**Journal of Peace, Development and Communication**

PEACE AND DEVELOPMENT

**Volume 05, Issue 03, Sep 2021**
**pISSN: 2663-7898, eISSN: 2663-7901**
**Article DOI: https://doi.org/10.36968/JPDC-V05-I03-13**
**Homepage: https://pdfpk.net/pdf/**
**Email:** se.jpdc@pdfpk.net

| | |
|---|---|
| **Article:** | **An Analysis of Obstetric Factors Contributes to Postpartum Depression among Pakistani Women** |
| **Author(s):** | Faiza Anjum<br>Assistant Professor Sociology, National Textile University, Faisalabad, Pakistan. |
| | Madieha Akram<br>Assistant Professor, Chairperson, School of Sociology, Minhaj University, Lahore, Pakistan. |
| | Aamir Hayat<br>Assistant Professor, Chairperson, School of Sociology, Minhaj University, Lahore, Pakistan. |
| **Published:** | 30th Sep 2021 |
| **Publisher Information:** | Journal of Peace, Development and Communication (JPDC) |
| **To Cite this Article:** | Anjum, Faiza., Akram, Madieha., & Hayat, Aamir. (2021). "An Analysis of Obstetric Factors Contributes to Postpartum Depression among Pakistani Women." *Journal of Peace, Development and Communication*, vol. 05, no. 03, 2021, pp. 178–191, https://doi.org/10.36968/JPDC-V05-I03-13 |
| **Author(s) Note:** | Faiza Anjum is working as Assistant Professor Sociology, National Textile University, Faisalabad, Pakistan.<br>Email: Faizaanjum723@gmail.com |
| | Madieha Akram is working as Assistant Professor, Chairperson at School of Sociology, Minhaj University, Lahore, Pakistan.<br>Email: Dr.madieha@gmail.com |
| | Aamir Hayat is working as Assistant Professor, Chairperson at School of Sociology, Minhaj University, Lahore, Pakistan.<br>Email: Draamir.soc@mul.edu.pk |

## Abstract

In this research authors were to observe relations among obstetric issues in addition symptoms of postpartum depression among mothers of Pakistan (N = 400; mean age = 29.5). The data were collected from postpartum rural mothers age 15-44 years selected by using simple random sampling technique. The screening of the depression of postpartum was completed by Edinburg Postpartum Depression Scale and then subjects are analyzed by using chi-square and multiple linear regression approach to examine the relations. The results revealed mothers (31.8%) have severe depressive symptoms on postpartum screening tool. Complications such as nausea/vomiting, abdominal pain and postpartum hemorreagha reported repeatedly. A number of abortions and pregnancies, unplanned pregnancy, mode of delivery, pregnancy/delivery problems, not breastfeeding and poor maternal and infant care were highly significant with postpartum depression. Anemia, vomiting, abdominal pain, body swelling and difficult labor were not originated forecasters of depression related to postpartum in multiple regression model. Study suggested a massive need for proper attention, care and medication for maternal in antenatal and postpartum period.

**Keywords:** Depression, Pakistani mothers, Postpartum period, Postpatrum complications, Pregnancy complications.

## INTRODUCTION

Post pregnancy anxiety is pondering a genuine medical condition influencing up to 1 of every 7 mothers worldwide (American Psychological Associatio, 2020). PPD is defined as a significant burdensome scene start inside 30 days after delivery and may continue up to 1 year (American Psychiatric Association, 2013; Beck & Driscoll, 2006). The frequency of mood disorder may increase or decrease dramatically. Symptoms of PPD can appear any time and longer if remain untreated. It has an adverse effect on both mother and child health (Abbasi etal., 2013).

Postpartum depressive symptoms have variation with its prevalence rate. The most common symptoms are feelings of depression and hopelessness, anxiety, mood swings, poor concentration, lack of ability in making decisions, crying episode, suicidal thought, craving changes and absence of connection with spouse or child (NIMH, 2016; Staneva, 2015; Beck, 2002).

Beck (2002) has identified risk factors during postpartum period including unwanted pregnancy, prenatal anxiety, child care, marital status, low financial status, absence of social help and distressing life occasions. Other factors of PPD are sex of baby, type of delivery and pregnancy/delivery complications (Abadiga, 2019; Anjum & Batool, 2019). Feelings of depression can also occur due to childbirth process and hormonal changes (Vaghee etal., 2016).

A number of factors contributing in depressive symptoms, and the obstetric factors can be hypothesized a direct cause to increase the risks of depression. Because maternal physical and psychological health is profoundly depending on number of pregnancies, abortions, births and other related obstetric complications (Mori, 2017; Bener *et al*., 2012; Mohammad *et al*., 2011).

