Soc Psychiatry Psychiatr Epidemiol (2002) 37: 125 – 129

ORIGINAL PAPER

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Postnatal depression in Turkey: epidemiological and cultural aspects

Accepted: 2 November 2001

Abstract *Background* In some periods of a woman's life the risk of depression increases and the postnatal period is one of these. The prevalence and the risk factors of postnatal depression are not systematically studied in Turkey. The aim of this study is to investigate the epidemiological aspects and the cultural factors that may affect postnatal depression in our country. *Method* According to the records of ten primary health care centres in Manisa, a city in western Turkey, there were 1,337 women who had given birth in the previous 6 months. A sample group of 317 mothers were randomised among these women and 257 (81.7 %) of the sample group could be reached. Data were collected by use of the Edinburgh Postnatal Depression Scale and a questionnaire on sociodemographic variables designed for this study. *Results* The mean depression score was found to be 7.54 ± 4.66. When the cut-off point was taken into consideration, 14 % of mothers had a syndromal depression. The factors which affected the prevalence of depression were the number of living children, living in a shanty, being an immigrant, serious health problems in the baby, previous psychiatric history, psychiatric disorder in the spouse, and having bad relations with the spouse and his parents. *Conclusion* These findings revealed that the prevalence of postnatal depression in the Manisa province and the factors affecting it were very similar to other studies; but the negative impact of bad relations of the mother with her family-in-law on postnatal depression seems to be a distinguishing aspect of Turkish culture.

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Key words Postnatal depression – Epidemiological – Edinburgh Postnatal Depression Scale – Cultural aspects – Risk factors

Introduction

Even though giving birth to a new baby is generally a pleasurable and satisfactory experience, some mothers experience some emotional difficulties in this period. The most frequent and distressing one is depression. Depression can be seen throughout the process, during pregnancy and after childbirth (Evans et al. 2001). However, depression in the postnatal period has been studied the most. Depression in the postnatal phase can take a number of forms, the most common distinction is made between the transient experience of 'postpartum blues', which typically occur during hospitalisation, and postnatal depression which is a later, more prolonged and more serious condition (Mc Intosh 1993).

In different studies, the prevalence of postnatal depression was reported as 10–15 % (Cox et al. 1987; Kumar and Robson 1984; Harris et al. 1989; Cooper and Murray 1995; Lawrie et al. 1998; Georgiopoulos et al. 1999). In two different studies carried out in the United Arab Emirates and in Israel the prevalence rates ware found to be 17.8 % and 22.6 %, respectively (Ghubash and Abou-Saleh 1997; Glasser et al. 1998).

In various studies, the risk factors for postnatal depression were determined as follows: economic difficulties, multiparite, stressful life events, depression history in the previous delivery, postnatal depression in former deliveries, negative experiences in former deliveries, separation from one or both parents in childhood or adolescence, low birth weight in the baby, late maternal age, only one marriage experience, hyperemesis gravidarum during pregnancy, smoking and substance use during pregnancy, low apgar score in the baby, poor relationship with the husband, depression history in the family and delivery by caesarean section (O'Hara 1986; Collins et al. 1993; Righetti-Vellema et al. 1998;

Bergant et al. 1998, Bergant et al. 1999; Bryan, et al. 1999).

The aim of this study is to investigate the epidemiological aspects and the cultural factors that may affect postnatal depression in Turkey.

Subjects and methods

The study sample

In February 1998 the follow-up records of 0- to 6-month-old babies in ten different primary health care centres in Manisa, a city in western Turkey, were obtained; the total number was 1,337. Using the prevalence rate according to previous studies as 10.4 % and mean standard deviation (S) as 1.0, the minimum sample size was calculated as 317. Mothers who were to take part in the study were determined by using the systematised randomised sampling method. All of the mothers were supposed to be invited to the interview, but only 257 (81.7 %) of them could be reached. The remaining 60 mothers had moved to other cities or to another house or could not be found at the given address.

Instruments

Edinburgh Postnatal Depression Scale (EPDS)

In order to evaluate the postnatal depression, EPDS was used. EPDS was developed by Cox et al. in 1994 and Engindeniz et al. made the validity and reliability of the Turkish version in 1996. The cut-off point for the Turkish version of EPDS was calculated as 12/13 in the validity and reliability study. Even though EPDS is a self-report scale, in the validity and reliability study of the Turkish version of EPDS, face-to-face interview method was used and found to be reliable. Thus, we have not excluded the illiterate subjects.

