PREVALENCE OF POSTPARTUM DEPRESSION IN A GROUP OF WOMEN DELIVERING IN A HOSPITAL IN RASHT CITY, IRAN

Kiomars Najafi, Homa Zarrabi, Maryam Shirazi, Farhad Avakh, Fatemeh Nazifi

ABSTRACT

Objective: To assess the prevalence and determinants of PPD in Rasht (a city in northern part of Iran).

Design: Descriptive and cross-sectional study.

Place and duration of study: Al-Zahra Obstetric and Gynecology hospital in Rasht city, Iran from January to March, 2004.

Subjects and Methods: 335 women delivering in Al-Zahra hospital were assessed 2 weeks after delivery using Beck's depression inventory.

Results: The overall prevalence of PPD was 20%. Regarding Beck depression inventory, 61 patients had mild depression and 6 patients suffered from moderate depression. In these patients, unemployment and history of abortion and infant death were significantly associated with PPD.

Conclusion: the prevalence of mild depression in this study was notable. Caregivers should use pre and postnatal assessments to identify and address women at risk of PPD.

Key words: Postpartum Depression, Prevalence, Beck's Depression Inventory, Iran.

INTRODUCTION

Postpartum Depression (PPD) is a depressive episode, starting between early 4 weeks after the childbirth to six months later. It meets DSM- IV criteria for major depressive disorder, without psychotic features[1].10 to 20% of new mothers experience PPD[2,3] PPD occurs at a time when heavy demands are placed on a woman's resources and when infant learning and development are occurring[4]. Mothers with PPD can unconsciously exhibit fewer positive emotions and more negative emotions toward their children. They are less responsive and less sensitive to infant, less emotionally available and have infants who are less securely attached; and in more extreme cases, some woman may have thoughts of harming their children[5-10] On the other hand, children whose mothers are affected by PPD may develop more behavioral, cognitive and emotional difficulties[1,12]. Furthermore, there is a 30-50% risk of relapse of depression in subsequent pregnancies[13]. While not all causes of PPD are known, several factors have been identified. Beck has conducted a meta-analysis of predictors of PPD. She found that the following 13 factors were significant predictors of PPD: prenatal depression, low self esteem, childcare stress, prenatal anxiety, life stress, low social support, poor marital relationship, history of previous depression, infant temperament problems, maternity blues, single parent, low socioeconomic status and unplanned/unwanted pregnancy. To be more precise, four factors are consistently found to relate to PPD: lack of social especially spousal support[14-16], prior history of depression and other emotional problems[15,17-19] obstetric and infant problems[19-21] and stressful life events[22-24]. Nevertheless none of these psychosocial factors can be used to predict which woman will develop PPD[25]. In spite of the high prevalence of PPD and its negative long-term effects on mother and infant, it is not diagnosed by medical staffs in most cases[26]. Most of the work on PPD is carried out in Western countries and few recent studies are conducted in the developing world. In Iran, the focus of prenatal and delivery care is on women's medical and obstetrical problems and baby's health and their psychological needs are rarely considered while undetected PPD affects the mother, her infant and her family and affects society through illness, social dysfunction, death and the cost of medical treatment and services[25]. In Iran, studies of PPD are rare and our study is the first assessment of the prevalence of PPD in Rasht located in Guilan province in Northern part of Iran.

Kiomars Najafi, Psychiatrist, Shafa Hospital, Guilan University of Medical Sciences, Iran. E-mail: shafa@gums.ac.ir

Homa Zarrabi, Psychiatrist, Shafa Hospital, Guilan University of Medical Sciences, Iran

Maryam Shirazi, General Practitioner, Shafa Hospital, Guilan University of Medical Sciences, Iran

Farhad Avakh, Psychiatrist, Shafa Hospital, Guilan University of Medical Sciences, Iran

Fatemeh Nazifi, General Practitioner, Shafa Hospital, Guilan University of Medical Sciences, Iran

Correspondence:

Dr. Kiomars Najafi

SUBJECTS AND METHODS

Our samples were derived from Al-Zahra Obstetric and Gynecology hospital in Rasht- the capital city of Guilan province in north of Iran. It is a referral hospital with 400 beds which serves almost 7000 patients annually and approximately 5000 pregnant women deliver in this hospital each year. Pregnant women are referred to this hospital by their local family physicians; however, a large number of pregnant women come to this center by themselves without being referred from localhealth centers.

370 women who gave birth during 4months at this hospital in 2004 were approached after the delivery and asked to participate in this study. 335 consenting women were invited to refer to the hospital day-clinic two weeks after delivery.