Obstetric is a branch of medical science concerning research prospectus of female reproductive system, childbirth, women care and treatment giving birth. The most frequent obstetric complications are drain, eclampsia and deterred work (Sikder et al., 2014). Though, blocked work may bring about a draw out work, implies the dynamic time of work is over twelve hour (WHO, 2008); due to this mother getting an infection and hemorrhage (Gani and Ali, 2013). It can be a foremost reason of maternal and baby morbidity and mortality. Pregnancy itself a critical period of women's life, and becomes more problematic when influenced by unwanted pregnancy, complications, abortion or miscarriage (Abouzari-Gazafroodi et al., 2015).

Pakistan is a non-industrial nation with complete populace of 207.8 million according to census 2017; and till 2020 it is 233.5 million (July 2020 est.), from which rural growth represented 64% (132.18 million) of the population (Pakistan Bureau of Statistics, 2017; Pakistan Demographics Profile, 2020). Females are 49% of the total population (101.31 million) with mean age of 23.6 at first birth. Total fertility rate is 3.6 and maternal death rate is 140 for each 100,000 live births (Pakistan Demographics Profile, 2020).

Pakistan has spent just 1% of GDP on medical services, showing a distadvantage for maternal wellbeing (Basharat, 2020). Therefore, one out of 89 ladies pass on in light of pregnancy and birth related intricacies (Anjum, 2017); and maternal death rate is higher in country zones (23%) than metropolitan regions (14%) (Rau, 2015). Abortion, miscarriage, vaginal bleeding, caserean delivery, eclampsia, hemorrhage, severe anemia, poor antenatal and prenatal care are most reported obstetric factors in Pakistan (Anjum & Batool, 2019). Obstetric problems has devastating effects on mother' psychological health. Mothers are more prone to elevate the chances of depressive symptoms when subject metter is remain unidentified and long lasting because of untreated.

By an estimation, about 28-63% of women faced the problem of PPD in Pakistan (Gulamani *et al.,* 2013). Other, detailed in excess of a portion of ladies had side effects of PPD,

dominant part of them were tolerably or seriously discouraged (Anjum & Batool, 2019) in Pakistan. Undertaking consideration of maternal health care related to obstetric charectaristics is essential in declining health problems and symptoms of PPD. In Pakistan, various danger factors have been recognized, however the genuine obstetric elements of PPD among ladies are not inferred. The primary motivation behind the investigation was to recognize the obstetric elements affecting PPD among Pakistani ladies.The findings in addition to suggestions of this study will be helpful for health practitioners, policy makers and researchers while tackling maternal psychological issues.

**Conceptual Framework**

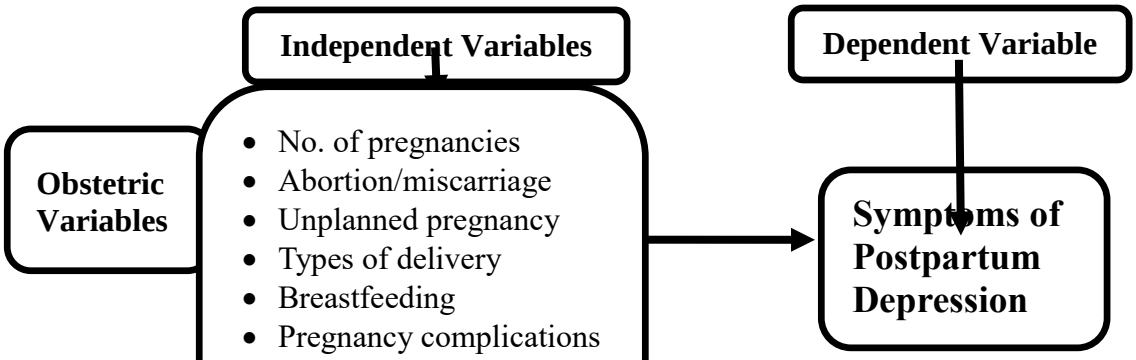


**Figure 1: Conce**

The prese factors to observe the connection between autonomous facto egnancy anxiety among ladies). These factors were number of pregnancies, number of abortions, unplanned/unwanted pregnancy, type of delivery, breastfeeding and pregnancy and labor complications.