Demographic information questionnaire

This questionnaire was developed for this study and included questions about the demographic properties of the mother, her mental and physical health history, marital relationship, relationship with her own family and family-in-law, and socioeconomic status.

Procedure

All the data were collected by face-to-face interviews. The mothers were invited to the primary health care centres and four physicians conducted the interviews. The mothers who got a score above the cut-off point were invited to the psychiatry outpatient ward for treatment.

In the statistical analysis of the data t-test, Chi-Square, one-way anova, and Pearson correlation methods were applied by using SPSS statistical programme. For t-test and one-way anova 95 % confidence interval was accepted.

Results

Demographic features and other properties of mothers

The average age of the mothers was 26.1 ± 5.1. The average score for EPDS was calculated as 7.54 ± 4.66. Fourteen percent of mothers got a score higher than the cut-off point.

Among the demographic features migration from another region of the country (p = 0.03) and living in a squatter area (p = 0.003) have a statistically significant effect on EPDS scores. The demographic features of mothers and their effect on EPDS scores are shown in Table 1.

When the other risk factors effecting the incidence of postnatal depression are examined, it is found that previous psychiatric disorder history (p = 0.001), psychiatric disorder history during former pregnancies and/or postnatal periods (p < 0.0001), psychiatric disorder history during present pregnancy (p < 0.0001) and separation from the parents for at least 1 month before the age of 11 (p = 0.025) have a statistically significant effect on EPDS scores. The effects of these factors on the EPSD scores are given in Table 2.

Environmental factors

There are some environmental factors which affect the incidence of postnatal depression in our study group; these factors are as follows: psychiatric disorder in the husband (p = 0.013), serious health problem of the baby (p = 0.04) and having a bad relationship with the husband (p = 0.01), mother-in-law (p = 0.015) or father-in-law (p = 0.009). The effects of environmental factors on EPDS scores are given in Table 3.

Among other factors affecting the EPDS are age (month) of the baby (r = 0.13, p = 0.045) and number of

Table 1 Demographic features of the mothers and their effect on Edinburgh Postpartum Depression Scale Scores

	N	%	EPDS score mean ± sd	Statistical significance
Education[b]				
Illiterate	42	16.3	8.88 ± 4.96	
Primary school	160	62.3	7.40 ± 4.80	p = 0.1
High	55	21.4	6.95 ± 3.82	
Employment[c]				
Employed	30	11.7	6.97 ± 4.69	p = 0.5
Unemployed	227	88.3	4.66 ± 7.62	
Migration[c]				
Migrated	97	37.7	7.03 ± 4.43	p = 0.03[a]
Not migrated	160	62.3	8.39 ± 4.93	
Kinship with the husband[b]				
Non	215	87.7	7.48 ± 4.67	
1st degree	20	8.2	8.25 ± 5.11	p = 0.7
2nd degree	10	4.1	8.30 ± 3.89	
Family type[c]				
Nuclear	211	82.4	7.41 ± 4.54	p = 0.3
Nonnuclear	45	17.6	8.36 ± 5.18	
Income level[c]				
High	24	9.5	7.35 ± 4.42	
Moderate	123	47.9	7.42 ± 5.25	p = 0.7
Low	107	41.6	7.84 ± 4.81	
Living area[b]				
City centre	148	57.6	6.79 ± 4.23	p = 0.003[a]
Squatter area	109	42.4	8.55 ± 5.03	

[a] Statistically significant; [b] One way anova analysis was performed; [c] Student's t test was performed

Table 2 Relation between the maternal risk factors and Edinburgh Postnatal Depression Scale[a]

	N	%	EPDS score mean ± sd	Statistical significance
Previous psychiatric disorder				
Present	17	6.6	11.11±5.19	p = 0.001[b]
Absent	240	93.4	7.27±4.53	
Psychiatric disorder during previous pregnancies and/or postnatal periods				
Present	17	6.7	11.18±5.60	p = 0.000[b]
Absent	237	93.3	7.45±4.65	
Psychiatry disorder during present pregnancy				
Present	23	9.9	12.56±4.29	p = 0.000[b]
Absent	232	90.1	7.05±4.41	
Separation from the parents for at least 1 month before the age of 11				
Present	37	14.6	9.16±5.33	p = 0.025[b]
Absent	216	85.4	7.30±4.50	

[a] Student's t test is performed; [b]Statistically significant

Table 3 Relation between the environmental risk factors and Edinburgh Postnatal Depression Scale[a]

