Prevalence and risk factors of postpartum depression

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ABSTRACT

Background: People in Pakistan do not take postpartum depression as a serious disease, and in Pakistan limited data is available on postpartum depression. The purpose of this study was to find out the prevalence and risk factors associated with postpartum depression.

Objectives: To find out the prevalence and risk factors of postpartum depression.

Methods: A cross-sectional survey was conducted in Al Nafees Medical College and Hospital. 400 participants fulfilling the inclusion criteria were recruited in the study. A self-structured questionnaire was used for demographic details and for risk factors. Beck's inventory depression questionnaire was used as a standard scale.

Results: Out of 400 participants, 95 (23.75%) of the participants showed mild mood disturbance ranging from 11 to 16. 43 (10.75%) of the participants showed borderline clinical depression from 17-20. 45 (11.25%) of the participants showed moderate depression ranging from 21 to 30. 21 (5.25%) showed severe depression ranging from 31 to 40. 13 (3.25%) of the participants showed extreme depression ranging over 40. The mean age of the participants was 28.06 from 18 to 45 years. The major risk factors responsible for the effect are previous history of depression (10.635%), infants with anomaly (2.122%), any co-morbidity in mother (1.409%), baby aged below 5 months(1.049%).

Conclusion: The study concluded that, majority of the participants has postpartum depression. The major risk factors that can affect the results are previous history of depression, gestational diabetes and any anomaly (infant).

Key words: postpartum depression, gestational diabetes

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Introduction:

Postpartum depression is not a psychological or mental illness.(1) It is associated with physical, emotional and behavioral changes that occur in a women after delivery. Postpartum depression is a major form of depression that occurs within four to six weeks after childbirth.(2) As depression is more common in women as compared to men during the age of parturition and discussion has made over whether the postnatal duration is a time of greater risk for mood disorders.(3) Surprisingly, little is known about how function of social status changes the rate of postnatal depression. While it remains a key job of social psychiatry to understand the role of poverty in mental health disorders. Social status is not well described as a risk factor for postpartum depression. Poor females living with chronic stressors like insufficient pay, lower housing and unreliable public transport.(4) In past researches, the importance of social status as s predictor for postpartum depression has been highlighted. The stress process is theoretically associated with social status with different exposures to stress and differential access to assets such as cash, prestige and authority .(5)

Some studies showed that hormonal changes occur during antenatal and postnatal period act as a risk factor for depression. Estrogen, progesterone, thyroid, testosterone, corticotrophin and cortisol are the hormones that the research studies include.(3) The appropriate cause of postpartum depression is not known. The main cause is considered as the combination of physical , emotional and hormonal factors.(1) Evidence showed that the following are the common risk factors that strongly predicted the postpartum depression: Antenatal mood disturbances or anxiety, any stressful event during pregnancy or after childbirth, poor financial status and a prior history of depression,(4) sleeping disorders, manic-depressive

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illness, depression related to family, mental stress ,postnatal complications, drug use disorder.(2) Some researches' results defined that unplanned pregnancy and unemployment is also considered as a risk factor for having a postpartum depression.(6) Although the incidence of postpartum depression in general population has been empirically defined.(5) A study conducted by Beck 2001(7) has also defined thirteen important risk factors that increase the risk for developing of postpartum depression : self-respect , marital relationship , marital status, maternity blues, child development and care stress, social status, previous history of depression, depression before pregnancy, anxiety before child-bearing age , infant having any anomaly, unwanted pregnancy.(8)

