Postnatal depression – Biological or cultural? A comparative study of postnatal women in the UK and Taiwan

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Postnatal depression – biological or cultural? A comparative study of postnatal women in the UK and Taiwan

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Postnatal depression – biological or cultural? A comparative study of postnatal women in the UK and Taiwan
Aim. The aim of the study was to compare the factors which are associated with postnatal depression in the UK (United Kingdom) and Taiwan.
Background/Rationale. A comparative study of postnatal women in the UK and Taiwan was undertaken to investigate postnatal care and the prevalence of postnatal depression.
Design/Methods. The Edinburgh Postnatal Depression Scale (EPDS) was used to determine the prevalence of postnatal depression. A semistructured interview and validated questionnaire were used to collect data on maternal satisfaction with postnatal care and the factors associated with postnatal depression. A one in three random sample of women from two community midwife teams in Sheffield, UK and three public health stations in Keelung, Taiwan took part in the study.
Results/Findings. Fifty (94% response rate) women from Sheffield and 101 (83% response rate) women from Keelung, who were at low risk for maternal or foetal problems during labour and the postnatal period, agreed to participate. The prevalence of postnatal depression in the British and Taiwanese women was almost equal; 18% in the UK and 19% in Taiwan. In Taiwan, the prevalence of postnatal depression had a negative association with relationship with partner (Spearman correlation \( r = -0.34, P < 0.001 \)) and self-confidence (Spearman correlation \( r = -0.28, P < 0.01 \)). In addition Taiwanese women who felt more anxious after birth (10.9 ± 7.9, \( P < 0.001 \), \( t \)-test) had a higher chance of postnatal depression. In the UK, there was a significant negative association between adaptation to the new role of motherhood and score on the EPDS (Spearman correlation \( r = -0.47, P < 0.001 \)). The overall scores for maternal satisfaction were 28.1 and 24.3 in the UK and Taiwan, respectively (\( P < 0.001 \), \( t \)-test). British women reported a better quality of care during the postnatal period in terms of emotional support and physical care.
Conclusions. The findings of this study suggest that further cross cultural investigation could shed light on the relative balance of biological and cultural factors which may be associated with the onset of postnatal depression. As the prevalence of postnatal depression is similar in both cultures despite large differences in culture and postnatal care systems, some support is given to a hypothesis that postnatal depression has at least some biological determinants as well as cultural/social ones.
Introduction

After giving birth women in many cultures are subject to postnatal rituals. They often follow certain dietary rules and other taboos and are cared for mainly by other women. This period of rest and seclusion usually lasts between 20 and 40 days (McGilvray 1982). In Chinese culture this is called ‘Doing-the-month’ (Wong 1994). During this time, the mother will be confined to home and observe ritual practices which are thought to bring the postnatal condition back to a normal state of health. In almost all western societies including the UK, there are however, only vestigial remnants of a 40-day ‘lying-in’ period and few postnatal rituals are followed (Foster 1995).

Postnatal depression has been described in many different cultural settings (Spitzer et al. 1978, Shimzu & Kaplan 1987, Cox 1988). However, as a number of definitions have been used, it is not surprising that the reported prevalence of postnatal depression varies so widely, depending on the measuring instruments used, the people who use them, the criteria for diagnosis and the time after birth at which depression is assessed.

In the UK, the reported incidence of postnatal depression has ranged from 5 to 22% (Richards 1990) and a prevalence of 13.8% has been reported by Cox et al. (1993). Many biological and social factors have been reported as associated with postnatal depression. For example, cortisol levels (Oakely & Chamberlain 1981) thyroid abnormalities (Harris et al. 1992) marital conflict (Tod 1964, O’Hara et al. 1984, Whiffen 1988, Murray 1992) past psychiatric history (Tod 1964, Paykel et al. 1980, O’Hara 1986), obstetric complications (O’Hara 1986, Murray 1992) poor relationship with partners (Kumar & Robson 1984) and poor social support (Paykel et al. 1980, Kumar & Robson 1984, O’Hara et al. 1984, Stein et al. 1989) have all been reported as significant associations.

