ORIGINAL ARTICLE

Postnatal Depression and Socio-Cultural Practices Among Postnatal Mothers in Kota Bahru, Kelantan, Malaysia

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Summary

This is a cross sectional study to determine the relationship of postnatal depression (PND) and socio-cultural practices post-delivery among women in Kota Bharu, Kelantan. Four hundred and twenty one pregnant women were screened for depression between 36 - 42 weeks of pregnancy, 1 week and 4 - 6 weeks postpartum using Edinburgh Postnatal Depression Scale (EPDS). The women also completed questionnaires on socio-demography, psychosocial support and traditional postnatal care. The prevalence of PND at 4-6 weeks postpartum was 20.7%. Depressive symptoms at the end of pregnancy ($p<0.05$) and one week postpartum ($p<0.05$), worry about the baby ($p<0.05$), use of traditional medication ($p<0.05$) and traditional massage ($p<0.05$) were significantly associated with PND.

Key Words: Postnatal depression, Sociocultural practices, Primary care

Introduction

Childbirth is traditionally associated with positive emotions of joy and fulfillment for the new mother and her family. In some women, the period following childbirth may be a time of emotional turmoil. The mood disorders which affect newly delivered women range from a relatively short but emotionally labile time, popularly called the "blues", to a serious psychiatric disorder requiring specialized treatment.

Recent studies show that 10 - 15 % of women suffered from Postnatal Depression (PND)[1,2,3]. Although PND is 100 times more prevalent than puerperal psychosis, most go undetected. This failure of detection is obviously a cause for much clinical concern. The blues and puerperal psychosis are relatively easy to identify, but in about 10 percent of newly delivered women, a period of emotional instability and turmoil may develop. This interferes with their enjoyment of daily life and, indeed, with every aspect of their lives[2].

The condition is important in that it may have long-term effects on children of such mothers, producing, for example later behavioral disturbances. Non-accidental injury is also sometimes associated with this problem[4,5].

For these reasons, there has been substantial research efforts in recent years to elucidate aetiological factors, to develop methods of prediction, to refine a system for reliable detection, and to develop and evaluate methods of treatment, which can be delivered widely within the health service[6].

Mood disorders following childbirth are not confined to Western societies, and have been recognized worldwide and throughout history[7]. In Malaysia,

This article was accepted: 30 November 2005

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pregnancy and delivery are believed to have drained out a vital essential part of health and energy. The postpartum women receive abundant social support and attention. They must be nursed back to the pre-pregnant vitality and health. It is postulated that these practices have protective effect against developing postpartum depression[8].

This study was done to determine the true prevalence of PND in Malaysia, to compare the prevalence of depression at the end of pregnancy and one week post-delivery with that the expected period of PND (4-6 weeks post-delivery) and to study the influence of socio-cultural practices with PND.

Materials and Methods

This is a cross-sectional study. The study sample includes 421 pregnant women who attended four randomly selected Maternal and Child Health Clinics, Kota Bharu, Kelantan, Malaysia between 36 to 42 weeks period of amenorrhoea. Informed consent was obtained for participation in the study. The women were given questionnaires either at the time of their visits to the health centres or the questionnaires were given to them by the midwives or nurses covering the area.

These respondents were given questionnaires on three occasions. On the first occasion at 36 to 42 weeks period of amenorrhoea, they were asked to fill the Malay version of General Questionnaire (Part 1 sociodemographic) and the Malay version of Edinburgh Postnatal Depression scale (EPDS)[9]. The second occasion took place at about 1 week post-delivery. At this time they were given the Malay version of EPDS only. The third occasion took place at about 4 weeks post-delivery. During this occasion, they were given the Malay version of General Questionnaire (postnatal practices) and the Malay version of EPDS. The traditional postnatal practices that were included in the questionnaire were regarding taking traditional medicine, having traditional massage, using traditional corset, following the food taboos, having postnatal rituals and using heat therapy known as "bersalai" (being smoked) or "bertungku" (using heated stone). "Bersalai" literally means, being smoked where the women lie down on a wooden frame with boards and beneath this, there is a large pot or box containing burning woods. Besides "bersalai", another form of external heat therapy is "bertungku". "Tungku" is a smooth, flat or round stone about the size of a hot water bag and used for a similar purpose. The "tungku" is heated on the heath or fire and wrapped in cloth. The mother places this on her abdomen to add heat and to relieve discomfort.