**MATERIALS AND METHODS**

**Participants and Procedure**

The cross-sectional based examination was done to meet the basis of study goals. The quantitative methodology was utilized to analyze the obstetric elements contributing in the predominance of PPD among ladies. Mothers ages 15 to 44 years, having an infant as long as 1 year old enough, lived in rural towns of District Faisalabad, Punjab, Pakistan were selected for present study. The exclusion criteria were those women whose baby age was up to 2 weeks, because the mothers of this period are unable to express their views independtly. The other exclusion criteria were mothers with any diagnostic psychological disorder or for those psychiatric medication has been prescribed by doctor. Mothers who were falling in the exclusion criteria are not being selected for sampling, means these mothers were weeded out from final list of sapmling frame. A total of 400 postpartum mothers were selected randomly. Multistage inspecting procedure was utilized to arrive at the choice of conclusive example units. Sixteen participants were chosen through a basic testing method, four from each country town. As absolute number of rural towns are four in District Faisalabad. Thereafter 25 respondents were chosen by simple random sampling from each selected area.

**Instruments**

A well-structured schedule of interview was utilized to identify obstetric factors of postpartum mothers.

Interview schedule was divided into different parts like side effects of post birth anxiety is ordered by the degree of estimation like gentle, moderate and extreme. The seriousness of

indications is estimated by Edinburg Postpartum Depression Scale (EPDS). It is a self-announced scale containing 10-question, intended for screening post birth anxiety. Each question comprises of four focuses range from 0 - 3. The high scores are shown the seriousness of the manifestations of post birth anxiety, dictated by including the scores for every one of the 10 things. The choice of the reactions was relied upon how a respondent has felt in the previous 7 days. As respects with classifications, gloom might be gentle, moderate or extreme.

Ladies scoring 9 or less are viewed as not discouraged (gentle); and lady scores 10 – 12 are addressing the minor side effects of melancholy (moderate), ought to be asked follow up inquiries for additional screening. Ladies scoring 13 or above showing the positive indications of significant gloom (serious); needs a suitable appraisal and potential intercessions ought to be made quickly (Montazeri et al., 2007; Pallant, et al., 2006; Cox, et al., 1987).

**Data Analysis**

Univariate, bivariate and multivariate techniques of statistical analyses were applied by means of SPSS (Statistical Package for Social Sciences), to evaluate the responses and examine the association between the forecasting variables and answer variable. The univariate data was represented in the form of percentage and frequency. For bivariate data, chi-square test was practical to see the relationships. The comparative status of each predictive variable to the response variable was checked through multiple linear regression statistics.

## RESULTS AND DISCUSSIONS

**Table 1: Obstetric Characteristics of Respondents (N = 400)**

| **Characteristics** | **Values** |
|---|---|
| No. of pregnancies *n* (%) | |
| 1 – 3 | 139 (34.8) |
| 4 – 6 | 153 (38.2) |
| 7 and above | 108 (27.0) |
| Abortion/miscarriage *n* (%) | |
| Yes | 119 (29.8) |
| No | 281 (70.2) |
| Unplanned pregnancy *n* (%) | |
| Yes | 302 (75.5) |
| No | 98 (24.5) |
| Type of delivery *n* (%) | |
| Vaginal | 263 (65.8) |
| Caesarean | 137 (34.2) |
| Breastfeeding *n* (%) | |

| | |
|---|---|
| Yes | 308 (77.0) |
| No | 92 (23.0) |
| Mother care *n* (%) | |
| Good | 110 (27.5) |
| Normal | 209 (52.2) |
| Poor | 81 (20.3) |
| Infant care *n* (%) | |
| Good | 192 (48.0) |
| Normal | 158 (39.5) |
| Poor | 50 (12.5) |

**Table 2: Pregnancy and Delivery Complications of Respondents (N = 400)**

| Complications | Yes n (%) | No n (%) |
|---|---|---|
| Anemia | 238 (59.5) | 162 (40.5) |
| Vomiting | 207 (51.8) | 193 (48.2) |
| Abdominal pain | 171 (42.8) | 229 (57.2) |
| Body swelling | 78 (19.5) | 322 (80.5) |
| Vaginal bleeding | 76 (19.0) | 324 (81.0) |
| Urinary problem | 53 (13.2) | 347 (86.8) |
| Preeclampsia | 42 (10.5) | 358 (89.5) |
| Fibroid uterus | 27 (6.8) | 373 (93.2) |
| Postpartum hemorrhage | 115 (28.8) | 285 (71.2) |
| Water bag broke | 150 (37.5) | 250 (62.5) |
| Difficult labor | 93 (23.2) | 307 (76.8) |
| High blood pressure | 64 (16.0) | 336 (84.0) |
| Low blood pressure | 49 (12.2) | 351 (87.8) |
| Preterm birth | 51 (12.8) | 349 (87.2) |

| | | |
|---|---|---|
| Baby movement stopped | 32 (8.0) | 368 (92.0) |
| Baby was in an unusual position | 23 (5.8) | 377 (94.2) |

