Childbirth and postpartum is a most important life experience in a woman's life. Symptoms related to mental illness following the birth of a child have been termed postpartum symptoms and were first mentioned by Hippocrates in the fourth century BC. Post-partum depression (PPD) is a severe psychological ailment that new mothers might experience in the initial four to six weeks after child's birth (ICD 10) [1, 2]. There's no definite average length of time PPD might stay as it might present from a couple of weeks to one year after giving birth. A review of postpartum research suggests that the symptoms of PPD improve over time, where most cases of depression getting better after 3 to six months of appearance [3]. In numerous cultures, the mother and the baby are considered two halves of a whole, and the newborn is part of their collective identity. While the postpartum period is a time of great change and transition, it can also be a time of distress and vulnerability for new mothers. The experience of PPD can be particularly challenging for women who are already facing social and cultural barriers.

**INTRODUCTION**

Childbirth and postpartum is a most important life experience in a woman's life. Symptoms related to mental illness following the birth of a child have been termed postpartum symptoms and were first mentioned by Hippocrates in the fourth century BC. Post-partum depression (PPD) is a severe psychological ailment that new mothers might experience in the initial four to six weeks after child's birth (ICD 10) [1, 2]. There's no definite average length of time PPD might stay as it might present from a couple of weeks to one year after giving birth. A review of postpartum research suggests that the symptoms of PPD improve over time, where most cases of depression getting better after 3 to six months of appearance [3]. In numerous cultures, the mother and the baby are considered two halves of a whole, and the newborn is part of their collective identity. While the postpartum period is a time of great change and transition, it can also be a time of distress and vulnerability for new mothers. The experience of PPD can be particularly challenging for women who are already facing social and cultural barriers.

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**ABSTRACT**

In Pakistan, the association of factors related to depression needs to be explored a little more because here when a woman discusses or shares her problems, her concerns are dismissed and turned down, the same reason women don't express their feelings and seek help. **Objective:** To determine the association between postpartum depression and social support among women presenting at a hospital in Rawalpindi-Islamabad, Pakistan. **Methods:** This cross-sectional study included 310 women presenting to the obstetrics and gynaecology OPD, vaccination center and psychiatric OPD of Tertiary Care Hospital within postpartum phase. Participants were recruited via convenience sampling. The Structured questionnaire included demographics and gynaecological history. Edinburgh postpartum depression scale (EPDS) was used to classify patients at risk of postnatal depression. Social support was scored on multidimensional scale of perceived social support. Data analysis included descriptive statistics such as frequency & percentages and inferential statistics consisted of Pearson Chi-Square, independent samples t-test and Multiple Linear Regression. Statistical analysis done using IBM SPSS version-26. **Results:** The results indicated that the social support from significant other and family members is significantly associated with the development of postpartum depression (p-value <0.05). Furthermore, age of the mother, type of delivery, baby feeding habits, and history of being unwell during pregnancy did not present to have significant association with the development of postpartum depression. **Conclusions:** The findings of the study conclude that the development of postpartum depression is most importantly affected by lack of support from the family and husband after childbirth.
infant both are considered to be weak and vulnerable during the post-delivery period. Mothers, infants and their families are all affected by the devastating effects of the postpartum depression [4]. In some women, postpartum blues may become more severe after birth and might progress into severe depression in certain instances. Postpartum depression is characterized by ineptness, feelings of remorse, loss of desire for food, being teary and trouble falling asleep as well as feelings of being inadequate and incapable of taking care of the infant, poor concentration and memory, weariness and irritability. Some women may consider themselves as not capable enough or unloving mothers and worry excessively about the baby's health or nursing habits. Risk factors such as past history of depression, anxiety and depression during the course of pregnancy, lack of confidence, post-delivery blues, traumatic life events (including stressors related to care of the child), absence of understanding with the husband, and lack of support from family and friends contribute to the development of PPD and have reasonable amount of associations with PPD. Social, psychological, and risk factors related to environment for PPD reflect those that occur outside of the postpartum period [5]. Occasionally hormonal fluctuations during or after pregnancy are accountable for the PPD but it also presents in the women with lower socio economic status and mothers with less social support and affection from husband, family and friends [6]. The development of a new relationship with the child can take a toll on the mother that can be a cause of mood disorder [7]. Enhancement of parental support and maternal self-efficacy could greatly help reduce the level of depressive symptoms [8]. Figure 1 describes the predictors of postpartum depression.

