

ORIGINAL ARTICLE

POSTPARTUM DEPRESSION: A SURVEY OF THE INCIDENCE AND ASSOCIATED RISK FACTORS AMONG MALAY WOMEN IN BERIS KUBOR BESAR, BACHOK, KELANTAN

Wan Mohd Rushidi Wan Mahmud, Shakinah Shariff* & Mohd. Jamil Yaacob

Department of Psychiatry,
School of Medical Sciences, Universiti Sains Malaysia
16150 Kubang Kerian, Kelantan, Malaysia

*Beris Kubor Besar Health Center, Bachok, Kelantan

The aim of this study was to determine the incidence and associated risk factors of postpartum depression among Malay women in Beris Kubor Besar, Bachok, Kelantan. The study was conducted between February to August 1998. A two-stage population survey approach was employed. Firstly, all the women who delivered between the months of February and May 1998 in the catchment area were identified. In stage 1, the 30 items GHQ was used as the screening instrument at 6 to 8 weeks postpartum. All the potential cases (scoring above 6 on the questionnaire) were later interviewed using the CIS in stage 2 of the study. Diagnosis of postpartum depression was only made if the women fulfilled required criteria. Of the 174 women who were recruited, 17 of them fulfilled the criteria for postpartum depression yielding an incidence rate of 9.8 %. The condition was found to be significantly linked to low income or socioeconomic status, having marital problems (mainly financial in nature) and not breast - feeding.

Key words : Post partum, depression, survey

Submitted-22.5.2000, Revised-21.8.2001, Accepted-15/9/2001

Introduction

Postpartum psychiatric disorders typically fall into one of the three categories: postnatal blues, postnatal depression and postpartum psychosis (1). Many see them as part of a single illness, lying on a continuum and differing only in terms of degree or severity (2). The most controversial issue however is whether to regard postpartum depression as a distinct clinical entity (3) or simply an expression of depression not different in character from that occurring at other times (4, 5)

Postpartum depression represents a considerable public health problem affecting not only the women but also their families. It may lead to continuing and recurrent depression (3) associated with marital difficulties (6) and disturbance in infant behavior and development (7,8). If the condition is

to be prevented by clinical and public health intervention, its risk factors need to be reliably identified (9).

Obtaining the incidence and prevalence data of this condition is an important first step in future planning and delivery of the mental health services. Unfortunately, in Malaysia, research in this area is still in its infancy. Three previous local studies have been identified (10,11,12). All of them utilized translated but non-validated version of the EPDS (Edinburgh Postnatal Depression Scale)(13) for use in the Malaysian population. The objective of this study was determine the incidence and factors associated with postpartum depression among resident women in the catchment area of Beris Kubor Besar Health Center, Bachok District, Kelantan delivering between February and May 1998 at 6 to 8 weeks after the delivery.

Material and Methods

In this study, a two-stage population survey approach was used to determine the incidence and associated risk factors of postpartum depression among Malay women within the catchment area of Beris Kubor Besar Health center. The Malay version of the GHQ-30 (14) was employed as an alternative-screening instrument. GHQ-30 (30-items version of General Health Questionnaire) is one of the few scales, which had undergone the validation process in Malaysia both in the English (15) and Malay (14) versions. Although it has lost its popularity in the field of postpartum depression to the EPDS, nonetheless GHQ has been shown to have good specificity and sensitivity as a screening tool for psychiatric morbidity not only in Malaysia (14) but also in other countries (16). The two-stage design [a screening instrument (GHQ) ; and a semi-structured interview - the Clinical Interview Schedule (CIS)] provided an added advantage to this explorative survey of postpartum depression in the community.

The present study, conducted between February and August 1998, utilized the well-established two-stage (a screening questionnaire and a psychiatric interview) approach. The Malay version of the 30 items General Health Questionnaire (GHQ-30) as the screening instrument. For this study in particular, patients scoring above 6 were regarded as “ potential cases” in stage 1 to be included into stage 2 of the study. Although Abdul Hamid & Hatta (14) recommended 7 / 8 to be the desired figure, yielding a specificity of 96.0 % and sensitivity of 93.33 %, Goldberg (17) on the other hand advocated lowering the threshold for screening to allow detection of more cases but with the disadvantage of having to interview a higher proportion of non-cases (i.e. tolerating a lower “ hits-positive rates “).