Instruments

Questionnaires consisting of sociodemographic (24 items), postnatal practices (13 items) and the Malay version EPDS were utilized. The EPDS was translated and validated for detection of postnatal depression in a community sample in prior study by the author[9]. At 11.5 cut-off point, the scale was found to have a sensitivity of 72.7% and specificity of 95.1%.

Statistical Analysis

Data entry and analysis were done using SPSS version 9.0. The χ^2 test was used to assess the association between postpartum depression and categorical risk factors. Stepwise Multiple Logistic Regression Analysis was used when multiple variables were considered simultaneously. The outcome (dependent) variable is the variable with or without PND. All independent variables that are possibly associated with PND were entered into the Logistic Regression Model. All the independent variables were entered into the model using stepwise Multiple Regression Model with entry criteria of $p<0.25$. The independent variables were respondentsí occupation, total monthly household income, worried about the baby, traditional massage, "bersalai" (being smoked), "bertungku" (using round heated stone as heat therapy), taking traditional medicine, postnatal ritual, problem with the husband, financial problem, depressive symptoms in late pregnancy and depressive symptoms at one week post-delivery. The remaining variables, together with age and education were entered using enter command for fine-tuning of the final model.

Results

From February to September 2000, 421 women were initially included in the study. Forty-four (10.2%) women were excluded because they did not complete the three stages of the study. The final number was 377 (response rate = 89.8%). The mean age of the women was 31.30 ± 5.95 and more than 98% of them were Malay. Table I shows the percentage of women who had positive EPDS scores (EPDS 12 and above) for each period of assessment. The percentage of positive EPDS scores was higher in late pregnancy than in the postnatal period. The prevalence of PND was calculated from the third EPDS that was taken at 4-6

weeks postpartum. Using the cut-off point of 11.5 (sensitivity of 72.7% and specificity of 95.1%), those women who scored 12 and above were considered to be depressed. Based on this criterion, the prevalence of PND at 4-6 weeks postpartum in Kota Bharu District was 20.7%.

Distribution of study variables among depressed and non-depressed women is shown in Tables II-IV. The variables are grouped into socio-demographic, obstetric and neonatal and psychosocial characteristics. In the initial analysis, there were a number of variables that had a significant association with positive EPDS scores (EPDS 12 and above). Independent variables that had a possible association with PND were entered into the logistic regression model. The variables were age, education, occupation, total household income, worry about the baby, traditional massage, traditional medicine use, "bersalai/bertungku", postnatal ritual, problem with husband, financial problem, depressive symptoms at late pregnancy and depressive symptoms at about one week post-delivery.

The independent variables were entered stepwise into the logistic regression model. Age and education were entered into the final model together with the remaining independent variables.

In the final model (Table V), four independent predictors were noted: use of traditional medicine, traditional massage, depressive symptoms in late pregnancy and depressive symptoms at about one week post-delivery. The strongest predictor for PND was traditional medicine use and it increased the risk of getting PND by a factor of approximately 10.

Discussion

The prevalence of PND in this study is 20.7%, which is higher than most reported series overseas [10,11,12,3]. A meta-analysis done by O'Hara showed that the prevalence of PND is 13%[13]. Reviewing the studies that have been conducted in Malaysia, including our own study, it appears that PND in Malaysia is a common disorder. Therefore, there is concern for the need to refine a system for reliable detection and to develop cost effective intervention strategies, which can be delivered widely within the health service.

EPDS is a screening instrument and high scores do not themselves confirm depressive illness. Nevertheless, evaluation and validation of EPDS shows that it provides a valid measurement of affective morbidity[14, 15, 16]. It also has been previously used alone in screening maternal mood[17]. In the validation study of EPDS, we found that EPDS has satisfactory concurrent validity with Clinical Interview Schedule, General Health Questionnaires and Hamilton Depression Rating Scale[9]. It is therefore reasonable to assume that the risk factors reported in this study are important in the development of PND. In addition, currently EPDS has been used worldwide; therefore any preventive or interventive program is likely to use EPDS for initial screening[18].

The presence of intensive care and support for mothers during the confinement period among Malay population was highlighted by Laderman[19]. In this study, 94.7% of the women received help during the confinement. The help that the women received came from close family members like mother or mother -in - law, sister or husband. However, unlike in the west where social support plays an important role in the development of PND[20, 21]. Our finding was also similar with another study by Hapgood *et al.*[22] This contradicts the views of Lee *et al.* that suggest social support involved in traditional practices might protect women against PND except for those who practiced traditional massage (which we found to be a protective factor)[23]. The majority of women in our community had some kind of social support unlike the western community.