**Table 3: Prevalence of Postpartm Depression of Respondents (N = 400)**

| Postpartum depressive symptoms | Values | EPDS Score |
|---|---|---|
| Mild | 183 (45.7) | < 9 |
| Moderate | 90 (22.5) | 10-12 |
| Severe | 127 (31.8) | ≥ 13 |

***Note:*** EPDS = Edinburgh Postnatal Depression Scale; PPD = Postpartm Depression

**Description of the Sample**

From the total sample, 38.2% (*n* = 153) were pregnant for 4-6 times, 29.8% (*n* = 119) had experienced abortion or miscarriage and 75.5% (*n* = 302) reported unplanned pregnany (see Table 1). More than half 65.8% (*n* = 263) mothers gave vaginal birth and 77.0% (*n* = 308) were breastfeeding their baby as shown in Table 1. More than half 52.2% (*n* = 209) of maternal care was done normally and almost a half 48.0% (*n* = 192) of infant' care was in a better way (see Table 1). During pregnancy, 59.5% (n = 238) of participants were anemic, 51.8% (n = 207) had reported vomiting and 42.8% (n = 171) suffered from abdominal pain as viewed in Table 2. Almost 19% of sample had faced the problems of body swelling (n = 78) and vaginal bleeding (n = 76). Around 10% of participants had reported pregnancy complications in terms of urinary problem (n = 53), preeclampsia (n = 42) and fibroid uterus (n = 27).

While, considering delivery complications (see Table 2), 37.5% (n = 150) mothers were reported postpartum hemorrhage and 28.8 % (n = 115) and 23.2% (n = 93) of sample had faced water bag broke and difficult labor, respectively. 16.0% and 12.2% of mothers had reported high (n = 64) and low (n = 49) blood pressure at the time of delivery. Baby deliver earlier of 12.8% (n = 51) mothers, baby's movement was stopped of 8.0% (n = 32) mothers and baby's position was unusual of 5.8% (n = 23) mothers as shown in Table 2.

In Table 3, mother's score on the EPDS has been mentioned. Of the 400 sample, 31.8% had scores of 13 or greater and 22.5% had score of 10-12 on the EDPS and were considered at risk for PPD.

**Table 4: Associations of Obstetric Factors and Prevalence of PPD**

***Dependent Variable: Postpartum depression**

| | **Chi-square statistics** | |
|---|---|---|
| **Independent Variables** | Value | Sig. Level |
| No. of pregnancies | 16.986 | 0.009 |
| Abortion/miscarriage | 26.419 | 0.000 |
| Unlanned pregnancy | 32.989 | 0.000 |
| Type of delivery | 48.121 | 0.000 |

| | | |
|---|---|---|
| Breastfeeding | 35.716 | 0.000 |
| Anemia | 12.454 | 0.014 |
| Vomiting | 11.339 | 0.023 |
| Abdominal pain | 11.255 | 0.024 |
| Body swelling | 11.647 | 0.020 |
| Postpartum hemorrhage | 45.988 | 0.000 |
| Preterm birth | 31.848 | 0.000 |
| Difficult labor | 12.454 | 0.014 |
| Mother health care | 14.415 | 0.006 |
| Infant health care | 19.293 | 0.001 |

**Bivariate Analysis of Obstetric Characteristics and Postpartum Depressive Symptoms**

The cross-tabulation was applied to verify the association between independent and dependent variable in making decision either the formulated hypotheses are accepted or rejected. The chi-square value has identied the relationship between these variables of obstetric and symptoms of PPD. No. of pregnancies, abortion/miscarriage, unplanned pregnancy, delivery type, breastfeeding, mother and infant health care were significantly ($p < .05$) associated with postpartum depressive symptoms of participants as seen in Table 4. In addition, anemia, vomiting, boy swelling, abdominal pain, postpartum hemorrhage, difficult labor, prterm birth were the pregnancy and delivey complications significantly ($p < .05$) associated with postpartum depressive symptoms. Although, other complications such as vaginal bleeding, preeclampsia, urinary problem, fibroid uterus, high/low pulse, water sack broke, child development paused and infant' strange position were not associated with PPD in cross tabulation.