Identified “ potential cases “ were interviewed by the author using the Clinical Interview Schedule (CIS – Goldberg *et al*, 1970) (18) mainly at the Beris Kubor Besar Health Center. Relevant diagnosis was made based on the Tenth Edition of the International Classification of Disease (ICD-10): Classification of Mental and Behavioral Disorders–Clinical Descriptions and Diagnostic Guidelines (1992) (19)

In stage 1 of the study, for each of the selected women, the purpose of the study was explained and a verbal consent for participation was obtained. They were then asked to complete the GHQ 30 (Malay version) together with a second part containing a psychosocial and demographic self-report.

The inclusion criteria were all resident postpartum women who delivered between the months of February and May 1998 within the catchment area of Beris Kubor Besar Health Center and the exclusion criteria were postpartum women who were non-permanent resident of the area as well as these who refused to participate in the study with or without reasons.

In stage 2 of the study all potential cases from stage 1 (scoring above 6 on the GHQ) were contacted by the primary care doctor and invited to the Health Care Center in order to be interviewed by the author using the Clinical Interview Schedule (CIS). within a maximum of 1 week from the date of receiving the completed questionnaire. In doubtful cases, particularly with regards to the onset of the depressive symptomatology, a relative or the husband was consulted to confirm the history. The overall criteria for “ a case of postpartum depression “ used in this study (Fig. 1) is combination of the criteria for postpartum depression by Pitt (20) and ICD-10 criteria for depressive episodes (1992) (19). Only those who fulfilled the above criteria were included in the subsequent analyses.

The inclusion criteria at stage 2 were all postnatal women who scored above 6 on the GHQ-30 during stage 1 and exclusion criteria at stage 2 were as follows :-

- i) Presence pre- existing organic brain syndromes or epilepsy
- ii) Other preexisting mental disorders including schizophrenia and bipolar disorders or major depression
- iii) Presence of depression or depressive symptomatology before the current delivery including during the antenatal period
- iv) Mental retardation and drug abuse

The criteria for a case of postpartum depression were defined as follows :-

- i) Subjects should have scored above 6 on the GHQ
- ii) The subjects should describe depressive symptoms
- iii) The symptoms should have developed since delivery
- iv) The symptoms should be unusual in their experience, and to some extent disabling
- v) The symptoms should have persisted for at least two weeks

- vi) Fulfilled the ICD-10 criteria for depressive episode (F 32)

The data was analyzed using EPI - INFO version 6 (EPI - 6) and Statistical Package for Social Sciences (version 7.5). EPI - 6 was mainly used for chi-square analyses of the categorical data and SPSS, for the non-parametric analyses (Mann-Whitney U -test).

Results

There were 205 deliveries within the specified period (February and May 1998). 24 women were excluded at stage 1 mainly due to their non-residency status, and 7 at stage 2 as their depressive symptomatology started even before the current deliveries (before pregnancy or during antenatal period). None of the patients dropped out from the study. From the remaining 174 patients recruited for the final analysis, 17 fulfilled the criteria for postpartum depression as in Figure 1. giving the incidence of 9.8% [n=14 : mild depressive episodes and n=3 : moderate depressive episodes under ICD-10 (19)]

The median age of the study population is 30 years old (inter quartile range = 26-35 years) with 74.1 % being over 35 years of age. 71.8% (n=125) of them have less than 6 children but 2.9% (n=5) of the women have more than 10 children (maximum 14 children). A minority [n=5 (2.9 %)] were involved in polygamous marriages with a similar figure receiving no formal education *at all*. 78.7% (n=137) of the women were housewives with 63.2%(n=110) of the husbands being self-employed (mainly involved with farming and tobacco planting). The majority of the study population [n=113 (64.9%)] had a total household income of below RM 500.