The prevalence of PPD varies across Asian countries greatly (3.5 – 63.3%), [9] with the lowest rates found in Malaysia (<4%), and some extremely high rates in Pakistan (28-63%) [10, 11]. Violence caused by the significant other, family preference for a male child and low support from in-laws are significant factors associated with the development of depression among pregnant women in most of the South Asian region [12]. The variation in estimate of PPD prevalence seen in studies across and within countries could be linked to the different assessment measures, screening methodology, postnatal stage, and cut-off scores used in these studies. In Pakistan, the association of factors related to depression needs to be explored a little more because here when a woman discusses or shares her problems, her concerns are dismissed and turned down. Also the fear of being labelled as a patient of mental illness is also a barrier that women don't express their feelings and seek help. Type of family structure also plays an important role in terms of available social support during the postpartum phase. Occurrence of PPD is influenced by the family structure and social support. Women residing in extended joint family have more support and are less subject to development of depressive symptoms in comparison to women living independently in nuclear families who have reduced social support from extended family. It is reported that social support is one of the significant predictors of PPD, yet this is overlooked and not routinely assessed at postnatal visits [13]. Specific indicators can be identified, by assessing the perception of new mothers regarding their level of support, to learn how to support women effectively who are transitioning into motherhood. Social support is thought to be very important for the well-being of mothers of newborns. This study intends to identify and explore the depression among women in postpartum phase and its association with social support.

**M E T H O D S**

The study was conducted at major tertiary care setup in Rawalpindi which provide services to approximately majority of general population residing in Rawalpindi. The data were collected from the Benazir Bhutto Hospital, Rawalpindi & Social Security Hospital. A simple non-probability convenience sampling technique was used for recruitment of participants. The participants were chosen based on their availability and willingness to participate in the study. A sample size of 310 women was considered at 95% confidence interval [CI] with 5% type 1 error and a power of 80%. All women presenting to the obstetrics and gynecology outpatient department, vaccination/Immunization center and psychiatric outpatient
RESULTS

A total of 310 women were included in this study. The mean age of participants was 26.8 ± 3.4 years ranging from 20 –36 years as listed in Table 1.

Table 1: Mean age of respondents

<table>
<thead>
<tr>
<th>Female</th>
<th>Mean Age ± SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>310</td>
<td>26.8 ± 3.4</td>
</tr>
</tbody>
</table>

The categorical variables were analysed as numbers, frequency and percentages for all the women who participated. The educational status of women was assessed to ascertain if it had any influence in the development of PPD, it was determined that 41.6% had attended school till class 8th, 25.8% women had received education either till matriculation or Intermediate while 19.70% women had done Graduation or received higher education. 12.9% reported to have never attended any school. Majority of the participant women’s husbands were employed (88.7%) and the remaining (11.3%) were unemployed. More than half of the participants (66.8 %) lived in an extended family with a joint family setup; whereas only 33.2 % lived independently as a nuclear family setup. The Odds ratio for the type of family, that the participants without PPD live in reduced odds of exposure than participants with PPD was found to be 0.65, indicating there is a protective effect of extended family. There was 35% reduced risk of PPD in participants who lived in joint setup with extended families. The results revealed that out of 310 women, 53.9% women did not suffer from PPD after child birth, 24.2% were screened to have moderate postpartum depression and 21.9% had severe depression. On average total sample’s depression screening score lied in the moderate range that is 14.23 ± 5.9. Figure 2 describes the depression screening score.