There are, however, very few reports of postnatal depression in Taiwan. Chen et al. (1994) investigated 129 postnatal Taiwanese women using the Beck Depression Inventory (BDI) as a detection tool. They reported that 40.3% were mildly to severely depressed during the first 6 weeks of the puerperium and suggested that the best predictors of postnatal depression were self-esteem, social support, perceived stress and type of pregnancy (planned vs. unplanned).

Postnatal depression and cultural/social factors

There is no conclusive epidemiological evidence to support the view that some aspects of culture reduce the risk of postnatal depression. Dragonas et al. (1992) reported a comparative study examining the effect of psychosocial factors on the emotional well-being of 165 Greek and 124 British mothers and their partners following childbirth. No significant associations were found in either culture, although social support and life events might have been expected to predict postnatal depression in both cultures. Other studies done by Pillsbury (1978) and Cox (1988) have described the postpartum Chinese custom of ‘doing the month’ when women receive far more attention following birth than mothers in western countries. Pillsbury concluded that this might protect Chinese women from postnatal depression. Postnatal depression however, is sometimes used not only as a formal psychiatric diagnosis of a depressive illness but also as a ‘folk’ label to describe any psychological difficulty that occurs after giving birth Oakely (1981). Furthermore, as Oakley suggested, the causes of postnatal depression may be closely linked to changing roles for women in present day society and a complete understanding of the disorder might require a ‘full recognition of feminist issues’ Okano and Nomura (1992).

As postnatal rituals and care systems are so different in the UK and Taiwan, the following questions are raised: Is the prevalence of postnatal depression different in cultures in which women are cared for differently in the postnatal period? Could a comparative study shed light on the relative weight of biological and cultural factors in the causation of postnatal depression?

The study

Methodology

Objectives

• To determine the prevalence of postnatal depression in women in the UK and Taiwan.
• To compare the factors associated with postnatal depression in the UK and Taiwan.
• To determine maternal satisfaction with postnatal care received in the UK and Taiwan.

Keywords: postnatal depression, maternal satisfaction, motherhood, Taiwan, United Kingdom
Design
This was a comparative study of postnatal women in the UK and Taiwan within three months of delivery, using a semi-structured interview, a self-administered questionnaire and the Edinburgh Postnatal Depression Scale (EPDS).

Instruments

**Edinburgh Postnatal Depression Scale**
The EPDS has been developed to assist primary health care professionals in the detection of mothers suffering from depression (Cox et al. 1987). It is a 10-item self-report measure and the most widely used scale for screening for postnatal depression in the UK. Many studies have supported the validity and reliability of the EPDS (Cox et al. 1987, 1993 Murray & Carothers 1990). A cut-off score 12/13 has been found to identify most seriously depressed women, but a score of nine or more has been used to recommend further investigation using the Research Diagnostic Criteria (Spitzer et al. 1978). The EPDS was chosen as it has already been validated in number of different populations (Boyce et al. 1993, Lundh & Gyllang 1993, Jadresic et al. 1995). The validity of a Chinese translation prepared by the investigators was assured by a rigorous methodology with translation in conjunction with two independent health professionals and a linguist (Wickert 1967). A cut-off score of 12/13 on the UK EPDS and the Chinese version of the EPDS was used to indicate the prevalence of postnatal depression in both countries.

**Main questionnaire**
A six-part questionnaire was developed to collect other data. This questionnaire consisted of multiple-choice and open-ended questions based on a conceptual framework derived from previous published research (Ball 1987, Sharp 1993) and feedback from pilot interviews.

An initial questionnaire was first tested on seven women who attended antenatal clinics in Sheffield, who after obtaining their permission, were interviewed for approximately one and half hours. This was used to establish content validity. The investigators were then able to develop a semi-structured questionnaire, consisting of six subscales; the general characteristics of the woman, ritual customs and cultural beliefs, information about the baby, hospital birth experience, maternity care in community and informal care givers and relationship with partner. A second draft questionnaire was then tested with a convenience sample of 10 postnatal women and a two-week test–retest reliability was calculated. The resulting Pearson correlation coefficient of 0.91 for the six main constructs of the questionnaire enabled the final version of the questionnaire for the survey to be prepared. The internal consistency of instrument was evaluated and a Cronbach $\alpha$ of 0.87 was obtained, with subscale reliability coefficients ranging between 0.82 and 0.93. In addition, an advisory group of three midwives (included two British and one Chinese), chosen because of their experiences in maternity care, assessed the questionnaire for content validity, as well as clarity, completeness, and readability. The completed questionnaire was translated into a Mandarin Chinese edition for use in Taiwan (YCH).

