

Original Research Article

Association of psychosocial factors with postpartum depressive symptoms among mothers in urban slums of Mumbai

Avanti Arvind Jadhav, Urvi Prasad Salgaonkar, Samita Sharad Harmalkar, Prerna Chandra, Nirali Umesh Parmar, Sharon Shulamite*

Department of Clinical Psychology, Amity Institute of Behavioural and Allied Sciences (AIBAS), Amity University, Mumbai, Maharashtra, India

Received: 25 June 2026

Revised: 11 August 2026

Accepted: 02 September 2026

*Correspondence:

Dr. Sharon Shulamite,

E-mail: psshulamite@mum.amity.edu

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ABSTRACT

Background: Postpartum depression affects mothers emotional well-being, bonding with her baby, and ability to cope after childbirth. This study aimed to assess postpartum depressive symptoms among mothers in the urban slums of Mumbai and examine its links with self-esteem, perceived social support and Maternal age.

Methods: The present study adapted quantitative method, cross sectional, correlational research design with 151 women between 4 weeks to 1 year postpartum were assessed using a pre-tested questionnaire. Hindi validated tools like Edinburgh postnatal depression scale, Rosenberg self-esteem scale, and multidimensional perceived social support scale were used, data were analyzed to determine the prevalence of postpartum depressive symptoms and its association with the opted factors.

Results: Research focused on how maternal age, self-esteem, and perceived social support associate with postpartum depression (PPD) in 151 mothers residing in urban slums of Mumbai. Around 56.3% of these mothers depicted symptoms of PPD, highlighting that a large number were at average to high risk. This study showed that mothers with lesser self-esteem had considerably higher levels of depressive symptoms. Support from family and partners also aided in lowering depressive symptoms, while support from friends and maternal age highlighted no significant difference. The strongest predictor overall was self-esteem, making up about 22% of the variation in depression scores. These findings emphasized the importance of establishing self-esteem and enhancing family and partner support networks for new mothers in low-income communities.

Conclusions: These findings highlight the need for targeted psycho social interventions to mitigate PPD risks among urban slum mothers, informing scalable public health strategies in low-resource settings.

Keywords: Age, Mumbai, Perceived social support, Postpartum depression, Self-esteem, Urban slums

INTRODUCTION

Postpartum depression is serious mental health condition affecting mother's and child's overall well-being. It involves persistent sadness, worries, tiredness and emotional emptiness that could begin from 4 weeks and can be seen for up to 1 year. It differs from baby blues which is experienced by most mothers and can be observed up to 1 month after delivery. PPD has found to be affecting

approximately 17.7 percent of the mothers globally. And developing country like India pooled prevalence of 22 percent with higher rates seen in urban settings with respect to rural. The reported risk factors in India includes financial difficulties, birth of female child, marital conflict, lack of family support, history of psychological illness, high parity, complications during pregnancy, and low marital education which are different from those of developed countries.¹

When left untreated it disrupts mothers' health, child's development in functioning of the family and overall dynamics.

Women residing in slum communities of Mumbai faces even more burden triggered by overcrowding, malnourishment, financial issues, domestic violence and limited health care facilities and mental health care service utilization.^{2,3}

Two psycho-social factors are mainly critical for predicting postpartum depression that are self-esteem and perceived social support. Self-esteem refers to "the degree to which the qualities and characteristics contained in one's self-concept are perceived to be positive".⁴ Low self-esteem consistently appears as strong risk factor.⁵ With the relationship being bidirectional. Depression lowering self-esteem which then reinforcing depression.⁶ Social support network acts as buffer against psychological issues such stress, anxiety and depression that can be caused by social exclusion from family, peer members, colleagues and community relationships.⁷ Perceived social support refers to how and at what extent women feels supported by her near ones serves as an important protective factor.^{8,9} Mothers with strong connections and who feel they received support from their family and community have shown significantly lower risk of developing postpartum depression.¹⁰ The relationship between postpartum depression and age remains uncertain. Some studies found younger mothers to be more prone while some concluded older age mothers being more vulnerable.¹ Uniquely, some studies also found no significant association between postpartum depressive symptoms and age.^{11,12}