96.6% (n=168) of the deliveries were spontaneous vaginal deliveries with female infants slightly outnumbering the males. 13 (7.5%) women had past history of medical or surgical illness (none with history of psychiatric illness). 51.6% (n=89) of the women did not plan their pregnancies and surprisingly only 96 women (55.2%) were practicing or observing the traditional “pantang larang” (prohibitions). In terms of social support, as expected, 81.6% (n=142) had someone to look after them during the confinement period with their husbands, mothers (including mother-in-laws) being the main source of support. 98.3% (n=171) of the women practiced breast-feeding [27 / 171 (15.8%)

of them being partial breast-feeders]. 17 (9.8%) women had marital problems before and after the current deliveries with 7 (41.2%) of them being in the depressed group.

Detailed analyses of the results revealed no significant associations between demographic, obstetrics, neonatal or psychosocial factors apart from three variables namely, marital problems (before and after delivery), low income / socioeconomic status and not breast-feeding their infants (refer to Tables II, III and IV).

Discussion

Postpartum depression is a common disorder and blights the lives of many families. It “predisposes the women to depressive disorders in later life, takes a toll on the quality of mother’s relationships, especially with her husband or partner “(21). Accurate estimates of the risk and risk factors are therefore important for the scientific and clinical understanding of psychiatric disturbance during the puerperium as well as for planning mental health services for the child bearing women and their families (22).

In Malaysia, very few studies have been done specifically looking at postpartum depression. To date, only 3 studies can be identified (10,11,12). The main methodological limitation from the previous three studies in general, was the use of Edinburgh Postnatal Depression Scale (EPDS), which has been translated but not validated, in the Malaysian population. Although the instrument has been widely used in many parts of the world and of proven value in the domain of postpartum depression (13,23,24), it is improper to assume that the same criteria or cut-off points for diagnosis would apply in the Malaysian population. In addition, to rely solely on the self - rated instrument, as the mode of diagnosis without proper validation study to the local population would undoubtedly influence the subsequent analyses and findings.

This particular study was set out to determine the rates and risk factors of postpartum depression in the Beris Kubor Besar, Bachok, and Kelantan. A well-established two-stage population survey approach was employed (a screening questionnaire and a psychiatric interview). This approach was similar to that used by Ramli and colleagues (25) in their study , which looked at the prevalence of psychiatric morbidity in a rural Malaysian village near Kuala Lumpur

17 / 174 women finally included in the study fulfilled the required criteria for a case of postpartum depression giving the incidence rate of 9.8 %. This figure was within the estimates of between 7 % and 14 % (3,4,5); and also near to the 10.8% mark recorded by Pitt (20). However, it was much higher compared to that obtained by Kick Kit *et al* (10) of 3.9 % (Malays = 3%; Indians = 8.5% and Chinese = none; overall = 3.9%). Among the possible contributory factors involved in the low incidence in the Seremban study (10) include the use of invalidated questionnaire to a local population and a cut off score of 12/13 as the sole criteria for diagnosis of depression; the existence of three different races in their study population (each with their own social and cultural background, and possibly different rates of postpartum depression) compared to only the Malay population in this study; and recruiting only hospital based and urban population. It should be noted for example, restricting the study sample to only those attending hospitals or clinics would exclude women who are poor users of medical services and may be most at risk (9).

In the current study, the selected population consisted only of married Malay women with Islam as their religion. Analyses of the data with regard to maternal age, parity, duration of marriage, number of children, employment status, history of medical or surgical illness (in the past or during pregnancy) revealed no significant association with postpartum depression. These findings are in concert with that of O'Hara & Swain (22) in their meta-analysis. There was also no evidence to support any linkage of the condition with obstetric complications or weight of the babies. Other studies that have produced similar results were that of Ghubash and Abou Salleh (26) and Stein *et al* (27) with regards to obstetric complications, and Stein *et al* (27) and Warner *et al* (9) concerning the non association with the weight of the babies.

In certain parts of the world (e.g. Israel), the birth of a female infant is still viewed as a disappointment. The male sex of a newborn on the other hand, is attributed considerable importance and a source of pride. It was not surprising that sex of the newborn infant was found to be an associated factor of significance by Fisch *et al* (28) during their survey of postpartum depression in that population. The Malays however, do not hold a similar view and this was borne out in the finding of lack of any association between the sex of the babies and postpartum depression in the present

study. The strong Islamic religious ideology may be a contributing factor since the teaching of Islam strictly discourages such discrimination in any circumstances.