The subjects
The subjects for the UK arm of the study were recruited from Sheffield and those in Taiwan from Keelung city. Both cities have similar geographical background, populations and social class distribution (HMSO 1991, DoH 1994). A one-in-three random sample of postnatal women within 3 months of delivery was obtained from the patients of two General Practitioner and midwife teams in the UK and three public health stations in Taiwan. Women needed to satisfy two criteria: first to be within 3 months of delivery; and secondly to be without any serious complications during pregnancy or during the puerperium. These criteria were validated by the doctors and/or midwives/public health nurses responsible for the mothers in both countries. Three months of the study took place in Sheffield, UK and a further 6 months study in Keelung, Taiwan.

Data collection
The Sheffield survey ran from April to June 1994. During this three month period, one of the investigators (YCH) joined a community midwife team for their daily postnatal home visit. The midwives obtained agreement to participate in the study from the mothers and administered the research consent form to those women who agreed to take part. The investigators then arranged times for interviews and asked these women to fill in the questionnaire and EPDS scale.

In Keelung the survey ran from November 1994 to April 1995. At the time of the survey the organization of Taiwan National Health Services was completely different to that of the UK. It was therefore necessary for the investigators to modify the circumstances of interview. One of the investigators (YCH) attended two district public health nurse teams and joined their maternity care activities in order to contact women for the survey and obtain their permission for an in-depth interview and questionnaire administration.
Data analysis

The extended version of the Statistical Package for Social Sciences (SPSS) was used for the data analysis. Associations were tested using Chi-square, t-test, Spearman correlation coefficients and ANOVA. Details of the particular tests used are shown in the appropriate results sections.

A ‘Grounded theory’ method was adopted for this study to analyse the qualitative data (Strauss & Corbin 1990). Completed questionnaires were photocopied and the resulting copies cut up and divided into question replies to be categorized by the investigators. Transcriptions of the interviews were read and carefully examined for emerging categories. The UK data were also categorized independently by three native English speakers, including a hospital midwife, a health visitor and one postnatal woman. The equivalent Taiwanese group included one reviewer bilingual in Chinese and English, one Taiwanese maternal-child nursing lecturer and one postnatal woman. They were asked to review the data and subsequent feedback from the respondents to ensure rigor in the minimization of personal bias and interpretation.

Results

Maternity care in the UK and Taiwan

In Sheffield 53 mothers were invited and 50 agreed to take part (94%). In Keelung 122 mothers were invited and 101 agreed to take part (83%). In both countries 78% of the women were aged between 25 and 35 years. Prior to delivery, 79% of the Taiwanese had been in full time employment compared with only 54% of the British. The overwhelming majority of Taiwanese were married (92%) with 1% single and the remainder comprising widows and divorcees. In the UK, 14% of mothers were single and 62% were married; the other 24% either had ‘steady’ relationships or were divorcees. There was also a significant difference in the proportions of women who had received higher education: 66% in the UK and 34% in Taiwan (P < 0.001, χ²). Seventy-two percentage of the British women were Christian whereas 60% Taiwanese were Buddhist. Using the UK Registrar General Classification (1994), 84% of Taiwanese women were classified as social class I, II, and III (nonmanual and skilled manual). The British women who were employed all came from social class I, II and III (nonmanual and skilled manual) (n = 38, 100%).

Forty percentage of the British and 53% of the Taiwanese women were primigravidae. No significant difference was found in the health of the babies, that is, they had no serious physical illness and all had a normal developmental assessment in the UK and Taiwan. Attendance at parent-craft classes was significantly different; 62% of the British women attended classes compared with only 28.7% Taiwanese (P < 0.001, χ²) which reflects in part the different provision of health services.