METHODS

To investigate the association between postpartum depressive symptoms, self-esteem, perceived social support and maternal age among postpartum women living in urban slums of Mumbai. The proposed study employed a quantitative, cross-sectional, correlational research design. And was conducted from 6th January, 2026 to 15th May, 2026. The data was assessed using IBM SPSS Statistics. Standardized self-report Hindi questionnaires used to measure all variables, allowing participants to describe depression symptoms, self-worth, and perceived social support during the postpartum period. Since the study examined naturally occurring relationships between postpartum depression, self-esteem, and perceived social support without manipulating factors, the correlational technique was appropriate. Data were collected from mothers residing in Sion, Kurla, Dharavi, Tilaknagar, Guru Teg Bahadur Nagar, Mankhurd, Govandi, Borivali, Chunarhatti, Wadala.

With a final sample size of 151 postpartum women from urban slums of Mumbai, this quantitative study had sufficient statistical power to use regression and correlational analyses to look at correlations between postpartum depressive symptoms, self-esteem, and

perceived social support. The following factors support the chosen sample size and postpartum period: an increased risk of postpartum depressive symptoms in the first year following childbirth; Mumbai postpartum women's experiences with urban-specific psycho social stresses.

Instruments used for the study

Edinburgh postnatal depression scale (EPDS)

The Edinburgh postnatal depression scale (EPDS), this scale consists of 10 items and is a self-report questionnaire that measures the postpartum depression symptoms over the past week. Scores in this scale range from 0 to 30, where a score of 11 or higher showcases likely postpartum depression and above 13 indicates a serious case. The administration for this test takes hardly 15-20 minutes and has been validated in Hindi and Marathi for use in Indian populations, and highlights strong reliability and validity (Cronbach's $\alpha=0.87$, test-retest $=0.83$).

Rosenberg self-esteem scale (RSES)

The Rosenberg self-esteem scale (RSES; Rosenberg, 1965) is a Likert-type questionnaire which consists of 10 items measuring global self-esteem. In this scale individual items range from -3 (strongly disagree) to +3 (strongly agree), where total scores range from -30 to +30. Scores under 15 reflect low self-esteem, 15-25 indicate moderate self-esteem, and over 25 indicate high self-esteem. The Hindi adaptation for this scale has been validated for usage in Indian populations and showcases strong psychometric properties, consisting good reliability and validity (Cronbach's $\alpha=0.82$, test-retest $r=0.85$, concurrent validity $r=0.78$).

Multidimensional scale of perceived social support (MSPSS)

The multidimensional scale of perceived social support is a questionnaire that consists of 12 items which measures perceived social support from three domains namely, family, friends and significant others, on a 7-point Likert scale, which ranges from 1 (strongly disagree) to 7 (strongly agree). Overall scores range from 12 to 84, where scores under 48 indicate low support, 48-71 indicating average support and 72 and above denoting high support. The Hindi translated version has been validated across 13 Indian states and highlights strong psychometric properties (Cronbach's $\alpha=0.927$, test-retest $r=0.86$, factorial validity confirmed via PCA representing 73% of variance).

Sociodemographic and clinical data sheet

Essential contextual factors such as age, education level, number of children born to each woman, obstetric history including employment status for each woman, were all documented using a demographic questionnaire developed for this study. Clinical measurements taken included infant

age (1-12 months). This structured tool allowed regression analyses to help control confounding variables.

RESULTS

In our study of 151 mothers living in Mumbai's urban slums (ages 18 to 41, mean age 25.23, SD=3.91), we found a troubling picture of postpartum mental health: the average EPDS (Edinburgh postnatal depression scale) score was 12.31 (SD=7.18), and using the standard clinical cut off of >11, we found that over half our sample, 56.3% (n=85), showed clinically significant postpartum depression (PPD) symptoms. The most common score range we observed was 15 to 19 (21.2% of mothers), followed by 10 to 14 (20.5%), showing that a large chunk of these women weren't just borderline cases but were dealing with moderate to severe symptoms. Despite the tough living conditions, we found self-esteem scores averaging 17.66 (SD=5.69), suggesting many mothers maintained a fairly stable sense of self, though we saw real variation from person to person. Perceived social support came out moderate overall in our data (total score M=12.59, SD=4.98), with support from significant others rated highest (M=4.70), followed by family (M=4.03) and friends (M=3.85), modest numbers that hint at real gaps in the support, these mothers can lean on.