While most women undergo with a short duration of sadness or hopelessness after child birth, but when symptoms become severe and longer than two weeks are diagnosed as postpartum depression.(2) Depression comes into sight as commonness during pregnancy as it is in the postpartum after pregnancy. A cross-sectional study conducted in 1989 by Whiffen et al in St. Joseph's Hospital London, Ontario, Canada included 360 pregnant women. They were chosen to investigate both depressive symptomatology and diagnostic status during pregnancy and after delivery by using Beck Depression Inventory questionnaire. They concluded that only 6.8% of women were depressed postpartum; the remaining women receiving a diagnosis in the postpartum had additionally been depressed throughout gestation.(9) A study was carried out by Karkun S. et al in 2005, to find out the prevalence of postpartum depression and depressive symptoms in far range of countries. A survey on 143 studies reported prevalence in 40 countries. Study revealed that there is a huge range of prevalence of postpartum depression (0% to 60%) in countries like Italy, Brazil, Guyana, Costa Rica, Brazil, Chile, Guyana and Korea . Although some countries e.g. Denmark, Austria, Singapore, Malta and Malaysia generally outlined postpartum depressive symptoms.(10)

Methods:

This is a cross-sectional survey in which data was collected from Al Nafees Medical College and Hospital from 1st May-23th July 2019 .400 participants satisfying the inclusion criteria were recruited in the study were from postpartum upto 1 year and age ranging from 18 to 45 years and a questionnaire based survey was carried out. A self-structured questionnaire was used for demographic details and for risk factors. Beck's

Inventory Depression Scale was used as data collection tool. The data was analyzed by using SPSS 21.

Results:

Results showed that total sample size of 400 participants was included in this study calculated from Raosoft calculator to find out the prevalence and risk factors of postpartum depression. Out of 400 participants, 95 (23.75%) of the participants showed mild mood disturbance ranging from 11 to 16. 43 (10.75%) of the participants showed borderline clinical depression from 17-20. 45 (11.25%) of the participants showed moderate depression ranging from 21 to 30. 21 (5.25%) showed severe depression ranging from 31 to 40. 13 (3.25%) of the participants showed extreme depression ranging over 40. The mean age of the participants was 28.06 from 18 to 45 years. The majors risk factors responsible for the effect are previous history of depression (10.635), gestational diabetes (4.078),any anomaly infants (2.122), any co-morbidity in mother (1.409),baby aged below 5 months (1.049), unplanned pregnancy (0.317) and mother aged below 40 (0.182).
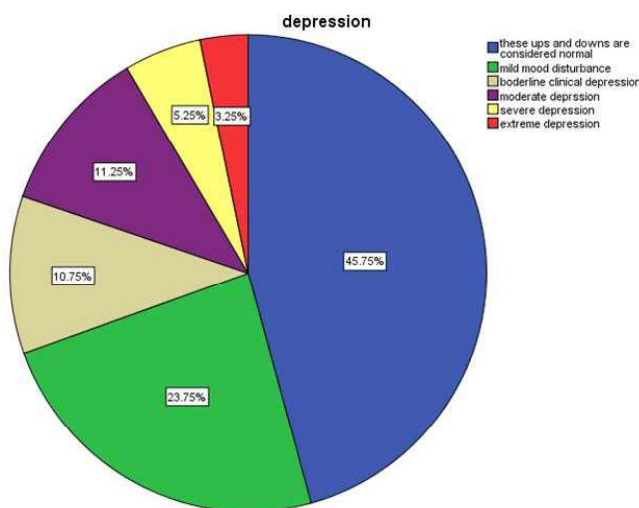
Figure 1 Percentage/frequency of depression

Figure 1 concludes that out of 400 participants 183 are considered normal, 95 mild mood disturbance, 43 had borderline clinical depression, 45 had moderate depression, 21 had severe depression, and 13 had extreme depression.

Discussion:

The aim of this study was to determine the prevalence and risk factors of postpartum depression after pregnancy in females from age group 18 to 45

Table 1.Risk factors of postpartum depression

Variables	Odd ratios
Previous history of depression	10.635
Gestational diabetes	4.078
Any anomaly(infant)	2.122
Any other comorbidity	1.409
Baby age below 5 months	1.049

years. In general, the results regarding the postpartum depression in females confirmed that majority of females is in moderate state of depression. Study conducted in 2020 considered that around 40 ladies out of 100 ladies were enduring from PPD and the related hazard components were current work inclusion, work misfortune due to pregnancy, history of unsuccessful labor, still birth and child death, unintended pregnancy, taken a toll of conveyance overseen from borrowing/selling asset/mortgage, depressive side effect amid pregnancy period, seen antenatal stretch, destitute conjugal relationship with spouse, and insinuate accomplice savagery(18). The results confirm with study conducted by Whiffed et al, which verified the same results(11), the same phenomenon was observed in other study conducted by A. Kathleen Atkinson et al showing the high rate of postpartum depression and the possible cause of this is the unsettling of parents performance by the baby care taking demands.