Three out of the 151 subjects in this study had a home birth, and these were all in the UK. The length of stay in hospital was significantly different between the two countries: 81% of Taiwanese compared with 46% of the British women reported that they had stayed in hospital for more than 2 days (P < 0.001, χ²).

Maternal satisfaction in this study had three components: satisfaction with the support from others (i.e. friend, family and partner); satisfaction with the help from health professionals and belief of the mother herself that she was capable of coping with the new role. The overall scores for maternal satisfaction were 28.1 and 24.3 in the UK and Taiwan, respectively (P < 0.001, t-test). There were more health interventions and a much higher degree of ‘emotional support’ by community health professionals reported by mothers in the UK when compared with Taiwan (P < 0.001, t-test). British women reported a better quality of care during the postnatal period in terms of ‘emotional support and physical care’ (mean in the UK = 28.8 and 22.6 in Taiwan, P < 0.001, t-test). In addition, the modal number of health interventions which the British mothers received from the hospital staff was 8 (76%) in contrast to 5 (54%) in Taiwan. The modal number of community care health interventions which mothers received in the UK was 6 (82%) compared with a mode of 4 (5%) in Taiwan. However, because of the different community care system in Taiwan, only 10 of the Chinese sample were offered such interventions in the community.

The caesarean section rate in the present study was 38% in Taiwan and 14% in the UK. The National Birthday Trust survey (1991) reported 12% Caesarean section and 9% instrument vaginal deliveries in the UK. Both British and Taiwanese women had the lowest overall maternal satisfaction in the caesarean section groups.

More episiotomies were done in Taiwan than in the UK women (58% and 30%, respectively), and 91% of the Taiwanese women reported regret at their episiotomy. By contrast 20% of the British women who had had an episiotomy expressed regret.

Postnatal depression in the UK and Taiwan

The mean scores on the EPDS in the UK and Taiwan were 7.5 (SD 3.72) and 8.7 (SD 4.0), respectively. Nine subjects in the UK (18%) and 19 subjects in Taiwan (19%) had scores greater than 12 which was used to indicate postnatal
depression. There was no significant difference \((P > 0.01,\ ANOVA)\) in the prevalence of postnatal depression between the two cultures. Individual item scores on the EPDS for each country are shown for comparison in Table 1. The only significant difference in score was found for the item ‘Being so unhappy that has had difficulty sleeping’ \((P < 0.001, \chi^2)\), that is, more Taiwanese than British women reported sleeping problems as a result of unhappiness.

In Taiwan, the prevalence of postnatal depression had a negative association with relationship with partner (Spearman correlation \(= -0.34, \ P < 0.001\)) and self-confidence (Spearman correlation \(= -0.28, \ P < 0.01\)). In addition, Taiwanese women who felt less anxious after birth had a higher chance of postnatal depression \((P < 0.001, t\text{-test})\). In the UK, there was also a significant negative association between self-confidence and the prevalence of postnatal depression (Spearman correlation \(= -0.31, \ P < 0.01\)). There was an additional significant negative association between adaptation to the new role of motherhood and score on the EPDS (Spearman correlation \(= -0.47, \ P < 0.001\)). This suggests that a woman in the UK with a poor adaptation to the new role of motherhood and lower self-confidence was at a higher risk of postnatal depression. A Taiwanese woman with a perceived ‘lower quality of relationship’ with her partner and lower self-confidence was also at a higher risk of postnatal depression.

Postnatal rituals in the UK and Taiwan

The postnatal experience of women in the UK and Taiwan was very different. In Taiwan, the majority (72%) of women reported that they observed most if not all (95%) of the traditional taboos and dietary recommendations whilst ‘Doing the month’. A comparison of postnatal rituals reported by women in the UK and Taiwan is shown in Table 2. Significant differences were observed in the proportions of women reporting their adherence to various postnatal customs. For example, there was a highly significant difference in the proportion of women in the two countries restarting their social life within 1 month of delivery (69% in the UK and 14% in Taiwan, \(P < 0.001, \chi^2\)).