Data were collected through questionnaire by using Persian version of Beck's depression inventory. Beck's depression inventory is a 21-item standard self report questionnaire and it is independent of any cultural bias. The Persian version of it was validated by Kaviani et al[27].

Demographic data including age, education, occupational status, place of living, birth order, delivery type, wanted/unwanted pregnancy and former childbirth issues like history of abortion and infant death were obtained by the principal investigators. Place of residence was defined as living in rural or urban areas according to the divisions of the country in Iran and pregnancies without the desire of subjects were considered as unwanted pregnancies.

This study was performed in two distinct phase: In phase I, women were interviewed face to face. After giving basic information about the importance of the study, they were asked to participate in the research and an invitation was given to them asking to come to the day-clinic of the hospital two weeks after the delivery.

In phase II, women who were invited to the day-clinic two weeks after the delivery, responded to Beck's depression inventory and demographic data was recorded. In women who had no school education, the questionnaire was read for the subjects by principle investigators and their answers were recorded by them as well. Women, who lost to follow-up in this phase of study were traced by telephone call.

Data were analyzed using EPI 2000 software, computing chi-square, t-test and Fisher-Exact tests.

All the statistic tests and questionnaires are available from the authors upon request.

RESULTS

In spite of our efforts, 15 women were lost to follow-up because the addresses they provided were in-

Table 1

Distribution of samples by selected socio-demographic variables

Variables	Number	Percent
Age		
≤ 20 yrs	63	19.1
21-25 yrs	131	39.1
26-30 yrs	91	27.2
> 30 yrs	39	13.6
Education		
Illiterate	9	2.7
Elementary	58	17.3
Intermediate	113	33.7
Secondary	139	41.15
University	16	4.8
Occupation		
Unemployed	321	95.8
Employed	14	4.2
Birth order		
First	222	66.3
Second	89	26.6
Third	21	6.3
Forth and above	3	0.9
Delivery type		
C-section	205	61.2
Vaginal	130	38.8
Number of children		
0	6	1.7
1	222	66.3
2	83	24.8
3	22	6.8
>3	2	0.6
Place of residence		
Urban area	216	64.5
Rural area	119	35.5
Infant sex		
Girl	173	51.6
Boy	161	48.1
Twin (both sexes)	1	0.3
Wanted/unwanted Pregnancy		
Wanted	286	85.4
Unwanted	49	14.6
Previous history of abortion or infant death		
Yes	65	19.4
No	270	80.6

Table 2

Percent cases with postpartum depression by selected variables

PPD / variables	Negative		Mild		Moderate	
	number	percent	number	percent	number	percent
Age						
≤ 20 yrs	52	81.25	12	18.75	–	–
21–25 yrs	102	77.9	25	19.1	4	3
26–30 yrs	76	83.5	15	16.5	–	–
> 30 yrs	38	77.6	9	18.4	2	4
Education						
Illiterate	7	77.8	2	22.2	–	–
Elementary	43	43.1	11	19	4	6.9
Intermediate	92	81.4	19	16.8	2	1.8
Secondary	112	80.6	27	19.4	–	–
University	14	87.5	2	12.5	–	–
Occupation						
Unemployed	254	79.1	61	19	6	1.9
Employed	14	100	–	–	–	–
Birth order						
First	181	81.5	39	17.6	2	0.9
Second	65	73	20	22.5	4	4.5
Third	19	90.5	2	9.5	–	–
Forth and above	3	100	–	–	–	–
Delivery type						
C-section	163	79.5	36	17.6	6	3.9
Vaginal	105	80.8	25	19.2	–	–
Number of children						
0	4	66.7	2	33.3	–	–
1	183	82.4	37	16.7	2	0.9
2	64	77.1	15	18.1	4	4.8
3	15	68.2	7	31.8	–	–
>3	2	100	–	–	–	–
Place of residence						
Urban area	172	79.6	42	19.4	2	1
Rural area	96	80.7	19	16	4	3.3
Infant sex						
Girl	129	80.1	29	18	3	1.9
Boy	138	79.8	32	18.5	3	1.7
Twin (both sexes)	1	100	–	–	–	–
Wanted/unwanted pregnancy						
Wanted	233	81.5	47	16.5	6	2
Unwanted	45	71.4	14	28.6	–	–
Previous history of abortion or death						
Yes	45	69.2	18	27.7	6	3.9
No	223	82.6	43	15.9	–	–

complete or wrong. A total of 335 women were followed. Table 1 shows the main characteristics of the population under study.