Table 1: Distribution of EPDS scores among postpartum mothers (n=151).

EPDS score range	Frequency	Percent	Cumulative percent
0-4	24	15.9	15.9
5-9	33	21.9	37.7
10-14	31	20.5	58.3
15-19	32	21.2	79.5
20-24	22	14.6	94.0
25-29	7	4.6	98.7
Total	151	100.0	

When we dug into what actually predicts PPD symptoms, self-esteem came out as the strongest factor by far in our analysis. Mothers with higher self-esteem had meaningfully lower depression scores ($r=-0.462$, $p<0.001$), and this held up in our regression models too ($\beta=-0.451$ and -0.432 across two models, both $p<0.001$). We also found that social support mattered, with higher support linked to lower PPD symptoms ($r=-0.211$, $p=0.009$), though in our full regression model it only came close to significance ($p=0.055$) rather than emerging as a

definite standalone predictor. Interestingly, we didn't find maternal age to significantly predict depression on its own ($r=-0.069$, $p=0.402$), even though older mothers in our sample tended to report slightly higher self-esteem ($r=0.177$, $p=0.030$). We also noticed that self-esteem and social support were themselves connected ($r=0.343$, $p<0.001$), suggesting these two protective factors tend to reinforce each other. Altogether, our findings paint a clear picture: psychological resources like self-esteem and a solid support system play a bigger role in protecting against postpartum depression in this vulnerable population than age does. And with over half our sample showing clinically significant symptoms, we believe the scale of the problem among mothers in low resource urban settings is hard to ignore.

Table 2: Demographic and psychosocial summary (n=151).

Variables	Mean	SD	Range
Age (years)	25.23	3.91	18-41
EPDS (PPD symptoms)	12.31	7.18	0-29
Self-esteem (RSES)	17.66	5.69	3-30
Total social support (MPSS TOTAL)	12.59	4.98	3-21
Family support	4.03	2.02	1-7
Friend support	3.85	2.05	1-7
Significant other	4.70	1.88	1-7

Correlation analysis

Correlation analysis is shown in Table 3.

Table 3: Correlation matrix (n=151).

Factors	EPDS	Age	RSES	MPSS TOTAL
EPDS	-	-	-	-
Age	-0.069	-	-	-
RSES	-0.462***	0.177*	-	-
MPSS TOTAL	-0.211**	0.121	0.343***	-

Note:- * $p<0.05$ level, ** $p<0.01$ level, *** $p<0.001$ level.

Regression analysis

The following tables and figures show regression analysis data.

Table 4: EPDS predictor (age, RSES, MPSSO).