Discussion

A variety of concerns underline the importance of using caution in the interpretation of these findings. The numbers of subjects in some subgroups of the sample were small and conclusions about the relationship of postnatal rituals with the prevalence of postnatal depression cannot be definitive. Nevertheless, there were associations observed which reached high statistical significance \((P < 0.001)\) and these are considered in detail.

There was also a lack of some national comparable data available in Taiwan, for example, women’s satisfaction with maternity care and the prevalence of postnatal depression. The prevalence of postnatal depression in Taiwan may have been underestimated because of the number of women whose symptoms were primarily somatic. The significant difference observed in the insomnia item score on the EPDS may be because of depression often being manifest as insomnia or generalized weakness in a Chinese culture (Kleinman 1980). The current study is, to the authors’ knowledge, the first one which has used the Edinburgh Postnatal Depression Scale to detect postnatal depression in Taiwan. Two previous studies used the Beck depression inventory as a detection tool, and found a considerably higher prevalence of prenatal and postnatal depression among Taiwanese women (Chen et al. 1994). In addition, some studies in mainland China have reported that between 11 and 17% of Chinese women scored highly on the EPDS 6 weeks to 6 months postpartum (Guo 1993, Pen et al. 1994, Shen & Zhai 1996).

A potential methodological problem of this study concerns the comparability of the Chinese and English versions of the EPDS. The translation of the EPDS into Chinese could not guarantee that all the items had the same psychological meaning for the two groups of subjects, that is, some of the items in the two versions of the EPDS may not have possessed cross-cultural equivalence. The best method to have solved this problem would have been to study the EPDS empirically in the Chinese context and gradually develop an instrument that would be appropriately meaningful, and comparable in Taiwan and in the UK. However, this strategy would have been too time-consuming and beyond the resources of this study. The EPDS was translated into Chinese by the investigators in conjunction with a number of other health professionals and underwent several iterations and some minor changes to make the wording colloquial. It was recognized that such a translation did not result in a perfect cross-cultural equivalency of the underlying psychological constructs of the EPDS. This study however, was not setting out to validate the EPDS in a Taiwanese population and the EPDS was chosen as it had already been validated on a number of different populations. The cut off point of 12/13 was used as it had been shown in other studies to be the best discriminator for postnatal depression (Cox et al. 1987, Boyce et al. 1993, Reighard & Evans 1995). A different cut off point would have made comparison with other published studies difficult. In spite of these problems, the findings did point to cross-cultural similarities and differences and the results had maximal face-validity and concurrent validity.
Table 1 Comparison of the EPDS score in the UK and Taiwan