Many societies have prescriptions and sets of rules and beliefs, which dictate how a woman should feel and act during pregnancy and postpartum. The Malay culture is of no exception. Prohibitions and taboos are still popular in the Malay society both in the urban and rural areas (29), but more so in the rural population (30). In this study, more than half of the women [n=96 (55.2%)] were observing and following the traditional practices. The figure however, is slightly lower compared to 64.3 % observed in the Seremban study (10). This was quite unexpected considering the rural background of the population of the present study compared to the more urbanized Seremban population. The influence of different cultural practices in a mixed population of Malay, Chinese and Indians might have been an important determining factor for the higher percentage in that study (10)

The presence of intensive care and support of the mother during the confinement period especially by the traditional birth assistants were highlighted by Laderman (30). The culturally related supernatural influences may afflict the potentially vulnerable mothers with regard to her already depleted spiritual strength ("semangat") after childbirth. The spirits, particularly "Hantu Meroyan" which arise from the afterbirth, the blood, and the amniotic fluid, may strike especially if the traditional prohibitions after childbirth are not strictly followed. The people most qualified to deal with these problems are the traditional birth assistants (30)

Although these beliefs are gradually disappearing, the tradition of having someone looking after women following their childbirths or at least during the confinement period is still widely practiced and this population was not an exception. 81.6%(n=142) of the women had someone to look after them during their confinement period. Instead of the traditional birth assistants, the women's own mothers and husbands were the main sources of support. The services of the traditional birth assistants ("Mak Bidan") are however still important especially during the early postpartum period such as to perform every day massage ("urut") to the new mother and to provide advice on how to take care of her health and body (29)

Polygamous marriage is an interesting phenomenon worth mentioning although accounting for only 5 (2.9 %) of the women in this study.

Contrary to the expectation, the men involved did not come from a high socioeconomic status group but from the other end of the spectrum. Some of them did not just have one, but two or three wives at the same time. This study however showed no statistically significant association between the types of marriages and postpartum depression. The results were consistent with the findings from other studies (26,28). The latter, in discussing their findings, indicated that the impact of polygamy (whether being the first or second wives) was not significant on its own but was more related to the pivotal factor of marital problems. In the current study, both the women who were depressed and involved in polygamous relationships also had marital problems (financial in nature). This was hardly surprising considering their husband's limited income or financial status.

The three factors that were found to be significantly associated with postpartum depression in this study are discussed below.

1. Breast feeding and postpartum depression

Breast-feeding is as old as the human race and universally accepted as the best method for feeding babies (31,32,33). Its benefits for both infants and mothers have been widely acknowledged and with a plethora of scientific evidence to support its supremacy (31,32). In Malaysia, breast-feeding is widely practiced both among all races. The government, in collaboration with the World Health Organization, had brought into existence a National Policy on Breast-Feeding (33) and included promotion of breast-feeding as part of the "Safe Motherhood" program through its Ministry of Health (34). The establishment of a non-government organization, known as Breast Feeding Advisory Association of Malaysia or "Persatuan Penasihat Penyusuan Ibu Malaysia" (PPPIM) in October 1974, has helped to provide the necessary guidance for mothers towards more successful breast - feeding.

This study revealed that about 98.3% (n=171) of postpartum women were breast-feeding their infants. It is comparable to the figure of 97.3 % found in the study conducted by a group of researchers from Universiti Sains Malaysia (35) in Tumpat, another rural area in Kelantan with relatively similar background to the current study. Unfortunately 42.7 % of the women in their study gave up or ceased to breast feed by 6 months, and the main reasons cited for the cessation were inadequate milk production,

inconvenience for mothers to work and easy availability of the infant formulae (35).

Contrary to the findings by Samiah Yasmin (11), this study found a significant association between not breast-feeding and postpartum depression. This result however was concert with that of Warner *et al* (9). In their study, involving a much larger sample, not breast-feeding was found to be a risk factor for postpartum depression not explained by social class. The authors involved speculated that the reasons were either breast feeding enhances the women's self esteem and makes depression less likely, or the women who are depressed and discontented with their maternal role may give up breast feeding more readily (9).

