

## Original Research Article

# Psychosocial factors in post-partum parents in India

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### ABSTRACT

**Background:** Post-partum period brings along with it a lot of changes and responsibilities. Fatigue, Stress, Depression and Bonding are some of the factors which have shown to affect the parents during this period. Present study assesses the psychosocial factors in post-partum parents and differences observed amongst them. The effect of other factors like the type of delivery of the youngest child, the working status of the mother and the type of family they reside in were also assessed.

**Methods:** 128 pair of parents (64 mothers & 64 fathers) were interviewed using a Case Report Form after procuring their informed consent. The various psychosocial domains were evaluated using Multidimensional Assessment of Fatigue (MAF) Scale, Perceived Stress Scale (PSS), Edinburgh Postnatal Depression Scale (EDPS) and the Post-Partum Bonding Questionnaire (PBQ). For each participant, the total score (factorial total score in case of PBQ) in each scale was calculated and analysed.

**Results:** On comparing the various psychosocial factors, fatigue (p-value 0.020), stress (p-value 0.034) and depression (p-value 0.005) levels were found to be significantly higher in mother as compared to fathers. Primiparous mothers had significantly high levels of stress (p-value 0.021) and depression (p-value 0.015) in comparison to primiparous fathers. Also, mothers who underwent C-section showed a significant difference (p-value 0.023) towards their tendency of incipient abuse towards the child as compared to the other groups.

**Conclusions:** The present study reveals that the bonding of mothers and fathers with their children is equal. However, the mothers are observed to be more fatigued, stressed and depressed as compared to fathers.

**Keywords:** Psychosocial factors, Post-partum parents, Fatigue, Stress, Depression, Bonding

### INTRODUCTION

Post-partum period is the time of major changes in the lives of mothers as well as fathers, especially for first-time parents.<sup>1</sup> They are compelled to change their priorities owing to the fact that they now have a responsibility of a new life.

Post-partum period in a women's life, is the time during which there is restoration of muscle tone and connective tissue to the pre-pregnant state.<sup>2</sup> The puerperium stage lasts from about 6 months to a year.<sup>3</sup> Therefore, the

reversal of body structure and function goes on until a long period after parturition.

Fatigue is a common problem for new mothers and can have detrimental effects on health and daily functioning as well as maternal mood and spousal relationship quality. It is sometimes associated with increased anxiety and depression.<sup>4</sup> According to a study, both mothers and fathers had comparable levels of post-partum fatigue.<sup>5</sup> Hence, its assessment is important in order to be able to treat it and prevent clinically significant fatigue.

Adapting to the parenting role can be really stressful for parents. Mothers may feel exhausted and insecure regarding their capability to nurture an infant.<sup>6</sup> Overload of responsibilities and not having sufficient time to do things as they want have proved to be the most common stressors among fathers.<sup>1</sup> Their perspective is not taken into consideration very often.

Postpartum depression is a mental state characterised by mood disturbances, disturbed sleep and poor concentration. It has been observed in both the parent pairs.<sup>7,8</sup> It can sometimes take a mild clinical course or can affect a person to a point where they have suicidal thoughts.

The term “Bonding” was introduced by Klaus and Kennell (1976) referring to the developmental changes in the parents during the postpartum period. These changes are shown to have a long-term effect on parent-child relationships as well as child development.<sup>9</sup> Mother-infant bonding disorders like lack of maternal feeling, irritability, resentment, aggressive impulses and downright rejection have also been observed in the past.<sup>10</sup> Incipient abuse could also be included as one of the bonding disorders.

Previous studies have shown differences amongst parents based on factors like parity, type of delivery and employment of mothers.<sup>11-15</sup> This intrigued us to look into these domains. Various psychosocial factors are known to have an influence over the couples’ relationship, relationship with children and their health status.<sup>1</sup> One of the factors to be considered in the Indian scenario would be the existence of couples staying in a joint family or a nuclear family.<sup>16</sup> The incidence of joint families in contemporary urban India is known to be high, however with the increase in women empowerment, current scenario of digitization, individualistic thinking, growing population and space crunch has led to existence of smaller broken nuclear families.<sup>17</sup>

There haven’t been many studies which assessed the psychosocial domains and the associated factors influencing the former in postpartum parents amongst the Indian population. The present study therefore aims to assess the same.