**Table 5: Multivariate Analysis of Predictive Factors of Postpartum Depression**

| **Variables** | **Unstandardized Coefficients** | | **Standardized Coefficients** | | |
|---|---|---|---|---|---|
| | **B** | **Std. Error** | **Beta** | **T** | **Sig.** |
| No. of pregnancy $X_1$ | .152 | .056 | .135 | 2.694 | .007 |
| Abortion/miscarriage $X_2$ | .158 | .052 | .137 | 3.041 | .003 |
| Unlanned pregnancy $X_3$ | .179 | .061 | .134 | 2.923 | .004 |
| Type of delivery $X_4$ | .283 | .065 | .234 | 4.380 | .000 |
| Breastfeeding $X_5$ | -.305 | .068 | -.205 | -4.460 | .000 |

| | | | | | |
|---|---|---|---|---|---|
| Mother health care $X_5$ | -.105 | .050 | -.090 | -2.111 | .036 |
| Infant health care $X_7$ | -.177 | .080 | -.100 | -2.223 | .027 |
| Anemia $X_8$ | -.038 | .051 | -.032 | -.746 | .456 |
| Vomiting $X_9$ | -.080 | .075 | -.063 | -1.065 | .288 |
| Abdominal pain $X_{10}$ | .045 | .037 | .054 | 1.230 | .220 |
| Body swelling $X_{11}$ | -.115 | .062 | -.085 | -1.858 | .064 |
| Postpartum hemorrhage $X_{12}$ | .291 | .061 | .245 | 4.746 | .000 |
| Preterm birth $X_{13}$ | .142 | .065 | .100 | 2.187 | .030 |
| Difficult labor $X_{14}$ | .034 | .063 | .027 | .533 | .594 |
| $R^2$ .504 | | | | | |

**Predictive Analysis of Postpartum Depression from Participants' Characteristics**

Multiple linear regression statistics was used to identify the relative importance of predictive factors to the response variable. As viewed in Table 5, nine predictors were significant for PPD, while five were found non-significant. Type of delivery, breastfeeding and postpartum hemorrhage had storng association at 0.000 level of significance, found in multiple linear regression model. Additionally, other significant predictors were abortion/miscarriage (p. 0.003), unplanned pregnancy (p. 0.004), no of pregnancies (p. 0.007), preterm birth (p. 0.030), mother and infant health care (p. 0.036 & 0.027) see Table 5. Non-significant obstetric predicors of PPD were anemia, vomiting, baby swelling, abdominal pain and difficult labor as shown in Table 5.

**Disussion**

In our results of Pakistani rural women, number of pregnancies were associated with symptoms of PPD, as symptoms were measured by EPDS. It means that those females who had bear a greater number of pregnancies are more prone to develop the indicators of PPD than those females who had bear fewer number of pregnancies. These results were similar to the previous studies conducted on obstetric factors of PPD. One of study was conducted by Poomalar & Bupathy (2014) and concluded that the duration and number of pregnancies was significantly associated with PPD. The majority of the ladies got hitched at their prior regenerative age (Batool, 2010). In this manner, a youthful wedded lady had more opportunity to get pregnant because of the long regenerative period.

Research findings had clarified positive association between abortion/miscarriage and spontaneous pregnancy and manifestations of PPD. Past history of fetus removal/unsuccessful labor and impromptu pregnancy expands the odds of uneasiness and stress during pregnancy, prompts PPD (Inthaphatha, et al., 2020; Cheng et al., 2009). In setting of Pakistan, It is conluded that spontaneous pregnancies are because of absence of information, spouse and family have strict protest and conduct respects family arranging strategies. Accessibility, unavailability and low quality of family arranging administrations are additionally adding to spontaneous pregnancies (Batool, 2010).

In current investigation, ladies were at higher dangers of creating PPD, if child convey by cesarean segment. Fathi et al., (2017) and Zangene at al., (2011) detailed just rising cesarean were

related with PPD. Seif Al Nasr et al., (2020) additionally upheld the exploration discoveries as cesarean area as a method of conveyance had tracked down a solid indicator of PPD conversely, an examination (Sharifi et al., 2007) in Iran tracked down no huge connection between pervasiveness of PPD and the method of conveyance. An eccentric outcome in regards to a connection between pervasiveness of PPD and method of conveyance was vaginal conveyance is related with a higher pace of PPD among ladies in Lebanon (Haque, 2015).

The examination test had shown huge relationship of breastfeeding and side effects of PPD. The current discoveries are upheld in a similar line by anothers, as the pervasiveness of PPD is at high danger with diminishing breastfeeding (Seif Al Nasr et al., 2020; Stuebe, et al., 2012; Nishioka et al., 2012). Breastfeeding has consequences for mother and newborn child, yet in addition unequivocally affect the holding among baby and mother. It might have a potential mental association with PPD.