2. Marital Problems And Postpartum Depression

Marriage is an institution still upheld as one the most important component in a Malay woman's life in Malaysia. Pregnancy, childbirth and motherhood are regarded as key life events and sources of prestige, pleasure and self- esteem (29). As in virtually all societies including Malay, divorce is subject to some social disapproval. Islam has provided means of ending a marriage that can no longer fulfill its functions, only if there is no conceivable way of reconciliation or hope for living together (36). The state of Kelantan has one of the highest divorce rates in Malaysia and among its distinguishing features are the highly tradition oriented Malay population, being among the least modernized states and dependent mainly on the agriculture (36). Although indirect, the high rate of divorce may be used as an indicator of the possible higher rate of marital problems in Kelantan.

However, contrary to that expectation, marital problems were only recorded in 11 (6.3 %) of the women both before and after delivery. Reluctance to confide their marital problems to others (especially to strangers) might be a contributing factor considering the strong cultural and religious values of the population. Higher percentage of the women with marital problems was found in the depressed group compared to the non-depressed group and the differences were of high statistical significance ($p=0.0000061$). For 10 of the 11 (90.9%) women who did indicate the presence of marital problems (including all women in the depressed group), financial reasons were the most popular response as the source of the problems. The other woman indicated that her husband was interested in another woman..

Saminah Kassim (12) in her studies in postpartum women in Sungai Petani, a district in the state of Kedah, north of Peninsular Malaysia, concluded that those women with financial problems, less socialization and marital maladjustment were at a higher risk of postpartum depression. O'Hara & Swain (22) have also shown a significant association between mother's marital problems and postpartum depression in their meta-analysis. Other studies, which have documented similar findings, include the studies in United Arab Emirates (26), Israel (28), and in the Western world (5,6)

Mauthner (37), in her assessment and review of the studies on the importance and role of marital relationship in postpartum depression found that most of the researches actually agree on the existence of a strong association between them. Despite the fact that the studies use different types of samples of women, measure depression using different scales and at different times, assess different aspects of marital relationship, and use different measures to do so, all showed convincing pattern of association between postpartum depression and various aspects of marital relationship (37). What is unclear, however, is whether poor marital relationship is the source or the result of the depression (38).

3. Socioeconomic Status And Postpartum Depression

Kelantan is the poorest state in Malaysia with a poverty rate of 19.2 %, which is 3 times higher than the national average of 6.1% (39). Bachok, on the other hand, is among the poorest districts in the state of Kelantan. Unfortunately, Beris Kubor Besar also possesses the same characteristics. According to a local survey (40), the average household income in Beris Kubor Besar was only RM 240 per month. This figure is well below the poverty line (RM 425 per month) and is close to the figure for the extreme poverty category (RM 215 per month).

In the present study, 64.9%(n=113) of the families were earning below RM 500 per month, including 24.1 %(n=42) with a household income of less than RM 300 per month each. Only 2 (1.1 %) families were in the above RM 2000 income group. Comparing between groups, there was a higher percentage of men within the lower socioeconomic categories in the depressed group, compared to the non-depressed group. Chi-square analyses for linear trend on the socioeconomic status

revealed a significant down-going trend ($p = 0.003$), meaning that the higher the socioeconomic status, the less likely is postpartum depression to occur.

Some of the western studies (5,6,20) found no association between socioeconomic class or status and postpartum depression. In a local scenario however, a similar down-going trend of association between socioeconomic status and postpartum depression was observed (11). This finding is also in concert with the meta-analysis by O'Hara & Swain (22). They concluded, "Less family income and lower socio-occupational status indeed are associated with increased risk of postpartum depression" (22). Although the size of the effect was quite small, the findings suggest women with fewer financial resources are vulnerable and may benefit from psychological and social services during pregnancy and the postpartum period (22).