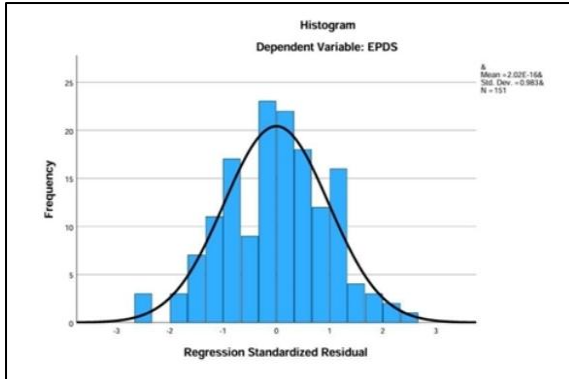
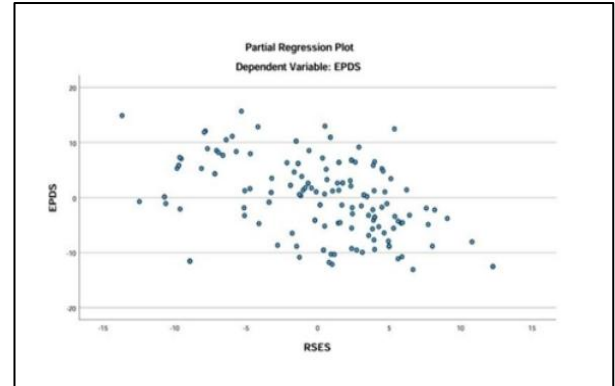
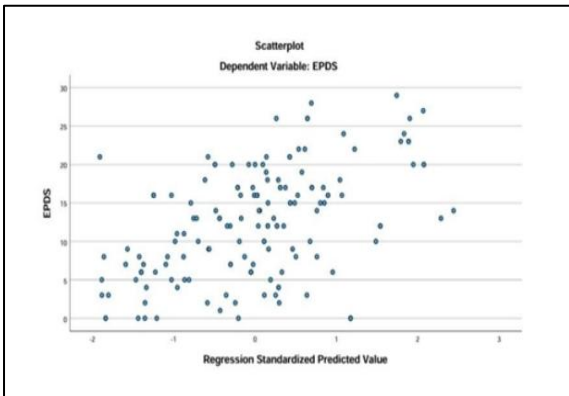
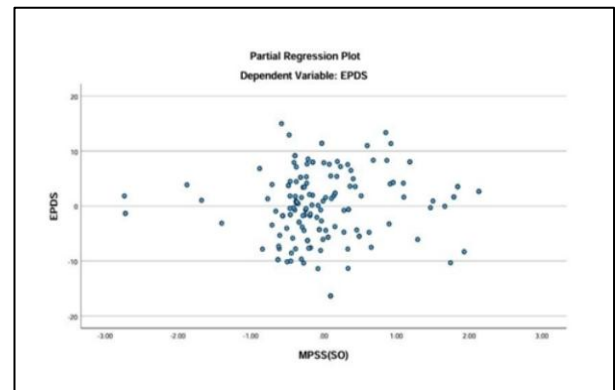
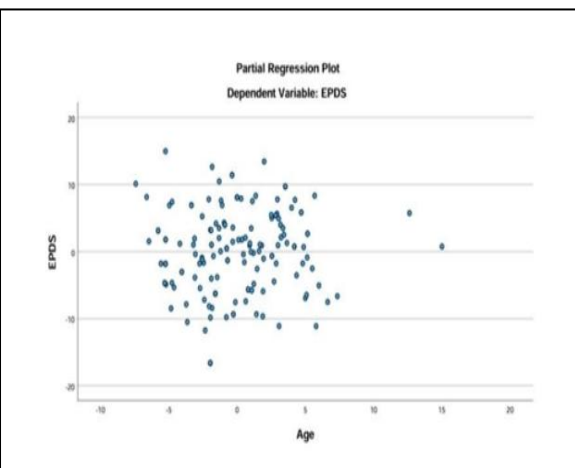
Predictors	B	β	P value	R ²	F
Age	0.040	0.022	0.774	0.216	13.471***
RSES	-0.569	-0.451	<0.001	0.216	13.471***
MSPSSO	-0.470	-0.543	0.441	0.216	13.471***

Note:- *** $p<0.001$.

Table 5: EPDS predictor (full model).

Predictors	B	β	P value	R ²	F
Age	0.083	0.045	0.560	0.239	9.120***
RSES	-0.545	-0.432	<0.001		
MSPSSTOTAL	-0.676	-0.469	0.055		

Note: ***p<0.001.

**Figure 1: Regression standardized residual.****Figure 4: RSES.****Figure 2: Regression standardized predicted value.****Figure 5: MPSS(SO).****Figure 3: Age.**

DISCUSSION

The present study found that 56.3% of mothers residing in urban slums of Mumbai reported significant postpartum depressive symptoms, indicating a substantial maternal mental health burden within this population. This prevalence is considerably higher than the overall prevalence of postpartum depression reported in India, which has been estimated at 22% (95% CI: 19-25%) based on data from 38 studies involving 20,043 women. Furthermore, when studies assessing women within the first two weeks postpartum were excluded, the prevalence was estimated at 19% (95% CI: 17-22%). Compared to these national estimates, the prevalence observed in the present study is more than twice as high, suggesting that mothers living in urban slum communities may be particularly vulnerable to psychological distress during the postpartum period.¹³

This elevated prevalence is likely reflective of the compounding psycho social adversities specific to these communities, including poverty, overcrowding, limited healthcare access, and inadequate emotional support systems. The fact that the mean EPDS score of 12.31 falls just above the clinical cut-off of 11 further underscores the urgency of routine screening and early intervention for postpartum mental health in this population.