Our exploration discoveries maternal and newborn child care was every now and again connected with PPD. In agricultural countries like Pakistan, the snags of treatment are the socio-social hindrances (family type, limitations to acquire antenatal and post pregnancy care and administrations) (Anjum et al., 2020). In one later examination, Hansotte et al., (2017) had upheld our outcomes as ladies were on higher dangers of PPD on account of their issues stay without analyze and treatment. The arrangement is fundamental for early conclusion and treatment to improve the maternal and newborn child wellbeing (Fathi et al., 2017). Ayele1 (2016) reasoned that better antenatal and post pregnancy care has an essential job in the soundness of mother and baby. Ladies' not happy with medical care administrations were around multiple times higher danger for PPD. The coherence in acquiring backing of medical services may be a defensive impact of sorrow.

The current examination had discovered relationship between pregnancy difficulties (iron deficiency, spewing, body growing, stomach agony) and conveyance confusions (diffult work, preterm birth, post pregnancy drain) and PPD. While thinking about investigation of prescient factors, neither every one of these pregnancy complexities nor troublesome work (conveyance confusion) was related with PPD. While, preterm birth and post pregnancy discharge were the labor confusions had tracked down the prescient components identified with the manifestations of PPD. By another, Mori et al., (2017) the downturn had a critical relationship with the indications of actual medical problems (during pregnancy or hence labor) during the initial a half year post pregnancy.

The vast majority of the manifestations were sluggishness, discombobulation, loss of hunger, thirst, spinal pain, migraine, eye contamination and body expanding. Past investigation of Fathi et al., (2017) had clerified a similar relationship, as gentle or moderate preterm conveyance expanded the dangers of PPD among ladies. Our examination discoveries have logical inconsistency with investigation of Ayele1 (2016), didn't track down any critical relationship between needed or undesirable pregnancy and past pregnancy difficulty and its results.

## CONCLUSIONS

In light of overview results, it is presumed that the past history of fetus removal was exceptionally connected with a ladies' dread and negative intuition in the antenatal period prompts the PPD. Undesirable pregnancy was discovered to be another most grounded factor of PPD.

Confusions during pregnancy and after labor are distinguished as a solid positive indicator of maternal burdensome state of mind. It was additionally seen that moms were more discouraged in their post pregnancy period whose baby care was poor. It is clear from the outcomes that moms who utilized equation milk rather than breastfeed increment the dangers of PPD. It tends to be

communicated that these issues thely affect maternal life, including low disposition, stress, uneasiness, hypertension and negative reasoning.

Generally, these mental inconveniences happen during pregnancy, which eventually increment the dangers of post birth anxiety. Based on outcome discoveries, it is proposed that there is huge need to choose gynecologist at the fundamental wellbeing units for giving mindfulness about the antenatal and post pregnancy complexities. Besides, the gynecological consideration, family arranging, pregnancy and pre-birth care is fundamental for her physical and mental prosperity.

## REFERENCES

Abadiga, M. (2019). Magnitude and associated factors of postpartum depression among women in Nekemte town, East Wollega zone, west Ethiopia, 2019: A community-based study. *PLoS ONE*, 14(11): 1-15: e0224792. https://doi.org/10.1371/journal.pone.0224792.

Abbasi, S., Chuang, C. H., Dagher, R., Zhu, J., & Kjerulff, K. (2013). Unintended pregnancy and postpartum depression among first-time mothers. *Journal of Women's Health*, 22(5): 412–416. https://doi.org/10.1089/jwh.2012.3926.

Abouzari-Gazafroodi, K.,Fatemeh, N., Ehsan, K., Parvin, R., and Ali, M. (2015). Demographic and obstetric factors affecting women's sexual functioning during pregnancy. *Reproductive Health*, 12:72.

Al Nasr, R. S., Altharwi, K., Derbah, M. S., Gharibo, S. O., Abdulsallam Fallatah,S., Alotaibi, S. G., Almutairi, K. A., Asdaq, S. M. B. (2020). Prevalence and predictors of postpartum depression in Riyadh, Saudi Arabia: A cross sectional study. *PLoS ONE*, 15(2): e0228666. https://doi.org/10.1371/journal.pone.0228666.

American Psychological Associatio. (2020). Postpartum Depression. https://www.apa.org/pi/women/resources/reports/postpartum-depression.

American Psychiatric Association. (2013). Diagnostic and statistical manual of mental disorders (5th ed.). Arlington, VA: *American Psychiatric Publishing*. https://doi.org/10.1176/appi.books.9780890425596. https://www.scirp.org/reference/referencespapers.aspx?referenceid=2677377.

Anjum, F. Akram, M., Shaharyar, R., Yaseen, M., Batool, Z., Zafar, A. (2020). Assessing the Role of Maternal Health Care Knowledge and Practices in Postpartum Depression. *The Journal of Social Sciences Research*, 6(9): 811-817.