Questionnaires are very useful tools of assessment. For the present study, Multidimensional Assessment Of Fatigue (MAF) Scale, Perceived Stress Scale (PSS), Edinburgh Postnatal Depression Scale (EDPS), Post-Partum Bonding Questionnaire (PBQ) were used.<sup>18-21</sup>

MAF scale was developed and validated to measure the severity of fatigue.<sup>4</sup> It consists of 16 items that measure four dimensions experienced during the preceding week, namely severity, distress, degree of interference in activities of daily living and timing of the fatigue. It is most often used as a single score by calculating the Global Fatigue Index. PSS is one of the most widely used

tools for measuring the level of stress amongst the community.<sup>22</sup> It consists of 10 items which try to measure the degree to which situations in their life are expected to be stressful. It also includes direct questions regarding current levels of experienced stress. EPDS is a very helpful and efficient tool which helps in identifying patients at risk of depression.<sup>23</sup> It consists of 10 questions which are designed to screen for symptoms of emotional distress during and after pregnancy.<sup>24</sup>

PBQ consists of 25 statements aiming at assessing the extent of parent-infant bonding disorders, each followed by six alternative responses varying from ‘always’ to ‘never’. It assesses four factors, namely problems in mother-infant relationship, rejection and pathological anger with respect to the baby, infant-focussed anxiety and thoughts about harming the child.<sup>25</sup> PBQ has been employed in the past to assess mother-infant bonding. However, since there was no disclaimer to its use in assessing father-infant bonding, the current study uses PBQ to assess father-infant bonding too.

### **Aim**

To assess the psychosocial factors like fatigue, stress, depression and bonding in post-partum parents in India.

### **METHODS**

A non-randomized, cross-sectional survey of 128 Indian parents inclusive of both mothers (n=64) and fathers (n=64) from Western and Navi Mumbai whose youngest child was aged 5 years or less was carried out over a period of 6 months from August 2016 to January 2017. The parents were enrolled for the survey once they gave their consent to participate on understanding the purpose and need of the study undertaken, via a printed information sheet. The protocol of study was sanctioned by the Ethics committee of School of Physiotherapy, D. Y. Patil University, Nerul, Navi Mumbai. An interview based survey was conducted using a case report form, Multidimensional Assessment of Fatigue (MAF), Perceived Stress Scale (PSS), Edinburgh Postnatal Depression Scale (EDPS) and Post-Partum Bonding Questionnaire (PBQ) to assess levels of fatigue, perceived stress, and postnatal depression.<sup>4,20,25,26</sup> All the assessment tools were incorporated in the study after procuring prior permission and licensing via email from the respective authors. Only married couples, physically and mentally normal children until the age of 5 years and non-hospitalised new mother after delivery were included in the study with especially abled children, new mothers not yet discharged from hospital after delivery and divorced/single parents were excluded from the study.

Scoring of the scales which were used as outcome measures were all validated tools of assessment. The targeted sample was from the urban population with a fairly decent level of education. Hence the scales were used as they are with no changes in any of the questions.

For every participant, the total score in each scale was calculated and analysed.

## RESULTS

The mean age of mothers (n=64) was 32.7 years and fathers (n=64) was 35.21 years. The study population was from the urban sector and all the mothers were educated. 47% of mothers were post graduates, 44% graduates and 9% ladies completed their basic studies of

higher secondary studies. All fathers were equally educated with 37% being post graduates, 55% being graduates and 8% with basic education. Of the study population 50 % were primiparous and 50% were multiparous parents. 50% of women underwent a normal vaginal delivery, 36% had an elective caesarean section and 14% had an emergency caesarean section. It was observed that 56% women were homemakers and 44% were employed mothers. 39% of parents lived in nuclear families, while 61% lived in joint families.