Finally, it can be concluded that postpartum depression is indeed a reality among Malay women in Beris Kubor Besar and the following composite describes the prototypical woman at risk and represents a synthesis of the risk factors that have emerged from this study

The Malay women are most likely to be occupying the lower social stratum, experiencing marital difficulties and not breast feeding their babies.

Acknowledgements:

The authors would like to thank the Director General of Health, Malaysia for his kind permission to publish this article. We also would like to extend our gratitude to the State Director of Health, Kelantan, Medical Officer of Health, Bachok District and staff from Beris Kubor Besar Health Center.

Correspondence :

Dr. Wan Mohd Rushidi Wan Mahmud, MMed
Department of Psychiatry,
School of Medical Sciences,
Universiti Sains Malaysia,
16150 Kubang Kerian, Kelantan, Malaysia.

References

1. Cox, J.L. *Postnatal Depression. A Guide for Health Professionals*. Churchill Livingstone. 1986.
2. Pitt B. Depression following childbirth. *Hospital Update*. Feb 1991; 133 – 140.

3. Kumar R., Robson K.M. A prospective study of emotional disorders in childbearing women. *British Journal of Psychiatry*, 1984; **144**: 35 – 47.
4. Cooper P.J., Campbell E.A., Day A. Kennerley H., Bond. A non – psychotic psychiatric disorder after childbirth: a prospective study of prevalence, incidence, course and nature. *British Journal of Psychiatry*, 1988; **152**: 799 – 806.
5. Watson J.P., Eliot S.A., Rugg A.J., And Brough D.I. Psychiatric disorder in pregnancy and the first postnatal year. *British Journal of Psychiatry*, 1984; **144**: 453 – 462.
6. Paykel E.S., Emms E.M., Fletcher J., Rassaby E.M. Life events and social support in puerperal depression. *British Journal of Psychiatry*, 1980; **136**: 339 – 346.
7. Cogill S.R., Caplan H.L., Heather Alexandra, Kay Mordecai Robson, and Kumar R. Impact of maternal postnatal depression on cognitive development of young children. *British Medical Journal*, 1986; **292**: 1165 – 1167.
8. Cooper P.J., Murray L. Postnatal depression. *British Medical Journal* 1998; **316**: 1884 – 1886.
9. Warner R., Appleby L., Whitton A., Faragher B. Demographic and obstetric risk factors for postnatal psychiatric morbidity. *British Journal of Psychiatry*, 1996; **168**: 607 – 611.
10. Kick Kit L. , Grace J., Jegasothy R. Incidence of postnatal depression in Malaysian women. *Journal Obstetrics Gynecology Res.* 1997; **23**, **1**: 85 – 89.
11. Samiah Yasmin A.K. The Prevalence of postpartum depression and associated factors in district of Kulim, Kedah, Malaysia: *Dissertation For Master of Medicine [Family Medicine], Universiti Kebangsaan Malaysia.* 1998.
12. Saminah Kassim A.K. Depressive illness after childbirth among mothers in Sungai Petani ,Kedah . *Dissertation For Master of Medicine [Family Medicine], Universiti Kebangsaan Malaysia* 1998.
13. Cox J.L., Jolden, and J.M. and Sagovsky R. Detection of postpartum depression – development of the 10-item Edinburgh Postnatal Depression Scale. *British Journal of Psychiatry*, 1987; **150**: 782 – 786.
14. Abdul Hamid A.R., Hatta S.M. A 1988 Validation Study Of The Malay Language Translation Of General Health Questionnaire (GHQ – 30). *Malaysian Psychiatry* 1996; **2**: **4**.
15. Maniam T. Validation of the General Health Questionnaire (GHQ-30) for a Malaysian population. *Malaysian Journal of Psychiatry*, 1996; **4**, **2**: **1996**.
16. Peck D.F. Measurement in psychiatry. *In Companion to Psychiatric Studies, (Fifth Edition)*. Kendel R.E., Zealley A.K. (Eds). 1993; **Ch 9**: 169 – 185.
17. Goldberg D. *Manual of the General Health Questionnaire*. NFER Publishing Company 1978.
18. Goldberg D.P., Cooper B., Eastwood M.R., Kedward H.B., Shepherd M. A. Standardized psychiatric interview for use in community surveys. *British Journal of Preventative Social Medicine*, 1970; **24**: 18 – 23.
19. WHO. *The International Classification of Disease (ICD – 10) Classification of Mental and Behavioral Disorders. Clinical Descriptions and Diagnostic Guidelines*. World Health Organization. Geneva. 1992.
20. Pitt B. “Atypical “ depression following childbirth. *British Journal of Psychiatry*, 1968; **114**: 1325 – 1335.
21. Barclay C., Bazire S. Depression before and after pregnancy. *UPDATE*. Oct **1998**: 622 – 625.
22. O’Hara and Swain A.M. Rates and risk factors of postpartum depression - a meta-analysis: *International Review of Psychiatry*, 1996; **8**: 37 – 54.
23. Harris B., Huckle P., Thomas R., Johns S. and Fung H. The use of rating scales to identify post-natal depression. *British Journal of Psychiatry*, 1989; **154**: 813 – 817).
24. Murray L., Corothers A.D. The validation of the Edinburgh Postnatal Depression Scale. *British Journal of Psychiatry*, 1990; **157**: 288 – 290.
25. Ramli H., Kasmini K., Hassan S, Kyaw O, Krishnaswamy . A prevalence survey of psychiatric morbidity in a rural Malaysian village. *ASEAN Journal of Psychiatry*, 1991; **1**: 18 – 28.
26. Ghubash R., Abou-Saleh M.T., Daradkeh T.K. The validity of Arabic Edinburgh Postnatal Depression Scale. *Social Psychiatry Psychiatric Epidemiology*, 1997; **32**: 474 – 476.
27. Stein a., Cooper P.J., Campbell E.A., Day A., Altham P.M.E. Social adversity and perinatal complications: their relations to postpartum depression. *British Medical Journal*, 1989; **298**: 1073 – 1074.
28. Fisch R.Z., Tadmor O.P., Danker R., Diamant Y.Z. Postnatal depression: a prospective study of its prevalence, incidence and psychosocial determinants in an Israeli sample. *Journal Obstetrics Gynecology Research*, 1997; **23**, **6**: 547 – 554.
29. Roziah Omar *The Malay woman in the body: between biology and culture*. Penerbitan Fajar Bakti Sdn Bhd 1994.
30. Laderman C. *Wives and midwives. Childbirth and nutrition in rural Malaysia*. University of California Press 1983.
31. Llewellyn A. and Stowe Z.N. Psychotropic medications in lactation. *Journal of Clinical Psychiatry* 1998; **59** (suppl. 2): 41 – 52.
32. Campbell C. Breast - feeding and health in the Western world. *British Journal of General Practice* 1996; **46**: 613 – 617.
33. Persatuan Penasihat Penyusuan Ibu Malaysia (PPPIM): *Mother to Mother Support Training Manual* 1999.