Anjum & Batool. (2019). An Analytical Study of Contributory Factors of Postpartum Depression among Women in Punjab, Pakistan. *Rawal Medical Journal*, 44(1): 130-133.

Anjum, F. & Baool, Z. (2018). Psychosocial Factors Associated with Postpartum Depression among Women in Pakistan. *Journal of Applied Environmental and Biological Sciences*, 8(2): 7-13.

Ayele1, T. A., Telake A., Kassahun, A., and Zewditu A., Haregewoin M., and Abel, F. (2016). Associated Factors of Antenatal Depression among Women Attending Antenatal Care Service at Gondar University Hospital, Northwest Ethiopia. *PLoS ONE*, 11(5): 1-12.

BabyCenter Medical Advisory Board. (2015). https://www.babycenter.com/0_how-breastfeeding-benefits-you-and-your-baby_8910.bc?page=3.

Basharat, R. (2020). Pakistan still spending below 1pc of GDP on health. The Nation. https://nation.com.pk/01-May-2020/pakistan-still-spending-below-1pc-of-gdp-on-health.

Batool, Z. (2010). Socio-cultural factors affecting anemia and their effects on mother, and child health in rural areas of district Faisalabad, Punjab, Pakistan. (Doctoral Dissertation, University of Agriculture, Faisalabad.

Beck, C. T., & Driscoll, J. W. (2006). Postpartum mood and anxiety disorders: A clinician's guide. Sudbury, *MA: Jones and Bartlett Publishers*. https://b-ok.asia/book/2288705/6b5fde?regionChanged=&redirect=153746144.

Beck, C.T., 2002. Theoretical perspectives of postpartum depression and their treatment implications. *Am J Maternal Child Nurs*., 27: 282–7.

Bener, A., Gerber, L. M., & Sheikh, J. (2012). Prevalence of psychiatric disorders and associated risk factors in women during their postpartum period: A major public health problem and global comparison. *International Journal of Women's Health*, 4: 191-200.

Cheng, D., Schwarz E.B., Douglas, E., Horon, I. (2009). Unintended pregnancy and associated maternal preconception, prenatal and postpartum behaviors.*Contraception*., 79(3): 194-8.

Cox, J. L., J.M. Holden and R. Sagovsky, 1987. Detection of Postnatal Depression: Development of the 10-item Edinburgh Postnatal Depression Scale. *British Journal of Psychiatry*, 150: 782-786.

Fathi, F., Sakineh, M. & Mojgan, Mirghafourvand. (2017). Maternal self-efficacy, postpartum depression, and their relationship with functional status in Iranian mothers. Retrieved from: http://dx.doi.org/10.1080/03630242.2017.1292340.

Finer, L.B., Henshaw, S.K. (2006). Disparities in rates of unintended pregnancy in the United States, 1994 and 2001. *Perspect Sex Reprod Health*, 38: 90–96.

Gani, N. & Ali, T.S. (2013). Prevalence and Factors Associated with Maternal Postpartum Haemorrhage in Khyber Agency, *Pakistan. J Ayub Med Coll Abbottabad*, 25(1-2): 81-85.

Gulamani, S.S., P. Shahirose, K. Zeenatkhanu and I.A. Syed, 2013. Preterm Birth a Risk factor for postpartum depression in Pakistani women. *Open Journal of Depression*., 2(4): 77-81.

Haque, A., Azimeh, N., & Kelly-Ann, B. (2015). Prevalence and Risk Factors of Postpartum Depression in Middle Eastern/Arab Women. *Journal of Muslim Mental Health*, 9(1): 65-84.

Hansotte, E., Shirley, P. & Suzanne, M. B. (2017). Positive postpartum depression screening practices and subsequent mental health treatment for low-income women in Western countries: a systematic literature review. *Public Health Review*., 38(3): 1-17.

Inthaphatha. S., Yamamoto. E., Louangpradith. V., Takahashi. Y., Phengsavanh. A., Kariya, T, et al. (2020). Factors associated with postpartum depression among women in Vientiane Capital, Lao People's Democratic Republic: A cross-sectional study. PLoS ONE, 15(12): 1-15: e0243463. https://doi.org/10.1371/journal. pone.0243463.

Lau, Y., Htun, T.P., Kwong, H.K.D. (2018). Sociodemographic, obstetric characteristics, antenatal morbidities, and perinatal depressive symptoms: A three-wave prospective study. PLoS ONE 13(2): 1-17: e0188365. https://doi.org/10.1371/journal.pone.0188365.