<table>
<thead>
<tr>
<th>Variables</th>
<th>Women reporting in the UK (n = 50)</th>
<th>Women reporting in Taiwan (n = 101)</th>
<th>Chi-square</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laugh and see the funny side of things</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>As much as I always could</td>
<td>35 70.0</td>
<td>87 86.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not quite so much now</td>
<td>11 22.0</td>
<td>11 10.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Definitely not so much now/not at all</td>
<td>4 8.0</td>
<td>3 3.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Look forward with enjoyment to things</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>As much as I ever did</td>
<td>35 70.0</td>
<td>74 73.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rather less than I used to</td>
<td>14 28.0</td>
<td>23 22.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Definitely less than I used to/Hardly at all</td>
<td>1 2.0</td>
<td>4 4.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have blamed oneself unnecessarily when things went wrong</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes, most of the time</td>
<td>1 2.0</td>
<td>14 13.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes, some of the time</td>
<td>25 50.0</td>
<td>43 42.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not very often</td>
<td>18 36.0</td>
<td>43 42.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No, never</td>
<td>6 12.0</td>
<td>1 1.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I have been anxious or worried for no good reason</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not at all</td>
<td>10 20.0</td>
<td>7 6.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hardly at all</td>
<td>18 36.0</td>
<td>31 30.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes, sometimes</td>
<td>20 40.0</td>
<td>54 53.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes, very often</td>
<td>2 4.0</td>
<td>9 8.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I have felt scared or panicky for no very good reason</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes, quite a lot</td>
<td>1 2.0</td>
<td>3 3.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes, sometimes</td>
<td>12 24.0</td>
<td>31 30.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No, not much</td>
<td>22 44.0</td>
<td>43 42.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No, not at all</td>
<td>15 30.0</td>
<td>24 23.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Things have been getting on top of me</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes, most of the time I haven’t been able to cope at all/</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes, sometimes I haven’t been coping as well as usual</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No, most of the time I have coped quite well</td>
<td>24 48.0</td>
<td>51 50.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No, I have been coping as well as ever</td>
<td>8 16.0</td>
<td>21 20.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I have been so unhappy that I have had difficulty sleeping</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes, most of the time/Yes, sometimes</td>
<td>3 6.0</td>
<td>19 18.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not very often</td>
<td>10 20.0</td>
<td>45 44.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No, not at all</td>
<td>37 74.0</td>
<td>37 36.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I have felt sad or miserable</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes, most of the time/Yes quite often</td>
<td>3 6.0</td>
<td>10 9.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not very often</td>
<td>35 70.0</td>
<td>50 49.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No, not at all</td>
<td>12 24.0</td>
<td>41 40.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I have been so unhappy that I have been crying</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes, most of the time/Yes, quite often</td>
<td>3 6.0</td>
<td>5 5.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Occasionally</td>
<td>28 56.0</td>
<td>52 51.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No, never</td>
<td>21 42.0</td>
<td>44 43.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The thought of harming myself has occurred to me</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes, quite often/sometimes</td>
<td>4 8.0</td>
<td>9 8.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hardly ever</td>
<td>1 2.0</td>
<td>22 21.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td>45 90.0</td>
<td>70 69.3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*P < 0.001, NS = Not significant.
Similarly, a great deal of attention was paid to the construction and translation of the main questionnaire used in the study to ensure its reliability. The EPDS could not help to distinguish between current depression (i.e. during the postnatal period) and pre-existing depression (starting during the antenatal period). Although the prevalence of pre-existing depression in postnatal women was not measured in this study, it is unlikely to be significant. However, further research is required to test this assumption and measure the prevalence of depression during the antenatal period.

In this study, 74% of Taiwanese subjects (compared with 26% of the UK subjects) were interviewed during the third month after giving birth because of the new born registration policy in Taiwan being dependent on the time of the family going to the city council to register the new baby. It was only after this that the baby and the household name list was sent by the city council to the local public health station for the purpose of arranging the baby’s immunization. The public health nurses in Taiwan are mainly concerned with the health of the baby and it was sometimes quite difficult to get an accurate new mothers’ name list for interview. Consequently, the time of interview with the Taiwanese women was generally later than the British women, although all interviews were within the 3-month postnatal period.

The data collection time in Taiwan was twice as long as in the UK which resulted in the total sample size of subjects in Taiwan being twice as large as in the UK. In addition, a lack of National Taiwanese cohort data made it difficult to establish the representativeness of the sample to put the data in context. However overall, the investigators believe that the sample size was sufficiently large to make comparisons both between and within the two cultures.

The prevalence of postnatal depression reported in this study was 18% and 19% in the UK and Taiwan, respectively, and no association was found between postnatal depression and cultural background or the organization of postnatal care. Cox reported in his prevalence studies of postnatal depression in the Chinese, Asian and Nigerian communities, that postnatal depression is rare in these ethnic communities (Cox 1988). The 19% prevalence of postnatal depression in Taiwan obtained in our study is at variance with this.

In the past, Chinese women received a lot of attention from their family after giving birth and had a long period of rest during the postnatal period. However, with modernization and changes in Taiwanese society from agricultural to industrial, strong family ties between parents and married children have gradually become weaker. Traditionally, the mother or mother-in-law of the postnatal woman looks after her and the baby during the first month after giving birth. In fact, in this Taiwanese sample of puerperal women, only one in three of them actually received this help from their parents or parents-in-law, although the majority (72–95%) of the women observed most of the dietary and behavioural taboos of ‘doing the month’. Some of the women in this study who did not receive this help were able to have their confinement in private centres and take the traditional rest, with professional maternal-child nurses and obstetricians to look after them and the new-born baby. For the majority of postnatal women ‘doing the month’ in Taiwan, however, apart from some practical help from their husbands, the new mother not only needed to take care of herself but also observe the

