded with paperwork on top of their usual clinical work.

Bandura's theory of self-efficacy suggests that a person's perception of their ability to perform an activity can play a major role in how the person approaches a task or challenge. Those who believe they can do well are more likely to master a difficult task rather than avoid it. Our nurses need more practical training to improve their confidence levels in recognizing and providing counselling to mothers with PPD.

The poor PPD screening practices found in our study were observed by Golbasi et al.,[10] but stand in contrast to the results of a study conducted by Zander.[20] The contrasting results might be due to the different study populations used in the studies. Golbasi et al. recruited nurses and midwives in the primary health clinics, which was similar to our study setting. On the other hand, Zander enrolled certified nurses and midwives from the American College of Nurse-Midwives 50th Annual Meeting, and only those who provided postpartum care for at least 10 hours a week were included in the study. The participants in Zander's study were likely to be better trained and more enthusiastic.

A screening tool is useful and necessary for universal screening. Despite numerous validated screening tools being available, it is not surprising that our nurses were only familiar with the DASS-21, as it is used for mental health screening in Malaysia. The DASS-21 consists of 21 items covering three components, namely, depression, anxiety and stress. Compared to the EPDS, which has 10 items, and the two-question screening test, which has 2 items, more time is needed to complete the DASS-21 questionnaire. Likewise, the scoring method and interpretation of results used for the DASS-21 is more complicated. Hence, these issues might lead to poor utilization of the screening tool.

Additional studies are required to determine

the best screening tool for daily practice. Nurses need to be trained on how to use it. In view of time being a great concern in performing screening, mothers could fill in the screening tool while waiting for their postpartum check-up at the clinic. A clear flow chart for the screening process and subsequent management of mothers who are screened as positive for PPD would be helpful.

This study was limited by the self-reported questionnaire, which carried the risk of response bias. Due to the time constraints, the questionnaire had not gone through full validity and reliability testing. As this study was conducted in one single district, the degree to which the findings can be generalized is limited. Also, the study did not account for nurses from the private sector who carry out MCH services.

Conclusion

Although the majority of the nurses scored above the median total knowledge score and had positive beliefs towards their role in PPD treatment, their practices in terms of PPD screening remained poor. The predictors of having ever performed PPD screening were their self-perceived responsibility in doing screening and their lack of agreement with the statement that screening takes too much time. Knowledge score was not associated with screening practice. Interventions to improve PPD screening practices should not only aim to improve knowledge but also consider strategies to change the beliefs among nurses.

Competing Interest

None.

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