The strong inverse association between self-esteem and postpartum depressive symptoms is consistent with global evidence suggesting that higher self-worth functions as a crucial protective factor against postpartum mental health difficulties.¹⁴⁻¹⁶ This finding is also supported by the regression analyses, wherein self-esteem emerged as the strongest negative predictor of depressive symptoms in both model 1 and model 2. The finding that self-esteem alone accounted for approximately 21.6% of the variance in postpartum depressive symptoms is clinically meaningful, particularly in a population where psychological resources are often limited. The remaining unexplained variance likely reflects the influence of unmeasured variables such as domestic violence, financial insecurity, personality traits, and coping strategies, which warrant systematic exploration in future research.

The relationship between self-esteem and postpartum depression in this sample may also be understood through its bidirectional nature. As articulated by Takác, low self-esteem and depression exist in a mutually reinforcing cycle wherein low self-worth contributes to the onset of depressive symptoms, which in turn further diminishes self-esteem.⁶ In the context of urban slum communities, this cycle may be intensified by postpartum-specific stressors such as body image changes following childbirth, perceived inadequacy in the maternal role, and the weight of societal expectations surrounding motherhood.^{17,18} Mothers in these settings frequently experience pressure to cope stoically with the demands of new motherhood despite limited resources, which can exacerbate feelings of self-doubt and insufficiency. Furthermore, the significant correlation between self-esteem and overall perceived social support indicates that these two psycho social resources are interdependent. Mothers with higher self-esteem may be better positioned to seek, recognize, and utilize available social support, while those with lower self-esteem may perceive the same support as insufficient or inaccessible. This reinforcing dynamic highlights the central importance of self-esteem as both a direct protective factor and an enabler of other supportive resources.

Although the effect of perceived social support was weaker than that of self-esteem, the modest but significant negative association aligns with research demonstrating its protective role against postpartum depression. When examined at the sub scale level, significant others demonstrated the strongest association with reduced depressive symptoms, followed by family support, while support from friends showed no significant association

with depressive symptoms. This pattern suggests that in urban slum communities, close familial and intimate partner bonds serve as the primary source of emotional protection during the postpartum period, likely because of barriers to broader social engagement such as limited mobility, financial constraints, and the demands of daily survival.¹⁹ Among the sources of perceived social support, intimate partner support was the most beneficial, followed by family support ($M=4.03$), while friends offered the least perceived support. The relatively low scores for friend support may be attributed to the dense and often closed social environments of urban slums, where privacy is limited and friendships outside of immediate family units may be less emotionally accessible. Additionally, cultural norms in many Indian communities prioritize family and spousal bonds over peer relationships, which may explain why friend support was not perceived as meaningful during the postpartum period. The non-significant association between friend support and depressive symptoms further suggests that friendships alone may be insufficient as a buffer against postpartum depression in this population without the foundational backing of family and partner involvement.

Furthermore, the borderline statistical significance of the overall perceived social support measure in the regression model suggests that while perceived social support reduces depressive symptoms, its protective effect may be partially mediated by self-esteem. That is, women with higher self-esteem may also perceive their available support as more meaningful and sufficient, while those with lower self-esteem may underutilize or fail to recognize the support available to them. This is consistent with prior research conducted in similar low-income Indian contexts, which found that family support reduces postpartum stress but is considerably less protective than a strong sense of self-worth.²⁰ These findings together suggest that self-esteem and perceived social support do not operate in isolation but are mutually reinforcing psycho social resources, and that interventions targeting one are likely to positively influence the other.

The association between maternal age and postpartum depressive symptoms was weak and non-significant, indicating that maternal age did not meaningfully predict depressive outcomes in this sample congruent with other studies by being inconsistent.²¹ This finding may be understood in light of the demographic composition of the sample, where the mean age was 25.23 years, with the distribution skewed toward younger mothers, consistent with patterns of early childbearing normative in urban slum communities. The restricted age range inherently limits statistical power to detect meaningful age-related differences in depressive outcomes.