<table>
<thead>
<tr>
<th>Variables</th>
<th>No. of women reported in the UK (n = 50)</th>
<th>%</th>
<th>No. of women reported in Taiwan (n = 101)</th>
<th>%</th>
<th>Chi-square</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foods not to be taken after child birth</td>
<td>Yes</td>
<td>20</td>
<td>90</td>
<td>91.8</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>Avoiding bath after giving birth for the first 6 weeks</td>
<td>Yes</td>
<td>1</td>
<td>82</td>
<td>82.8</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>Food supplement after giving birth</td>
<td>Yes</td>
<td>15</td>
<td>95</td>
<td>95.0</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>Special tea after giving birth</td>
<td>Yes</td>
<td>6</td>
<td>72</td>
<td>72.7</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>Restarting social life</td>
<td>Within 1 month</td>
<td>34</td>
<td>69.4</td>
<td>13.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>More than 1 month</td>
<td>15</td>
<td>30.6</td>
<td>86.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Go out for shopping/doing house work</td>
<td>Within 1 month</td>
<td>47</td>
<td>93.9</td>
<td>23.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>More than 1 month</td>
<td>3</td>
<td>6.1</td>
<td>76.2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*P < 0.001.
necessory rituals. If there is a substantive cultural influence on the prevalence of postnatal depression, this ‘Creeping Westernization’ may be one of the reasons for a higher prevalence of postnatal depression in Taiwan compared with other ethnic communities. There is some published evidence that the supporting role of family during the postnatal period has decreased in Taiwan during the past decade (Chin et al. 1993, Chen et al. 1994).

Maternal satisfaction in the UK and Taiwan

Overall satisfaction with the emotional support provided by hospital staff and mothers’ evaluation of the health interventions that they received from the hospital in both countries were high. The results also showed that the mothers were generally also highly satisfied with the community midwives’ service in the UK but less so in Taiwan. As the Taiwanese National Health Service was only established in 1995, maternity care in the community has not had time to develop and is therefore very different to the maternity care in the UK.

The average length of stay in hospital after a normal delivery was 4 days in Taiwan and one and half days in the UK. The UK has a better developed community maternity care system than in Taiwan. Indeed, Taiwanese mothers in general are thought to lack realistic knowledge of postnatal care and there is a considerable shortage of support services available from their community (Chin et al. 1993). The Taiwanese results in our study suggest that mothers are generally satisfied overall with the care they receive during the postnatal period with the exception that they did not receive enough information about how to care for the new baby once they were in the community. This finding reflects the organization of the different postnatal care systems and differing cultural beliefs and expectations.

Postnatal depression: biological or cultural?

In a comprehensive review article, Stern and Kruckman (1983) put forward the challenging hypothesis that it is the absence of postnatal behavioural constraints in Western society that is important in the causation of postnatal depression. The absence of these routine behaviours and rituals may relate to the onset of depression in several ways: for example by lowering the mothers self-esteem, causing uncertainty about the availability of social support, increasing the likelihood of physical fatigue, as well as putting stress on the relationship with her partner. Furthermore, the lack of ritual structure for the postnatal period shows the ambivalence of society about the status to be attached to mothering, an uncertainty which exacerbates her role conflict and increase the threat to her self-esteem. As far as a biological causation for postnatal expression is concerned, although some studies have reported large changes in levels of many psychoactive hormones, including progesterone, oestrogen, cortisol, β endorphin, oxytocin and prolactin, at the time of parturition (e.g. Gordon et al. 1980, Smith et al. 1989, Wieck et al. 1991) almost no direct casual relationship between hormonal changes and postnatal depression has been established.

Conclusion

In conclusion, we have observed big differences in both postnatal rituals and the postnatal care systems between the UK and Taiwan. The findings of our study suggest that despite these differences, the prevalence of postnatal depression is similar in both cultures. This gives some support to a hypothesis that postnatal depression may have at least some important biological determinants as well as cultural and social ones.

References

Postnatal depression – biological or cultural? 