34. *Developing initiatives for safe motherhood: Malaysian story*. National Population and Family Development Board Malaysia in conjunction with the Ministry of Health Malaysia 1998.
35. Zulkifli Ahmad, Daw Win Kyi, Abdul Rahman Isa. Breastfeeding in rural Kelantan. *Malaysian Journal of Medical Sciences*, Jan.1995; **2**: 51– 54.
36. Raja Rohana. *The role and status of Malay women in Malaysia: social and legal perspectives*. Dewan Bahasa dan Pustaka, Kementerian Pendidikan Malaysia, Kuala Lumpur 1991.
37. Mauthner N.S. Re-assessing the importance and role of the marital relationship in postnatal depression: methodological and theoretical implications. *Journal of Reproductive and Infant Psychology*, Chichester; May – August 1998; **16**: 157 – 175.
38. Albright A. Postpartum depression: An overview. *Journal of Counseling & Development*, Jan/Feb 1993; Vol. 71:316 – 320.
39. Hassan Harun. *Kelantan : rakyat dinamik ,negeri semakin ketinggalan*. DD Media Consult Sdn. Bhd. 1999.
40. *Bancian Pejabat Penggawa Kawasan Tanjung Pauh, Tawang , Bekelam dan Repek , Daerah Bachok 1998*.