**Table 1: Mean, standard deviations and range of scores of the tools used.**

	Groups	N	Mean	SD	Range
Global Fatigue Index	Mothers	64	23.75	8.88	7-48
	Fathers	64	19.87	6.36	8-36
Perceived Stress Scale	Mothers	64	17.85	6.26	1-29
	Fathers	64	15.73	5.22	3-34
Edinburgh Postnatal Depression Scale	Mothers	64	10.20	5.38	0-22
	Fathers	64	7.89	3.82	0-20
Postpartum Bonding Questionnaire (PBQ)-Factor 1	Mothers	64	9.89	5.40	1-28
	Fathers	64	8.23	4.12	0-21
PBQ-Factor 2	Mothers	64	2.96	3.00	0-16
	Fathers	64	2.42	2.21	0-9
PBQ-Factor 3	Mothers	64	2.28	2.27	0-10
	Fathers	64	2.81	2.35	0-8
PBQ-Factor 4	Mothers	64	0.17	0.70	0-5
	Fathers	64	0.28	1.35	0-10

**Table 2: Mean rank values of fatigue, stress, depression and PBQ-factors in mothers and fathers.**

	Fatigue		Stress		Depression		PBQ-Factor 1 (Problem in parent-infant relationship)		PBQ-Factor 2 (Rejection and anger)		PBQ-Factor 3 (Anxiety)		PBQ-Factor 4 (Harmful thoughts)	
	Mean Rank	P value	Mean Rank	P value	Mean Rank	P value	Mean Rank	P value	Mean Rank	P value	Mean Rank	P value	Mean Rank	P value
Mothers, N=64	72.10	0.020	71.44	0.034	73.59	0.005	70.66	0.059	66.95	0.450	59.93	0.157	64.48	0.992
Father, N=64	56.90		57.56		55.41		58.34		62.05		69.07		64.52	

**Table 3: Mean rank values of fatigue, stress, depression and PBQ-factors in between primiparous mothers and multiparous mothers.**

	Fatigue		Stress		Depression		PBQ-Factor 1 (Problem in parent-infant relationship)		PBQ-Factor 2 (Rejection and anger)		PBQ-Factor 3 (Anxiety)		PBQ-Factor 4 (Harmful thoughts)	
	Mean Rank	P value	Mean Rank	P value	Mean Rank	P value	Mean Rank	P value	Mean Rank	P value	Mean Rank	P value	Mean Rank	P value
Primiparous, N=32	29.30	0.168	33.34	0.716	31.64	0.711	33.22	0.756	31.41	0.634	29.55	0.197	32.41	0.936
Multiparous, N=32	35.70		31.66		33.36		31.78		33.59		35.45		32.59	

**Table 4: Mean rank values of fatigue, stress depression and PBQ-factors in between primiparous mothers and multiparous fathers.**

Fathers	Fatigue		Stress		Depression		PBQ-Factor 1 (Problem in parent-infant relationship)		PBQ-Factor 2 (Rejection and anger)		PBQ-Factor 3 (Anxiety)		PBQ-Factor 4 (Harmful thoughts)	
	Mean Rank	P value	Mean Rank	P value	Mean Rank	P value	Mean Rank	P value	Mean Rank	P value	Mean Rank	P value	Mean Rank	P value
Primiparous, N=32	30.34	0.353	28.44	0.080	30.52	0.391	29.86	0.254	33.77	0.581	29.81	0.242	32.52	0.989
Multiparous, N=32	34.66		36.56		34.48		35.14		31.23		35.19		32.48	

**Table 5: Mean rank values of fatigue, stress, depression and PBQ-factors in between primiparous mothers and fathers.**

Primiparous Mothers, N=32	Fatigue		Stress		Depression		PBQ-Factor 1 (Problem in parent-infant relationship)		PBQ-Factor 2 (Rejection and anger)		PBQ-Factor 3 (Anxiety)		PBQ-Factor 4 (Harmful thoughts)	
	Mean Rank	P value	Mean Rank	P value	Mean Rank	P value	Mean Rank	P value	Mean Rank	P value	Mean Rank	P value	Mean Rank	P value
Fathers, N=32	29.53	0.201	27.12	0.021	26.86	0.015	28.70	0.102	32.27	0.919	34.59	0.358	32.55	0.968
Mother, N=32	35.47		37.88		38.14		36.30		32.73		30.41		32.45	