There have been numerous studies recently that looked at the relationship between PND and disturbances in mother-infant relationship. However, there is still controversy as to whether "bonding" problems cause or worsen PND or vice versa. In our study, we found that worried about their babies were significantly associated

Table I: Prevalence of depressive symptoms based on EPDS scores in all the three stages of the study

Stages of the study	% EPDS scores (12 and above)
Late pregnancy	30.2
One week postpartum	22.8
4-6 week postpartum	20.7

Table II: Socio-demographic characteristics of 78 PND and 299 without-PND women

Variables	PND (n=78) %	Without-PND (n=299) %	p-value *
Age of the women (years)			NS
<27	25.6	25.0	
27-31	29.5	26.4	
32-36	25.6	25.8	
>36	19.2	22.7	
Education			NS
Tertiary	6.4	7.4	
Secondary	88.5	86.6	
Primary	5.1	5.4	
None	0.0	0.7	
Occupation			* 0.027
Housewives	83.3	70.2	
Government	6.4	18.7	
Private	7.7	6.7	
Self-employed	2.6	4.3	
Husband's Occupation			NS
Unemployed	0.0	0.3	
Government	34.6	36.8	
Private	30.8	31.8	
Self-employed	34.6	31.1	
Total monthly household income (RM)			0.039
< 500	38.5	37.8	
501-1000	48.7	37.1	
1001-2000	9.0	15.7	
≥2000	3.8	9.4	
Number of Children			NS
0-2	57.7	47.5	
3-4	28.2	32.4	
5 and above	14.1	20.2	
Duration of Marriage			NS
< 6 years	42.9	37.5	
7-11 years	29.5	30.1	
>12 years	28.2	32.4	
Duration of Marriage			NS
< 6 years	42.9	37.5	
7-11 years	29.5	30.1	
>12± years	28.2	32.4	
Type of marriage			NS
Monogamous	84.6	88.3	
Polygamous	15.4	11.7	

* Chi-square test NS Not significant

The PND and without-PND groups were based from the EPDS score that was taken at 4-6 weeks postpartum. (EPDS score 12 and above is considered positive)

Table III: Obstetric and neonatal risk factors in 78 PND and 299 Without-PND women

Variables	PND (n=78) %	Without-PND (n=299) %	p-value†
Parity			NS⁻
1	21.8	12.7	
2-4	44.9	46.5	
5 and above	33.3	40.8	
Unplanned pregnancy	59.0	56.2	NS
Past history of abortion	20.5	22.0	NS
History of medical illness	12.8	8.4	NS
History of Caesarian section	7.6	7.0	NS
Types of delivery			NS
Vaginal delivery	91.0	94.6	
Assisted delivery	3.8	3.7	
Caesarian section	5.1	1.7	
Problem with the babyís health	16.6	17.0	NS
Baby's sex			NS
Female	52.6	50.2	
Male	47.4	49.8	
Satisfaction with the babyís sex	100.0	99.3	NS
Infant's temperament	69.2	62.2	NS
Worried about the baby	66.7	50.5	0.03
Not breastfeeding	6.4	11.4	NS
Outcome of pregnancy			
Baby alive	96.2	98.0	
Baby dead	3.8	2.0	

† Chi-square test

∅ Not significant

The PND and without-PND groups were based from the EPDS score that was taken at 4-6 weeks postpartum. (EPDS score 12 and above is considered positive)

Table IV: Psychosocial risk factors in 78 PND and 299 Without-PND women

Variables	PND (n=78) %	Without-PND (n=299) %	p-value *
Traditional practices			
Traditional massage	91.0	95.6	0.05
"bersalai/bertunku"	83.3	88.3	0.01
Traditional corset	84.6	89.6	NS
Taking	97.4	93.3	0.05
Traditional medicine			
Food taboos	91.0	95.3	NS
Postnatal rituals	92.3	95.3	0.02
Problem with husband	30.8	19.1	0.05
Problems with children	32.1	28.4	NS
Problems with in-law	17.9	16.7	NS
Problem with neighbors	9.0	11.0	NS
Financial problem	56.4	38.1	0.00
Occupational problem	30.8	22.7	NS
Not satisfied with marriage	3.8	4.0	NS
Received help during confinement	94.9	93.0	NS
Satisfaction with husband's help during confinement	96.2	98.3	NS