20% of women were found to have PPD according to Beck's depression inventory. 268 subjects (80%) scored less than 16 in Beck's depression inventory while 61 subjects (18.2%) scored 16-30 (Mild depression), 6 subjects (1.8%) scored 31-46 (Moderate depression) and none of them scored more than 46 (Severe depression).

Table 2 shows the relationship between PPD and variables in this study. PPD was not associated with age, educational level, place of living (urban or rural areas) and infant gender. In the unemployed, 61 individuals (19%) were suffering from mild PPD and 6 women (1.9%) had moderate PPD. By contrast, none of the employed women were affected by PPD. As a result, unemployment before or during pregnancy was of statistical significance among women surveyed in this study. (Fisher Exact: 0.04, Mid.P Exact: 0.02). In women with the previous history of abortion or infant death, 18 subjects (27.7%) and 2 subjects (3.1%) had mild and moderate PPD respectively; however, in women with negative history in these terms, 43 women (15.9%) and 4 women (1.5%) were affected by mild and moderate PPD. This difference was statistically significant (P=0.02). Birth order, number of children and previous delivery type were not related to PPD. A higher proportion of women with unwanted pregnancy were depressed after delivery however this difference was not significant.

DISCUSSION

To our knowledge, this study is one of very few studies looking at PPD among women in Iran.

The overall prevalence of PPD, 20%, is consistent with other studies in Iran and Middle East[25,28-31] and is also in line with the range of prevalence reported in Western countries[32].

In our study, the risk factors which most likely predict PPD are women's profession and previous history of abortion and infant death.

Review of literature suggests that in Canada PPD is more prevalent among employed women[33]; however, other literatures indicate that this relationship in not significant[30,34]. We concluded that in developing countries like Iran, women in paid employment enjoy a higher social status compared to unemployed women while this difference is not obvious in developed countries. In the developed countries, having a job may interfere with child care responsibilities and put additional pressure on women.

In this study we found out that previous history of abortion and infant death is related to PPD. These women may be more likely to recall pregnancy as a bad experience[25]. A similar study in Keram (a city in southern part of Iran) had similar results[31].

Factors related to socioeconomic differences were not confirmed in our study. Other literatures show that this relationship is not consistent[34].

Furthermore, the relationship between the type of delivery and PPD was not significant while in a study in Lebanon caesarean section was related to PPD[25].

In conclusion, our study confirms that the rate of PPD is broadly similar to that in other countries and that history of abortion and infant death in addition to be unemployed are major risk factors. Variables such as demographic data, type of delivery, birth order, infant gender, education, place of residence and unwanted delivery were not significant predictors.

A hospital-based sample was assessed in this study; therefore we would not be able to follow a number of women delivered in local or private clinics. In addition, the high proportion of C-sections in this hospital and its stressor effects as a surgery, might influence our results.

This study along with other studies on postpartum women provides evidence that a considerable proportion of women experience a deterioration in their psychological health and social adjustment during pregnancy. Health care providers need to care about psychological issues when providing care. Women should also be prepared for possible adjustment problems after the birth and should be taught coping strategies to prevent PPD.

REFERENCES

1. American Psychiatry Association. Diagnostic and Statistical Manual of Mental Disorders. 4th ed. Washington D.C: American Psychiatry Association, 1994.
2. O' Hara MW, Zekoski EM, Philipps LH, Wright EJ. Controlled prospective study of mood disorders: comparison of childbearing and nonchildbearing women. J Abnorm Psychol 1990; 99:3-15.
3. Paykel ES, Emms ES, Fletcher J, Rassaby ES. Life events and social support in puerperal depression. Br J Psychiatry. 1980; 136:339-46.
4. Cooper PJ, Murray L. Fortnightly review: Postnatal depression. BMJ 1998; 316:1884-6.
5. Beck CT. The effects of postnatal depression on maternal-infant interaction: a meta-analysis. Nurs Res 1995; 45:225-30.
6. Cohn JF, Campbell SB, Matias R, Hopkins J. Face-to-face interactions of postpartum depressed and nondepressed mother-infant pairs at 2 months. Dev Psychol 1990; 26:15-23.
7. Field T, Sandburg S, Garcia R, Vega-Lahr N, Goldstein S, Guy L. Pregnancy problems, postpartum depression and early mother-infant interactions. Dev Psychol 1985; 21:1152-6.
8. Fowles ER. Relationships among prenatal maternal attachment, presence of postnatal depressive symptoms

and maternal role attainment. J Soc Pediatr Nurs 1996; 1:75-82.

