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PREVALENCE OF POSTPARTUM DEPRESSION IN A GROUP OF WOMEN DELIVERING IN

A HOSPITAL IN RASHT CITY, IRAN

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# 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 deliv- ery 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, unemploy- ment 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 epi- sode, starting between early 4 weeks after the childbirth to six months later. It meets DSM- IV criteria for major depressive disorder, without psychotic features1.10 to 20% of new mothers experience PPD2,3 PPD occurs at a time when heavy demands are placed on a woman’s resources and when infant learning and development are occurring4. Mothers with PPD can unconsciously exhibit fewer positive emotions and more negative emo- tions 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 children5-10 On the other hand, children whose mothers are affected by PPD may develop more behavioral, cognitive and emotional difficulties1,12. Fur- thermore, there is a 30-50% risk of relapse of depres-

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sion in subsequent pregnancies13. 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 sig- nificant 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 sta- tus and unplanned/unwanted pregnancy. To be more precise, four factors are consistently found to relate to PPD: lack of social especially spousal support14-16, prior history of depression and other emotional problems15,17-

19 obstetric and infant problems19-21 and stressful life events22-24. Nevertheless none of these psychosocial fac- tors can be used to predict which woman will develop PPD25. 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 cases26. 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 consid- ered 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 services25. 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.

# SUBJECTS AND METHODS

Our samples were derived from Al-Zahra Obstet- ric 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 de- liver 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 us- ing 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 cul- tural bias. The Persian version of it was validated by Kaviani et al27.

Demographic data including age, education, oc- cupational status, place of living, birth order, delivery type, wanted/unwanted pregnancy and former childbirth issues like history of abortion and infant death were ob- tained 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 un- wanted 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 re- corded. In women who had no school education, the questionnaire was read for the subjects by principle in- vestigators 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, com- puting chi-square, t-test and Fisher-Exact tests.

All the statistic tests and questionnaires are avail- able from the authors upon request.

# RESULTS

In spite of our efforts, 15 women were lost to fol- low-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  1  2  3  >3 | 6 | 1.7 |
| 222 | 66.3 |
| 83 | 24.8 |
| 22 | 6.8 |
| 2 | 0.6 |
| **Place of residence** |  |  |
| Urban area | 216 | 64.5 |
| Rural area | 119 | 35.5 |
| **Infant sex** Girl Boy  Twin (both sexes) | 173 | 51.6 |
| 161 | 48.1 |
| 1 | 0.3 |
| **Wanted/unwanted Pregnancy**  Wanted Unwanted | 286 | 85.4 |
| 49 | 14.6 |
| **Previous history of abortion or infant**  **death** Yes No | 65 | 19.4 |
| 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  21–25 yrs  26–30 yrs  > 30 yrs | 52  102  76  38 | 81.25  77.9  83.5  77.6 | 12  25  15  9 | 18.75  19.1  16.5  18.4 | – 4  – 2 | – 3  – 4 |
| **Education**  Illiterate Elementary Intermediate Secondary University | 7  43  92  112  14 | 77.8  43.1  81.4  80.6  87.5 | 2  11  19  27  2 | 22.2  19  16.8  19.4  12.5 | – 4  2  –  – | –  6.9  1.8  –  – |
| **Occupation**  Unemployed Employed | 254  14 | 79.1  100 | 61  – | 19  – | 6  – | 1.9  – |
| **Birth order**  First Second Third  Forth and above | 181  65  19  3 | 81.5  73  90.5  100 | 39  20  2  – | 17.6  22.5  9.5  – | 2  4  –  – | 0.9  4.5  –  – |
| **Delivery type**  C-section Vaginal | 163  105 | 79.5  80.8 | 36  25 | 17.6  19.2 | 6  – | 3.9  – |
| **Number of children**  0  1  2  3  >3 | 4  183  64  15  2 | 66.7  82.4  77.1  68.2  100 | 2  37  15  7  – | 33.3  16.7  18.1  31.8  – | – 2  4  –  – | –  0.9  4.8  –  – |
| **Place of residence** Urban area Rural area | 172  96 | 79.6  80.7 | 42  19 | 19.4  16 | 2  4 | 1  3.3 |
| **Infant sex**  Girl Boy  Twin (both sexes) | 129  138  1 | 80.1  79.8  100 | 29  32  – | 18  18.5  – | 3  3  – | 1.9  1.7  – |
| **Wanted/unwanted pregnancy**  Wanted Unwanted | 233  45 | 81.5  71.4 | 47  14 | 16.5  28.6 | 6  – | 2  – |
| **Previous history of abortion or death**  Yes No | 45  223 | 69.2  82.6 | 18  43 | 27.7  15.9 | 6  – | 3.9  – |

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, unemploy- ment before or during pregnancy was of statistical sig- nificance among women surveyed in this study. (Fisher Exact: 0.04, Mid.P Exact: 0.02). In women with the previ- ous 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 his- tory 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 deliv- ery 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 East25,28-31 and is also in line with the range of prevalence reported in Western countries32.

In our study, the risk factors which most likely pre- dict 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 women33; however, other literatures indicate that this relationship in not sig- nificant30,34. 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 experi- ence25. A similar study in Keram (a city in southern part of Iran) had similar results31.

Factors related to socioeconomic differences were not confirmed in our study. Other literatures show that this relationship is not consistent34.

Furthermore, the relationship between the type of delivery and PPD was not significant while in a study in Lebanon caesarean section was related to PPD25.

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 num- ber of women delivered in local or private clinics. In addition, the high proportion of C-sections in this hospi- tal 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 propor- tion of women experience a deterioration in their psy- chological health and social adjustment during preg- nancy. Health care providers need to care about psy- chological issues when providing care. Women should also be prepared for possible adjustment problems af- ter the birth and should be taught coping strategies to prevent PPD.

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