	N	%	EPDS score mean ± sd	Statistical significance
Psychiatric disorder in the husband				
Present	11	4.3	11.00±5.11	p = 0.013[b]
Absent	243	95.7	7.42±4.58	
Health problem in the baby				
Present	24	9.6	9.33±4.38	p = 0.04[b]
Absent	226	90.4	7.27±4.67	
Relationship with the husband				
Very good/good	232	91.0	7.24±4.41	p = 0.01[b]
Moderate/bad	23	9.0	10.69±6.04	
Relationship with the mother				
Very good/good	228	95.8	7.25±4.36	p = 0.88
Moderate/bad	10	4.2	7.60±6.80	
Relationship with the father				
Very good/good	193	90.6	7.37±4.55	p = 0.20
Moderate/bad	20	9.4	9.15±5.84	
Relationship with the mother-in-law				
Very good/good	199	82.2	7.19±4.37	p = 0.015[b]
Moderate/bad	43	17.8	9.11±5.80	
Relationship with the father-in-law				
Very good/good	178	84.4	7.12±4.56	p = 0.009[b]
Moderate/bad	33	15.6	9.48±5.59	

[a] Student's t test is performed; [b]Statistically significant

living children (r = 0.15, p = 0.02); both have positive correlation with the EPDS score. As seen in Table 4, as the period after the birth gets longer, the depression scores of the mothers increase.

Table 4 Relation between the baby's age and Edinburgh Postnatal Depression Scale score

Baby's age	N	EPDS score mean ± sd
1 month	9	5.1±4.4
2 months	51	6.8±4.4
3 months	49	7.4±5.2
4 months	59	7.9±5.1
5 months	49	7.9±3.7
6 months	40	8.2±4.6

Discussion

In this study, the prevalence of postnatal depression according to EPDS is found to be 14% in Manisa, Turkey, and this rate is similar to the prevalence rates of other studies (countries).

In most of the studies, the prevalence rate is reported as 10–15% (Cox et al. 1987; Kumar and Robson 1984; Harris et al. 1989; Cooper and Murray 1995; Lawrie et al. 1998; Georgiopoulos et al. 1999). In a study carried out in Dubai on 95 women by using EPDS, the prevalence rate was found to be 18% (Abou-Saleh and Ghubash). In a study carried out on 280 women in Israel, the prevalence rate was reported as 22.6% (Glasser et al. 1998). In Sweden, a community sample of 1,584 women were screened at the eighth and twelfth week postnatal using EPDS. The point prevalence rate of depression was 12.5% at the eighth week and 8.3% at the twelfth week postnatal. The period prevalence for 8–12 weeks postnatal was 4.5% (Wickberg and Hwang 1997). A high postnatal depression rate, such as 36.7%, was found in a study conducted in Chile on 542 women from different socioeconomic levels (Jadresic and Araya 1995). In a study from Canada, 730 women were recruited during pregnancy and were followed through 1 month postnatal, the postnatal rate was determined as 10.3% (Gotlib et al. 1991). In a study conducted in Australia, postnatal depression was identified using EPDS at the first, third and sixth month postnatal and the prevalence was 11.3%, 9.4% and 5.4%, respectively (Boyce et al. 1991). The postnatal depression rate in a sample of 1,033 women in Pittsburg depression prevalence was found to be 9.3% (Campbell and Cohn 1991). In another study among the 98 Japanese mothers who gave birth in England, the prevalence rate for postnatal depression was 12% (Yoshida et al. 1997). In a Portuguese province, a sample of 352 mothers were evaluated with EPDS and the prevalence was determined as 13.1% (Augusto et al. 1996).

The most outstanding result of these studies is the high prevalence rates in the Middle East countries, such as Israel and Saudi Arabia, compared to the western countries. The prevalence rate of postnatal depression in this epidemiological study remains somewhere between the rates in the Middle East and western countries. This may be related to the fact that the cultural structure of Turkey is somewhere between these two different cultures.

Our results revealed that psychiatric disorder history, psychiatric disorder history during former pregnancies and/or postnatal periods, and psychiatric disorder history during present pregnancy of mothers are significantly related to the increase in EPDS scores.

In a study carried out in Portuguese, the presence of a history of depression in the mother was considered to be one of the most significant risk factors (Areias et al. 1996). Depression in the mother's past was observed as a risk factor of priority in other studies as well (Kumar and Robson 1984; O'Hara et al. 1984; Schaper et al. 1994). In another study, previous experience of postnatal depression and depression in the last pregnancy were found to be significant factors (Unterman et al. 1990).