Depression screening

![Figure 2: Depression Screening Score and categories](image)

All those sociodemographic variables that show a significant relationship with the development of postpartum depression included educational status of the mother, husband’s employment status and type of family. The type of delivery and newborn feeding habits displayed very mild association. The results are displayed in the following table 2.
Table 2: Summary of relationship of sociodemographic variables and PPD

<table>
<thead>
<tr>
<th>Socio-demographic Characteristics</th>
<th>All Women N=310</th>
<th>Women with PPD: EPDS &gt;13 (n=143)</th>
<th>Women without PPD: EPDS &lt;13 (n=167)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mother's Educational Status</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>40 (12.9%)</td>
<td>33 (23.0%)</td>
<td>7 (4.2%)</td>
<td>0.001</td>
</tr>
<tr>
<td>Class 1-8</td>
<td>129 (41.6%)</td>
<td>60 (41.8%)</td>
<td>69 (41.4%)</td>
<td></td>
</tr>
<tr>
<td>Matriculation/Intermediate</td>
<td>80 (25.8%)</td>
<td>31 (30.7%)</td>
<td>49 (29.6%)</td>
<td></td>
</tr>
<tr>
<td>Graduation and Higher</td>
<td>61 (19.7%)</td>
<td>19 (13.2%)</td>
<td>42 (25.1%)</td>
<td></td>
</tr>
</tbody>
</table>

| Husband's Employment             |                |                                  |                                   |        |
| Employed                        | 275 (88.7%)    | 111 (77.3%)                      | 164 (98.8%)                       | 0.001  |
| Unemployed                      | 35 (11.3%)     | 32 (22.7%)                       | 3 (1.2%)                          |        |

| Type of Family                   |                |                                  |                                   |        |
| Nuclear                         | 103 (33.2%)    | 41 (28.7%)                       | 62 (37.1%)                        | 0.001  |
| Extended                        | 207 (66.8%)    | 81 (56.3%)                       | 126 (72.9%)                       |        |

| Type of Delivery                 |                |                                  |                                   |        |
| Normal Vaginal Delivery         | 159 (51.3%)    | 53 (37.1%)                       | 106 (64.3%)                       | 0.04   |
| C-Section/Instrumental Delivery | 151 (48.7%)    | 90 (62.9%)                       | 61 (35.7%)                        |        |

| Newborn Habit                    |                |                                  |                                   |        |
| Exclusive Breast Feeding         | 99 (31.9%)     | 29 (20.3%)                       | 70 (41.9%)                        | 0.04   |
| Bottle feeding                   | 84 (27.1%)     | 62 (43.4%)                       | 22 (13.2%)                        |        |
| Combination of both             | 127 (41.2%)    | 54 (38.0%)                       | 73 (44.3%)                        |        |

The results revealed that out of 310 women, 7.1% women belonged to low social support group, 49.7% belonged to moderate social support group and 43.2% had high social support. On average sample's perceived social support lies in the moderate range having a score in the range of 3-5 with a frequency of 154 (49.7% of the sample). The women diagnosed with symptoms of PPD and without symptoms of PPD were compared on the scale variable including MSPSS and its subscales. The figure 3 summarizes the results.

Figure 3: Relationship between PPD and Social support
The mean score of all the women who participated on EPDS scale was calculated to be 14.2 ± 5.8, the mean total social support score of all women was found out to be 4.5 ± 0.91, mean score for significant other support was 4.7 ± 1.1, family support score has a mean value of 5.0 ± 1.1 and friends support mean score was calculated to be 3.8 ± 1.3. The independent sample t-test was applied to compare the mean of variables including total social support score, score of significant other support, score of family support, friends support score and depression screening score. The results indicated that total MSPSS and all its subscales have significant association with the development of postpartum depression (p-value <0.05). Table 3 describes the comparison of women with symptoms of PPD & without symptoms of PPD on the level of social support.