**Table 6: Mean rank values of fatigue, stress, depression and PBQ-factors in between multiparous mothers and fathers.**

Multiparous Mothers, N=32	Fatigue		Stress		Depression		PBQ-Factor 1 (Problem in parent-infant relationship)		PBQ-Factor 2 (Rejection and anger)		PBQ-Factor 3 (Anxiety)		PBQ-Factor 4 (Harmful thoughts)	
	Mean Rank	P value	Mean Rank	P value	Mean Rank	P value	Mean Rank	P value	Mean Rank	P value	Mean Rank	P value	Mean Rank	P value
Fathers, N=32	28.06	0.056	30.84	0.476	28.80	0.111	30.42	0.369	30.11	0.296	34.86	0.305	32.45	0.968
Mother, N=32	36.94		34.16		36.20		34.58		34.89		30.14		32.55	

Statistical calculations were done for the data using the SPSS software. For comparisons among mothers and fathers based on various factors, Mann-Whitney U test (non-parametric) was performed. For comparisons based on type of delivery of the youngest child, Kruskal Wallis test (non-parametric) was performed. P values of <0.05 were considered significant for all the analyses.

Descriptive statistics of the Total Score obtained for all the scales is shown in Table 1.

There was a significant difference in the levels of fatigue, stress and depression between mothers and fathers and according to Mean Rank Test, mothers showed

significantly higher levels of fatigue, stress and depression.

According to mean ranks as shown in Table 2, mothers had more problems in parent-infant relationship and more feelings of rejection and anger whereas fathers had more anxiety and harmful thoughts.

The following tables represent the statistical values for Fatigue, Stress, Depression, Bonding – Factor 1 (General Factor), Bonding – Factor 2 (Rejection and Pathological Anger), Bonding – Factor 3 (Anxiety about the Infant), Bonding – Factor 4 (Incipient Abuse); between between primiparous mothers and multiparous mothers. According

to mean rank as shown in Table 3, primiparous mothers were more stressed and had more problems in mother-infant relationship whereas multiparous mothers were

more fatigued, depressed and had more feelings of rejection, anger, anxiety and harmful thoughts.

**Table 7: Variations in mean rank values of fatigue, stress, depression and PBQ-factors with respect to type of delivery of youngest child in the family.**

Type of Delivery of Youngest child	Fatigue		Stress		Depression		PBQ-Factor 1 (Problem in parent-infant relationship)		PBQ-Factor 2 (Rejection and anger)		PBQ-Factor 3 (Anxiety)		PBQ-Factor 4 (Harmful thoughts)	
	Mean Rank	P value	Mean Rank	P value	Mean Rank	P value	Mean Rank	P value	Mean Rank	P value	Mean Rank	P value	Mean Rank	P value
Vaginal, N=32	32.64		34.86		34.41		30.55		32.86		31.66		30.47	
Elective C-Section, N=23	32.96	0.957	29.41	0.560	33.54	0.255	35.43	0.625	32.50	0.973	33.35	0.934	32.30	0.023
Emergency C-Section, N=9	30.83		32.00		23.06		31.94		31.22		33.33		40.22	

**Table 8: Variations in mean rank values of fatigue, stress, depression and PBQ-factors with respect to working (occupation) status of the mother.**

Mothers	Fatigue		Stress		Depression		PBQ-Factor 1 (Problem in parent-infant relationship)		PBQ-Factor 2 (Rejection and anger)		PBQ-Factor 3 (Anxiety)		PBQ-Factor 4 (Harmful thoughts)	
	Mean Rank	P value	Mean Rank	P value	Mean Rank	P value	Mean Rank	P value	Mean Rank	P value	Mean Rank	P value	Mean Rank	P value
Homemaker, N=36	30.93		36.35		35.08		32.42		35.50		31.18		32.15	
Employed, N=28	34.52	0.444	27.55	0.060	29.18	0.207	32.61	0.967	28.64	0.139	34.20	0.513	32.95	0.738

**Table 9: Variations in mean rank values of mother's fatigue, stress, depression and PBQ-factors with respect to type of family.**

Type of Family	Fatigue		Stress		Depression		PBQ-Factor 1 (Problem in parent-infant relationship)		PBQ-Factor 2 (Rejection and anger)		PBQ-Factor 3 (Anxiety)		PBQ-Factor 4 (Harmful thoughts)	
	Mean Rank	P value	Mean Rank	P value	Mean Rank	P value	Mean Rank	P value	Mean Rank	P value	Mean Rank	P value	Mean Rank	P value
Nuclear, N=25	36.18		31.38		28.86		29.06		31.30		30.38		33.32	
Joint, N=39	30.14	0.205	33.22	0.699	34.83	0.210	34.71	0.235	33.27	0.676	33.86	0.458	31.97	0.577

Between primiparous fathers and multiparous fathers according to mean rank as shown in Table 4, primiparous fathers had more feelings of rejection, anger and harmful thoughts whereas multiparous fathers were more fatigued, stressed, depressed and have more problems in parent-infant relationship and anxiety.