* Chi-square test
NS Not significant
The PND and without-PND groups were based from the EPDS score that was taken at 4-6 weeks postpartum. (EPDS score 12 and above is considered positive

Table V: Multiple logistic regression model of PND

Risk factors	Odds Ratio (95% CI)	p-value
Taking traditional medicine	9.7 (1.7-56)	0.01
Depressive symptoms in late pregnancy	3.0 (1.6-5.5)	0.00
Depressive symptoms at about one week post- delivery.	7.6 (4.0-14)	0.00
Protective factors		
Traditional massage	0.2 (0.06 -76)	0.02

Age and education were included in the final model

with PND. The presence of feelings of worries about their babies was found to increase the risk of PND by a factor of approximately three. Bewley stated that women with postnatal depression might experience loss of appetite, insomnia, irritability, guilt, low mood and anxiety about the baby.[24] Thus, these depressed mothers may project their feelings to their babies. They may present to the health workers with excessive worries about their babies.

In our study, most of the women were Malays, and the majority of them (87.0%-97.0%) still follow traditional practices post delivery. It is believed in Malay society that with the expulsion of the baby and loss of blood or 'hot' body fluid, the new mother enters into the 'cold' state that lasts until about 40 days. During this period, she must not come out of confinement and must adhere to certain traditional practices[19].

Postpartum mothers do not neglect their internal coldness. Most of them begin to take heating medicine soon after delivery[19, 23]. The traditional medicine can be roots or herbs that are boiled and the fluid subsequently drunk, the herbs may also be in the tablet or capsule form[19, 23]. For "external coldness", there are various practices that the Malay women usually follow. One practice is wearing the traditional corset or 'bengkung'. It is a long sash wound tightly around the waist to help women regain their shape. Usually, before putting the sash, the new mother's abdomen is rubbed with traditional herbs. This practice is believed to assist shrinkage of the uterus[23]. Our study shows that the practice of wearing traditional corset is still adhered to by 88.6% of women.

Surprisingly, compared to other traditional practices that have been studied, the percentage of women using traditional medicine is higher in women who developed PND compared to those without PND. Mothers who use traditional medicine post-delivery in this study were at 10-fold risk of getting PND. There are two possible explanations for this result. First, is the possibility of biochemical substances in traditional medicines that might play a role in the development of PND. Another possibility is that the women who were depressed felt that they had some health problems either physically or mentally. Hypochondriasis may be a symptom of severe depression. However, for women who have had PND, this may not be that severe. Since women felt that they were unhealthy, they could have thought that taking traditional medicine might improve their health.

Another form of heat therapy that was practised by the new mothers was 'bersalai' or 'bertungku'. The heat therapy is thought to dry up the lochia faster and to cause the blood to circulate faster (since the mother's cold state was thought to slow down blood circulation). It is also practised to encourage rapid involution of the uterus, closing of the cervix and assisting the mother in to regain her youthful figure and tight vagina[19]. Although "bersalai" or "bertungku" is less popularity nowadays compared to other traditional practices post-delivery, it is still practised by 87.3% of the women in our study.

Besides having her own internal and external application of heat, the new mother's body heat is increased by the traditional midwife in her role as masseuse. The traditional masseuse will come to the house to perform the massage believed to improve circulation and muscle tone and heal the internal wound caused by childbirth. In this study, it is not surprising that this relaxing postpartum massage has protective effect on the development of PND. Usually the traditional masseuse is often a close friend to most women in the community[24]. They trust and respect her as a person with special skills.

Most societies have prohibitions or taboos on behaviors or food consumption during the postpartum period[25]. Malay women in this study were no exception. About 94% of women in this study still adhered to this set of rules and beliefs. According to Laderman and Siti Hasmah, postpartum Malay women regulate their diet to avoid 'hot', 'sharp', 'cold' and windy foods. [19,26]

According to Helman, cultural factors play a complex role in response to stress[27]. Thus, cultural factors can be causal, contributory or protective in their relation to the development of PND. Epidemiologists and anthropologists make important contributions to the understanding of how risk factors are related to the development of PND. In understanding why a particular individual gets PND, a much wider range of factors such as psychological, socio-cultural, hormonal as well as genetic must be taken into account. Further studies are needed to understand how these complex factors like social-class, cultural beliefs and practices contribute to the development of PND.

Acknowledgements

We would like to acknowledge Universiti Sains Malaysia for the grant given to do this study. We also gratefully acknowledge the cooperation of all participating people, including medical and health officers and their staff involved in this project.

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