Mohammad, K. I., Gamble, J., & Creedy, D. K. (2011). Prevalence and factors associated with the development of antenatal and postnatal depression among Jordanian women. Midwifery and Women's Health, 27, e238–e245.

Montazeri, A., Behnaz, T. and O. Sepnideh, O. (2007). The Edinburgh Postnatal Depression Scale (EPDS): translation and validation study of the Iranian version. *BMC Psychiatry*., 7: 11.

Mori, E., Hiroko, I., Akiko, S., Kunie, M. & Koji, T. (2017). Association between physical and depressive symptoms during the first 6 months postpartum. *Int J Nurs Pract*., 23(S1): e12545: 1-6.

Nakku, J.E., Nakasi, G. & Mirembe, F. (2006). Postpartum major depression at six weeks in primary health care: prevalence and associated factors. *Afr Health Sci.*, 6:207–214.

National Institute of Mental Health (NIMH). (2016). Obsessive-Compulsive Disorder. https://www.nimh.nih.gov/health/topics/obsessive-compulsive-disorder-ocd/index.shtml.

Nishioka, E., Haruna, M., Ota, E., Matsuzaki, M., Murayama, R., Yoshimura, K., (2012). A prospective study of the relationship between breastfeeding and postpartum depressive symptoms appearing at 1-5 months after delivery. J Affect Disord., 133(3): 553-9.

Pakistan Demographics Profile. (2020). https://www.indexmundi.com/pakistan/ demographics_ profile.html.

Pallant, F.J., L.M. Renée and T. Alan, 2006. Evaluation of the Edinburgh Post Natal Depression Scale using Rasch analysis. BMC Psychiatry., 6: 28.

Poomalar, G. K. & Bupathy, A. (2014). Impact of socio-cultural factors on postpartum depression in South Indian women. *Int J Reprod Contracept Obstet Gynecol*, 3(2): 338-343.

Pope, C. J. & Dwight, M. (2016). *Breastfeeding and Postpartum Depression: An Overview and Methodological Recommendations for Future Research*. Depression Research and Treatment, 1-9.

Rau, A. (2015). Maternal Mortality in Pakistan. https://borgenproject.org/maternal-mortality-pakistan/#:~:text=In%20Pakistan%2C%20one%20in%2089%20women%20die%20because, of%20these%20deaths%20are%20caused%20by%20postpartum%20hemorrhaging.

Sattar, A. 2018. Why The Abortion Rate In Pakistan Is One Of The World's Highest. *https://www.npr.org/sections/goatsandsoda/2018/11/28/661763318/why-the-abortion-rate-in-pakistan-is-one-of-the-worlds-highest*

Sharifi, K. H., Sooky, Z. Tagharrobi, Z., & Akbari, H. (2007). Relationship between kind of delivery and postpartum depression. *European Psychiatry*, 22 (1): S245–S246.

Sikder, S.S., Alain, B. L., Abu, A. S., Hasmot, A., Sucheta, M., Lee, W., Saijuddin, S., Keith, P. W. & Parul, C. (2014). Risk factors for reported obstetric complications and near misses in rural northwest Bangladesh: analysis from a prospective cohort study. *BMC Pregnancy and Childbirth*, 14: 347.

Stuebe, A.M., Grewen K, Pedersen, C.A., Propper, C., Meltzer-Brody, S. (2012). Failed Lactation and Perinatal Depression: Common Problems with SharedNeuroendocrine Mechanisms? *J Womens Health (Larchmt).*,21(3): 264-72.

Tolossa, T., Fetensa, G, Yilma, M. T., Abadiga, M., Wakuma, B., Besho, M., Fekadu, G., & Etafa, W. (2020). Postpartum depression and associated factors among postpartum women in Ethiopia: a systematic review and meta-analysis. *Public Health Rev.*, 41, 21. https://doi.org/10.1186/s40985-020-00136-3.

Vaghee, S., Moghaddam, Z.N., Sajadi, S.A., Chamanzari, H.M., Sepehrikia., & Salarhaji, A. (2016). The Effect of Occupational Therapy Activities on Self-Efficacy of Housewives with Mood Disorders after Discharge from the Hospital: Clinical Trial. *J. Appl. Environ. Biol. Sci*., 6(8): 78-87.

World Health Organization. (2008). Education material for teachers of midwifery: midwifery education modules (PDF) (2nd ed.). Geneva [Switzerland]: pp. 38–44.

Zangene, M., Alizadeh, N. S., Rezaei, F., Rezaei, M. (2011). Depression prevalence and its relationship with delivery method in Iranian women. *European Psychiatry*, 26(1): 1870.