Between primiparous mothers and primiparous fathers, there was a significant difference in the levels of stress and depression between mothers and fathers and according to Mean Rank Test as shown in Table 5, primiparous mothers showed significantly higher levels of stress and depression.

**Table 10: Variations in mean rank values of father's fatigue, stress, depression and PBQ-factors with respect to type of family.**

Type of Family	Fatigue		Stress		Depression		PBQ-Factor 1 (Problem in parent-infant relationship)		PBQ-Factor 2 (Rejection and anger)		PBQ-Factor 3 (Anxiety)		PBQ-Factor 4 (Harmful thoughts)	
	Mean Rank	P value	Mean Rank	P value	Mean Rank	P value	Mean Rank	P value	Mean Rank	P value	Mean Rank	P value	Mean Rank	P value
<b>Fathers</b>														
<b>Nuclear, N=25</b>	33.32	0.777	29.04	0.232	32.80	0.917	34.42	0.506	33.08	0.839	30.64	0.517	30.88	0.270
<b>Joint, N=39</b>	31.97		34.72		32.31		31.27		32.13		33.69		33.54	

According to mean rank, mothers were more fatigued, had more problems in parent-infant relationship and had more feelings of rejection and anger whereas fathers had more anxiety and harmful thoughts.

Between multiparous mother and multiparous fathers, according to mean rank as shown in Table 6, mothers were more fatigued, stressed, depressed, had more problems in parent-infant relationship and more feelings of rejection, anger and harmful thoughts whereas fathers have more anxiety.

Based on the type of delivery of the youngest child, there was a significant difference in one of the factors amongst all three groups and according to Mean Rank Test, mothers who underwent emergency C-section showed significantly higher levels of PBQ Factor 4 (incipient abuse) as compared to the other two groups.

According to mean rank as shown in Table 7, those who underwent vaginal delivery were more stressed, depressed and more feelings of rejection and anger whereas those who underwent elective C-section were more fatigued, had more problems in parent-infant relationship and had more anxiety.

Between Homemaker mothers and employed mothers, employment as a factor had no significant role to play in any of the psychosocial domains amongst mothers. However; according to mean rank as shown in Table 8, homemaker mothers were more stressed, depressed and had more feelings of rejection and anger whereas employed mothers were more fatigued, had more problems in parent-infant relationships and had more anxiety and harmful thoughts.

Based on the type of family the mother resides in, according to mean rank as shown in Table 9, mothers in nuclear families were more fatigued and had more harmful thoughts whereas mothers in joint families were more stressed, depressed, had more problems in parent-infant relationship and had more feelings of rejection, anger and anxiety.

Based on the type of family the father resides in, according to mean rank as shown in Table 10, father in nuclear families were more fatigued, depressed, had more problems in parent-infant relationship and had more feelings of rejection and anger whereas fathers in joint families were more stressed and had more anxiety and harmful thoughts.

## DISCUSSION

Postpartum period comes with its own set of challenges. Both mothers and fathers experience different levels of fatigue, stress, depression and bonding with the child. In our study, mothers showed a higher mean score ( $23.75 \pm 8.88$ ) of fatigue, as compared to fathers ( $19.87 \pm 6.36$ ). Range of scores varied from 7 to 48 for mothers and 8 to 36 for fathers. 16% of mothers experienced low levels of stress whereas 70% of them showed high levels. However 22% of fathers experienced low levels of stress but only 55% experienced high levels. The cut off values used were from a previous article.<sup>27</sup> It was statistically proven ( $p < 0.05$ ) that the mothers were more fatigued and stressed as compared to fathers. This finding is in accordance with a study which also found a similar result. The underlying reason may be that mothers are involved in household activities and workplace responsibilities along with childcare. Fathers on the other hand usually take up the "helper" role when it comes to childcare activities.<sup>28</sup> Also mothers are usually more stressed about maintaining fun activities, providing proper nourishment and safety of the child at all times.