Past experience of a mental disease for the mother increases the possibility of development of depression in the postnatal period in which women are psychologically more sensitive. This means that more care should be taken in the follow-up of women under risk.

Another important risk factor determined for postnatal depression is having been away from the parents for at least 1 month before the age of 11. In some other studies, separation from the parents has been mentioned as a risk factor as well (Kumar and Robson 1984; Unterman et al. 1990; Mc Intosh 1993).

In this study, mothers having a baby with a serious health problem had higher EPDS scores. It was reported that mothers with low birth weight babies and with low apgar scored babies tend to have a higher risk for postnatal depression (Hannah et al. 1992; Collins et al. 1993; Bergant et al. 1999). Another risk factor for postnatal depression is having difficulties with the care of the baby for different reasons (O'Hara 1984). All of the problems mentioned above probably worsen the mother's feeling of inadequacy about care-giving and, as a result, facilitate the occurrence of postnatal depression.

In our study, having more children seems to be an important risk factor in increasing the depression score. There is little knowledge about this factor in other studies, only in one study carried out in Portugal were women with more children found to have higher depression scores (Augusto et al. 1996). It brings in mind that biological and psychological changes which women with frequent parturition experience can be the reason for this increase.

In this study, the age of the baby and the mean depression score of the mother have a positive correlation. In most studies, there is no such correlation, for example, in one study, when 232 women were compared to a control group 6 months after the delivery, there was no difference between mothers and the control group in terms of point prevalence, but at the fifth week the prevalence was three times higher in the childbearing women (Cox et al. 1993). On the other hand, a similar result to ours was obtained by Unterman et al. (1990); the prevalence rate soon after the birth was 8.5 %, while it was 14.2 % nearly 12 weeks later. Since our study is cross-sectional, even though it is hard to form a conclusion from this positive correlation, we suggest that this may be due to the fact that, in the Turkish society as a sociocultural feature, mothers draw significant interest and receive good support soon after the birth but as time goes by this diminishes.

Another important environmental factor in terms of postnatal depression is having bad relations with the spouse. The presence of marital problems and conflicts, deficient support from the spouse and experience of unhappiness in the marriage have been considered as significant risk factors in various studies (Schaper et al. 1994; Unterman et al. 1990; O'Hara et al. 1986; Aderibigbe et al. 1993; Gotlib et al. 1991; Kumar and Robson 1984).

The presence of any psychiatric disorder in the spouse was determined as an important environmental risk factor in this study. Areias et al. (1996) found the presence of depression in the husband to be a significant risk factor. A psychiatric disorder in the husband may affect the mother negatively; a father in such a situation may not provide the necessary support during pregnancy and after birth.

According to the results of this study, the mother's bad relations with mother-in-law and father-in-law are other risk factors which increase the frequency of postnatal depression. In our country, we often encounter broad families in which the given family lives together with their parents; furthermore, even in core families, the parents of the couples may play an active interfering role. In this study, it was determined that broad family and core family structures do not show any significant difference in terms of causing any increase in depression scores. It brings to mind that the problem does not stem from living together with the family-in-law in the same house but rather from the quality of the relationship. The negative impact of bad relations of a mother with her family-in-law on postnatal depression seems to be a distinguishing aspect of Turkish culture.

It was observed that EPDS scores of women living in the area of Manisa city centre are significantly higher compared to those of women living in the town centre and that living in a squatter area increases the risk of postnatal depression three times more. There is an ongoing migration from the eastern part of Turkey to the western part and the migrating population often does settle in squatter areas of the cities. Both leaving a place where someone is accustomed to live and being obliged to live a socioculturally lower life may increase the prevalence of postnatal depression for mothers. Studies carried out in different countries on this issue have revealed different results. For example, according to a study conducted in a city centre in Portugal, in socioeconomically lower regions, the rate of postnatal depression was found to be higher (Augusto et al. 1996); on the other hand, in another study carried out in Santiago, it was determined that there is a reverse relation between socioeconomical status and the prevalence rate of depression (Jadresic and Araya 1995).

The main restriction of our study is that the subjects

were only evaluated by a self-report scale whereas the subjects above the cut-off point should be interviewed by a structured interview. In future studies, the contribution of structured interviews to the methodology should be taken into consideration.

It is reported that the prevalence rate of depression in the general population of Turkey is approximately 10 % and that this rate is higher for women (Küey and Güleç 1993). The prevalence of postnatal depression obtained in this study is quite similar to the epidemiology of depression in general. This emphasises that being aware of factors that increase the level of postnatal depression is important and there is a need to increase preventive mental health services for groups under risk.

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