The finding of this study indicates the most important and frequent risk factor to postpartum depression was age of baby, this result favors the finding in the literature which indicates children behavioral problems related to mothers postpartum depression.(12) The predominance of PPD in turkey was found to be higher in rustic region or in creating zones of the nation. Major hazard variables are destitution, deficient instruction, early age relational unions, moo financial status, unplanned pregnancy, any stressful occasion amid pregnancy , well-being issues with new born child , history of psychiatric sickness in family of mother , relations with companion and family , need of social back amid pregnancy ,misery or uneasiness amid pregnancy, all considered as the variables that can lead to PPD.(19)

A. Jofesson et. al. conducted a study in 2007 to investigate the prevalence of depressive symptoms in women who are approximately 6 times more likely to have recurrent depressive symptoms (OR = 5.82, 95%

CI: 3.79-8.93), compared with those women without postpartum depressive symptoms. Whereas in mothers postpartum depressive symptoms were elaborate in explaining the behavioural problems in their four year old children, children behavioural problems were seen with mothers having current depressive symptoms (OR = 4.71, 95% CI: 1.88-11.78).(14) Similarly, previous history of depression is the main risk factor for post-partum depression. The study conducted by Michael W. O'Hara revealed the same result that stronger predictor of postpartum depression is the past history of depression. These results are because of mental disturbance during pregnancy and low social support.(7)

While this result contradicts the findings in literature that anemia and depletion of iron stores are the leading risk factors to postpartum depression.(15) Andreanne wassef et. al. in contrast, the present study updates the literature by mode of deliveries especially c-section that can lead the female towards postpartum depression. This may be because of long hospital stays, lower competencies for interaction and suicidal thoughts. Josefsson A et al. study showed that mainly the risk factors are anxiety, obsessive and post –traumatic disorders or a child's relationship impaired of the participant.(13) O'Hara MW at el. study conducted in 1984 showed similar risk factors like previous history of depression, stressful event, prepartum depression symptoms and obstetric risk factor.(16) Vigod SN at el. study also have same results of high percentage of prevalence postpartum depression and risk factors similar to the current currant study are infant illness/disability. Others are premature delivery, low birth weight and lack of social support.(9) Grekin R at el. study also have same risk factors that include depression history, previous history or psycho pathology, child's complications and others are interaction with medical staff.(18) However, study showed the four main variables that explained the risk associated with risk factors to postpartum depression like unplanned childbirth, unemployed women, not breast feeding.(17)

This study favors the results of contradict study shows that thirteen significant predictors of postpartum depression were revealed. Ten of the 13 risk factors had moderate effect sizes while three predictors had small effect sizes. The mean effect size indicator ranges for each risk factor were as follows: prenatal depression (0.44 to 0.46), self-esteem (0.45 to 0. 47), childcare stress (0.45 to 0.46), prenatal anxiety (0.41 to 0.45), life

stress (0.38 to 0.40), social support (0.36 to 0.41), marital relationship (0.38 to 0.39), history of previous depression (0.38 to 0.39), infant temperament (0.33 to 0.34), maternity blues (0.25 to 0.31), marital status (0.21 to 0.35), socioeconomic status (0.19 to 0.22), and unplanned/unwanted pregnancy (0.14 to 0.17).(19)

Limited transportation resources, patient's uncooperative attitude, language barrier are some the limitations of this study. However, study needs to be conducted at the larger scale with wider time frame so that more generalizability of the results can be obtained on large sample size with multiple settings.

Conclusion:

The study concluded that majority of the participants has postpartum depression. The major risk factors that can affect the results are previous history of depression, gestational diabetes and infants with anomaly.

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