About 56% of the mothers and 30% of fathers showed depressive symptoms. The cut off value ( $>10$ ) was based on a previous study.<sup>29</sup> It was statistically proven ( $p < 0.05$ ) that the mothers were more depressed as compared to fathers. Similar observation was made in a previous study where more number of mothers showed symptoms of depression than fathers.<sup>30</sup> Postpartum depression can last for up to 4 years in mothers.<sup>7</sup> It is also significant among fathers especially during the first year postpartum.<sup>8</sup> Factors like parent-child interactions, responsiveness towards children and involvement with them may have an

influence over this aspect.<sup>30</sup> For such parents, it becomes difficult to handle their responsibilities effectively.

About 23% of mothers and 19% of fathers showed mother-infant bonding disorders. High levels of anxiety about the infant were seen in 2% of mothers. Thoughts about harming the child have been observed in 2% of mothers and 3% of fathers. Postpartum depression also has an effect over mother-infant relationships. It is necessary to tackle this as it hampers the child's cognitive and emotional development.<sup>31</sup> Traits of excessive anger, anxiety and feelings of harming the child may develop due to unplanned pregnancies or challenging infant behaviour.<sup>32</sup>

Previous studies have shown that primiparous mothers are at a greater risk of post-partum mental disorders than multiparous mothers.<sup>11</sup> Also the levels of fatigue, 1 month postpartum are higher in primigravidae than multigravidae mothers.<sup>12</sup> It has also been observed that primiparous fathers experience more anxiety and depression than multiparous fathers, 4 to 8 months postpartum.<sup>13</sup> In this study, no significant difference among any of the psychosocial factors was found when the comparison was done between parent-pairs on the basis of parity. However, when primiparous mothers were compared with primiparous fathers, it was seen that mothers showed significantly ( $p < 0.05$ ) higher levels of stress and depression. This is in accordance with a previous study which stated that mothers reported higher scores on anxiety, depression and stress as compared to fathers. This is predisposed to the fact that mothers are more vulnerable to emotional difficulties and are directly involved in all the childcare activities. Not feeling confident as a parent, dissatisfaction of one's relationship with their child can be indicators of parenting stress.<sup>33</sup>

When comparisons were made between the mothers based on the type of delivery of the youngest child, it was found that the levels of incipient abuse were significantly higher for those who underwent emergency C-section as compared to the ones who underwent vaginal delivery elective C-section. Mothers undergoing emergency c-section experience more mental stress as compared to those undergoing elective C-section as well normal vaginal delivery.<sup>14</sup> This may probably be the underlying reason for the same.

Studies have shown that employed mothers seemed to be less depressed as compared to homemakers.<sup>15</sup> Also they were reportedly less worried and anxious when their baby was away from them as compared to homemaker mothers.<sup>34</sup> However, no significant differences were observed in our study when these comparisons were made among mothers.

In India, children in joint families have a strong emotional attachment with the family. Their foundation of skills, attitude and interests are laid down in the family. Among nuclear families, parents give more

freedom to their children and don't have much influence over their decisions and behaviour. This may act as a factor in differing levels of psychosocial domains among parents.<sup>17</sup> However, no significant differences were observed in any of the psychosocial factors when the parent-pairs were compared on the basis of the family type (nuclear/joint).

Due to time constraints it was not feasible to include a large sample size. This can be considered as a limitation to this study. In future, the same study can be accomplished with a larger sample size. Psychosocial factors amongst postpartum parents can be assessed in the rural population and later a comparison of these factors can be made between the rural and the urban populations.

## CONCLUSION

The present study reveals that the bonding of mothers and fathers with their children is equal. However, the mothers are observed to be more fatigued, more stressed and more depressed as compared to fathers. Also primiparous mothers were more stressed and depressed as compared to primiparous fathers.

Results also indicate that mothers who underwent emergency C-section have a greater tendency to incipient abuse towards the child as compared to the other groups.

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