Table 3: Comparison of women with Postpartum Depression (PPD) & Without Postpartum Depression (PPD) on level of social support

<table>
<thead>
<tr>
<th>Scale</th>
<th>Women with PPD Mean ± SD</th>
<th>Women without PPD Mean ± SD</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Multidimensional Scale of Perceived Social Support (MSPSS)</td>
<td>4.0±0.85</td>
<td>5.0±0.69</td>
<td>0.00</td>
</tr>
<tr>
<td>Significant other Subscale</td>
<td>3.9±1.03</td>
<td>5.4±0.78</td>
<td>0.00</td>
</tr>
<tr>
<td>Family Subscale</td>
<td>4.6±1.15</td>
<td>5.3±0.92</td>
<td>0.00</td>
</tr>
<tr>
<td>Friends Subscale</td>
<td>3.4±1.33</td>
<td>4.1±1.38</td>
<td>0.00</td>
</tr>
</tbody>
</table>

The multiple linear regression was applied to predict the relationship between predictors (our independent variable i.e., social support level) and a predicted variable (the dependent variable i.e., postpartum depression). The results explain the R² value = 0.461, indicating that the 45.1% variance of the dependent variable i.e., PPD is explainable by independent variables. MSPSS significant other subscale (B=0.317, p <0.001) and family subscale (B=0.170, p <0.001) were found to be significant predictors. Other predictors included Number of children (Mean=2.82 ± 1.25, B=−0.086, p <0.001), number of daughters (B=−0.087, p<0.001), mother’s educational status (B=0.044, p<0.003), Husband’s employment status (B=0.156, p<0.04), type of family (B=0.192, p <0.001) and gender of the newborn baby (B=−0.115, p <0.019) were found to be associated with PPD. MSPSS friend’s subscale, age of the mother, habits of the mother, number of sons, type of delivery, baby feeding habits, and history of being unwell during pregnancy were not significantly associated with the development of postpartum depression.

**DISCUSSION**

The prevalence of PPD in Pakistan accounts for the highest occurrence among the Asian countries that lies between the ranges of 28 percent to 63.3 percent [18]. This study identified the relationship of social support with the high burden of depression among women in postpartum phase. Type of family and family structure plays a major role in terms of social support, according to the literature review regarding prevalence and risk factors of postpartum depression in Pakistan it was found that those living in extended joint family system have more support than...
women living in the nuclear family system and are therefore less prone to develop PPD [13]. The literature review findings from around the globe also report that adequate family support leads to slighter odds of developing PPD [19]. Out of the women who participated in our survey, more than half (66.8%) lived in an extended family with a joint family setup; whereas only 33.2% lived independently as a nuclear family setup. Literature reports lack of attention, understanding, and support from the husband as a significant predictor [20] however all the participants in our study reported the person they consider special to be their husbands which did not allow much comparison of husband’s support among women presenting with postpartum depression and those without PPD. In literature, the larger the number of children and more the number of daughters than sons were associated with a higher score on depression scale and the negative association is seen between the social support and the number of daughters [6]. In our study, number of children (Mean=2.82 ± 1.25, B=-0.086, p<0.001) and number of daughters (B=-0.087, p<0.001) also showed significant association with depressive symptoms.

C O N C L U S I O N S

The findings of the study conclude that the development of postpartum depression was most importantly affected by lack of support from the family and husband. The extended family setup is a blessing in our culture where the family support is readily available.

A u t h o r s  C o n t r i b u t i o n

Conceptualization: NR, MFH
Methodology: AM, SFZK
Formal Analysis: NR, IS, SAR
Writing-review and editing: NR, HM, JK, MS, NK

All authors have read and agreed to the published version of the manuscript.

C o n f l i c t s  o f  I n t e r e s t

The authors declare no conflict of interest.

S o u r c e  o f  F u n d i n g

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R E F E R E N C E S