9. Hoffman Y, Drotar D. The impact of postpartum depressed mood on mother-infant interaction: like mother like baby? Infant Mental Health J 1991;12:65-80.

10. Murray L. Intersubjectivity, object relations theory and empirical evidence from mother-infant interactions. Special Issue: The effects of relationships on relationships. Infant Mental Health J 1991; 12:219-32.

11. Murray L, Fiori-Cowley A, Hooper R, Cooper P. The impact of postnatal depression and associated adversity on early mother-infant interactions and later infant outcome. Child Dev 1996; 67:2512-26.

12. Cogill SR, Caplan H, Alexandra H, Robson KM, Kumar R. Impact of maternal postnatal depression on cognitive development of young children. BMJ (Clin Res Ed) 1986; 292:1165-7.

13. Weissman MM, Olfson M. Depression in women: Implications for health care research. Science 1995; 269: 799-801.

14. Collins NL, Dunkel-Schetter C, Lobel M, Scrimshaw SC. Social support in pregnancy: psychosocial; correlates of birth outcomes and postpartum depression. J Pers Soc Psychol 1993; 65:1243-58.

15. Hopkins J, Marcus M, Campbell SB. Postpartum depression: a critical review. Psychol Bull 1984; 95: 498-515.

16. Gjerdingen DK, Chaloner KM. The relationship of women's postpartum mental health to employment, childbirth and social support. J Fam Pract 1994; 38:465-72.

17. Wilson LM, Reid A, Midmer DK, Bringer A, Carrol JC, Stewart DE. Antenatal psychosocial risk factors associated with adverse postpartum family outcomes. Can Med Assoc J 1996; 154:785-99.

18. Gotlib IH, Whiffen VE, Wallace PM, Mount JH. Prospective investigation of postpartum depression:factors involved in onset and recovery. J Abnorm Psychol 1991; 100:122-32.

19. Kumar R, Robson KM. A prospective study of emotional disorders in childbearing women. Br J Psychiatry.1984; 144:35-47.

20. Campbell SB, Cohn JF. Prevalence and correlates of postpartum depression in first-time mothers. J Abnorm Psychol 1991; 100:594-9.

21. Hopkins J, Campbell SB, Marcus M. Role of infant-related stressors in postpartum depression. J Abnorm Psychol 1987; 96:237-41.

22. Hickey A, Boyce PM, Ellwood D, Morris-Yates AD. Early discharge and risk for postnatal depression. Med J Aust 1997; 167:244-7.

23. Seguin H, Potvin L, St Denis M, Loiselle J. Chronic stressors, social support and depression during pregnanacy. Abstet Gtynecol 1995; 85:583-9.

24. Areias ME, Kumar R, Barros H, Figueiredo E. Correlates of postnatal depression in mothers and fathers. Br J Psychiatry 1996; 169:36-41.

25. Chaaya M, Campbell OMR, El Kak F, Shaar D, Harb H, Kaddour A. Postpartum depression: prevalence and determinants in Lebanon. Arch Women Ment Health 2002;5:65-72.

26. Lee DTS, Yip ASK, Chan SSM. Post delivery screening for postpartum depression. Psychom Med 2003; 65: 375-61.

27. Kaviani H, Moosavi AS, Mohit A. Principal reliance in psychological interviews and tests. Tehran: Sena Publication; 2001: 179-80.

28. Glasser S, Barell V, Shoham A, Ziv A, Boyko V, Lusky A, Hart S. Prospective study of postpartum depression in an Israeli cohort: prevalence, incidence and demographic risk factors. J Psychosom Obstet Gynecol 1998; 19: 155-64.

29. Ghubash R, Abou-Saleh MT.Postpartum psychiatric illness in Arab culture: prevalence and psychosocial correlates. Br J Psychiatry 1997; 171:65-8.

30. Fisch RZ, Tadmor OP, Dankner R, Diamant YZ. Postnatal depression: a prospective study of its prevalence, incidence and psychosocial determinants in an Israeli sample. J Obstet Gynecol Res 1997; 23: 547-54.

31. Ghaffari Nejad AR, Khoobyari F, Pouya F. Survey of prevalence of postpartum depression in Kerman. Andisheh Raftar J 1978; 5: 24-9.

32. Richards JP. Postnatal depression: a review of recent literature. Br J Gen Pract 1990; 40:472-6.

33. Zelkowitz P, Milet TH, Screening for postpartum depression in a community sample. Can J Psychiatry1995; 40:80-6.

34. Sadock BJ, Sadock VA. Comprehensive textbook of psychiatry. 7th ed. Baltimore: Lippincott, William and Wilkins 2000.