In low-socioeconomic contexts such as the urban slums of Mumbai, structural adversities including poverty, housing instability, nutritional deprivation, and limited healthcare access likely overshadow the demographic variation that age might otherwise introduce. Additionally, in Indian

slum communities, women who have had multiple children by their early thirties may have built larger family networks over time, which could serve as a cumulative buffer against depression risk regardless of age, thereby further attenuating any age-related effect. The finding that older mothers in this sample reported somewhat higher self-esteem suggests that accumulated psycho social resilience may buffer against age-related depression risk, even where the EPDS does not capture age-specific symptom manifestations. Taken together, these findings are congruent with low-SES research in India, where socioeconomic adversity typically outweighs demographic variables as a predictor of mental health outcomes and support the use of age-neutral postpartum screening procedures in similar low-resource settings, with priority placed on psycho social interventions targeting self-esteem and social connectedness.²⁰

It is also important to acknowledge certain contextual factors encountered during data collection that may have influenced the findings. While the majority of residents in the urban slum communities were cooperative and willing to participate, a proportion of potential participants were sceptical of the study's purpose, and in some cases, family members discouraged mothers from taking part, which reduced the overall sample size and may have introduced selection bias toward more socially open or supported households. Furthermore, data were collected using self-report questionnaires, which carry inherent limitations in this context. Several mothers appeared hesitant and uncertain in their responses when family members were present during administration, suggesting that social observation may have influenced the candour of their answers. The social desirability effect is also a plausible concern in this sample, wherein participants may have under reported psychological distress in order to present themselves as emotionally stable, particularly given the cultural norms around maternal resilience and the stigma associated with mental health difficulties in these communities. These factors should be carefully considered when interpreting the study's findings, as they may have resulted in an underestimation of the true prevalence and severity of postpartum depressive symptoms in this population. Despite these limitations, the overall pattern of findings remains consistent with existing literature and provides a meaningful contribution to understanding postpartum mental health in the under-researched context of Mumbai's urban slums.

Limitations

The utilization of the cross-sectional design limited us to determine the direction of the relationship between variables.

Due to the small sample size, the statistical power could have affected leading to reduced generalization of the results most evidently seen in the borderline significance of total perceived social support in the regression model ($p=0.055$) which could not meet the significant threshold.

The study employed quantitative method using self-report questionnaires allowed the examination of psycho social variables but did not record the subjective experience of the mothers.

CONCLUSION

This study signifies postpartum depression as a mental health concern among women in urban slums of Mumbai with a mean 12.1 score of EPDS indicating depressive symptoms. Low-income settings, limited healthcare access and constrained support system highlight findings of challenging psycho social conditions faced by mothers. In a key finding, self-esteem emerged as the most significant protective factor in inverse relationship between self-esteem and postpartum depression. Perceived social support also showed an important effect, mainly from family and partner, although its influence was comparatively weaker. Maternal age did not directly play a major role indicating psycho social factors as more important. Overall, the study emphasizes the need for early identification routine screening, and targeted interventions that enhance self-esteem and strengthen social support of mothers.

ACKNOWLEDGEMENTS

The authors also thank Amity Institute of Behavioural and Allied Sciences for providing the necessary academic support and resources. We are especially thankful to the postpartum women who participated in this research for their time and cooperation.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

REFERENCES

1. Upadhyay RP, Chowdhury R, Salehi A, Sarkar K, Singh SK, Sinha B, et al. Postpartum depression in India: a systematic review and meta-analysis. *Bull World Health Organ.* 2017;95:706-17B.
2. Koly KN, Muzaffar R, Nessa Z, Billah A, Rasheed S, Kapilashrami A. Household-related stress, intimate partner violence and mental health: exploring the syndemic in urban slum women in Bangladesh during COVID-19 pandemic. *Int J Equity Health.* 2025;24:207.
3. Sharma S, Mohanty PS, Omar R, Viramgami AP, Sharma N. Determinants and utilization of maternal health care services in urban slums of an industrialized city, in western India. *J Fam Reprod Health.* 2020;14:95.
4. American Psychological Association. Self-esteem. In: *APA dictionary of psychology*. Available from: <https://dictionary.apa.org/self-esteem>. Accessed on 5 April 2026.

5. Fontaine KR, Jones LC. Self-esteem, optimism, and postpartum depression. *J Clin Psychol.* 1997;53:59-63.
6. Takács L, Smolík F, Putnam S. Assessing longitudinal pathways between maternal depressive symptoms, parenting self-esteem and infant temperament. *PLoS One.* 2019;14:e0220633.
7. Shulamite S. The psychological Implications of Living in Social Exclusion: A review. *MCR HRD IT Samriddhi.* 2025;2:88-101.
8. Kim YS, Sharma B, Jung Y, Kim D, Nam EW. Perceived social support among women of reproductive age attending a public health facility in a poor area of Northern Lima, Peru. *J Glob Health Sci.* 2019;1(1).
9. Yeo G, Lansford JE, Rudolph KD. How does perceived social support relate to human thriving? A systematic review with meta-analyses. *Psychol Bull.* 2025;151(9):1089.
10. Panolan S, Thomas MB. Perceived social support and its association with postpartum depressive symptoms among mothers: a community-based cross-sectional study from Kerala, India. *Discov Public Health* 2026;23:537.
11. Onyemacchi CI, Afolabi AB, Mike Ifeagwazi C. Postpartum depression: the role of self-esteem, social support and age. *IFE Psychol* 2017;25:105-15.
12. Kaur P, Mehta A, Sangeeta, Mehta S. Maternal mental health matters: understanding postpartum depression using EPDS. *Int J Community Med Public Health.* 2026;13:2969-74.
13. Fellmeth G, Harrison S, Opondo C, Nair M, Kurinczuk JJ, Alderdice F. Validated screening tools to identify common mental disorders in perinatal and postpartum women in India: a systematic review and meta-analysis. *BMC Psychiatr.* 2021;21:200.
14. Han JW, Kim DJ. Longitudinal relationship study of depression and self-esteem in postnatal Korean women using autoregressive cross-lagged modelling. *Int J Environ Res Public Health.* 2020;17:3743.
15. Meireles JFF, Neves CM, Amaral ACS, Morgado FFDR, Ferreira MEC. Body appreciation, depressive symptoms, and self-esteem in pregnant and postpartum Brazilian women. *Front Glob Womens Health.* 2022;3:834040.
16. Motofelea N, Berceanu C, Voita-Mekeres F, Galis R, Szasz FA, Motofelea AC, et al. Associations between self-esteem and postpartum depression and anxiety: a cross-sectional study using the Rosenberg scale in Romanian women. *J Clin Med.* 2026;15:1135.
17. Siqueira MR, Limongi TM, Salzer EB, Bomtempo AP, Meireles JF, Neves CM. Postpartum women's body dissatisfaction: a systematic review of theoretical models and regression analyses. *Int J Environ Res Public Health.* 2025;22(9):1463.
18. Azad R, Fahmi R, Shrestha S, Joshi H, Hasan M, Khan AN, et al. Prevalence and risk factors of postpartum depression within one year after birth in urban slums of Dhaka, Bangladesh. *PloS One.* 2019;14(5):e0215735.
19. Vaezi A, Soojoodi F, Banihashemi AT, Nojomi M. The association between social support and postpartum depression in women: a cross-sectional study. *Women Birth.* 2019;32:e238-42.
20. Das K, Ryali S, Jampana RV, Ashwini S. The preventive role of perceived social support in postpartum psychiatric morbidity: insights from a rural tertiary care teaching hospital in South India. *Indian J Soc Psychiatr.* 2025;41:191-6.
21. Agrawal I, Mehendale AM, Malhotra R. Risk factors of postpartum depression. *Cureus.* 2022;14:e30898.

Cite this article as: Jadhav AA, Salgaonkar UP, Harmalkar SS, Chandra P, Parmar NU, Shulamite S. Association of psychosocial factors with postpartum depressive symptoms among mothers in urban slums of Mumbai. *Int J Res Med Sci* 2026;14:4405-11.