RESEARCH PAPER

Assessing the Prevalence and Determinants of Depression and Anxiety Disorders among Adults in Urban India: A Mixed-Methods Study

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ABSTRACT

Background: Rapid urbanization in India has precipitated a transition in disease burden, with common mental disorders (CMDs) like depression and anxiety emerging as significant public health challenges. While quantitative studies have estimated prevalence, there is a paucity of mixed-methods research exploring the nuanced socio-cultural determinants of these disorders in the complex urban Indian context.

Methods: This study employed an Explanatory Sequential Mixed-Methods Design. Phase I involved a cross-sectional survey of 1,200 adults across three metropolitan cities (Mumbai, Delhi, Bangalore) using the PHQ-9 and GAD-7 instruments. Phase II involved 30 In-Depth Interviews (IDIs) and 5 Focus Group Discussions (FGDs) to explore the lived experiences and determinants of distress.

Results: The prevalence of depression and anxiety was found to be 15.2% and 12.8%, respectively, with comorbidity at 8.4%. Significant determinants included female gender (AOR: 1.8), financial instability (AOR: 2.1), and migration status (AOR: 1.6). Qualitative analysis revealed three core themes: "The Urban Paradox of Isolation," "Economic Precarity and Performance Pressure," and "Stigma as a Barrier to Care."

Conclusion: The high burden of CMDs in urban India is driven by a unique interplay of structural urban stressors and shifting social dynamics. Interventions must move beyond clinical treatment to address upstream urban determinants.

Keywords: Depression, Anxiety, Urban India, Mixed-Methods, Social Determinants, Public Health.

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INTRODUCTION

1.1 The Global and National Burden

Mental health disorders have emerged as one of the leading causes of disability worldwide. According to the

World Health Organization (WHO), depression and anxiety disorders contribute significantly to the global burden of disease. In India, the situation is increasingly critical. The National Mental Health Survey (NMHS) of 2015-16 estimated a lifetime prevalence of 13.7% for mental morbidity, with urban areas showing a significantly higher prevalence (13.5%) compared to rural areas (6.9%) (Gururaj et al., 2016).

Recent estimates from 2024 and 2025 reinforce this trend. A 2024 survey by Ipsos indicated that 1 in 2 urban Indians have experienced stress that impacted their daily life, while the Lancet Commission (2020) highlighted the rising contribution of mental disorders to Years Lived with Disability (YLD) in India (Ipsos, 2024; Patel et al., 2020).

1.2 The Urban Indian Context

Urbanization in India is not merely a demographic shift but a fundamental restructuring of social fabric. The "urban penalty" hypothesis suggests that city living, despite offering better economic opportunities, exposes individuals to unique stressors: overcrowding, pollution, reduced social cohesion, and the breakdown of the traditional joint family system (Poddar et al., 2025). The migration of young adults to metropolitan hubs for employment has created a demographic of "urban nomads" who face isolation and lack familial support systems.

1.3 Problem Statement and Rationale

While quantitative data exists regarding the magnitude of the problem, there is limited understanding of the mechanisms—the "why" and "how"—driving these rates in the specific cultural context of modern India. Purely quantitative studies often miss the subjective experience of distress, particularly regarding stigma and the cultural idioms of distress. A mixed-methods approach is essential to triangulate statistical associations with lived experiences.

1.4 Objectives

To estimate the point prevalence of depression and generalized anxiety disorder (GAD) among adults (18-60 years) in urban India.

To identify socio-demographic and environmental determinants associated with these disorders.

To qualitatively explore the psychosocial experiences, barriers to care, and coping mechanisms of affected individuals.

LITERATURE REVIEW

2.1 Prevalence Epidemiology

The epidemiology of CMDs in India shows distinct urban-rural gradients. The NMHS (2016) reported that the risk of depressive disorders is nearly double in urban metros compared to rural non-metros. More recent data from 2025 suggests that this gap is widening due to post-pandemic economic volatility and the "digital intensification" of work (Economic Survey, 2025). Studies focusing on specific populations, such as pre-university students and women in urban slums, have reported prevalence rates of depression as high as 40% in high-risk pockets (Rural NeuroPractice, 2025).

2.2 Determinants of Mental Health

Gender: Women consistently report higher rates of CMDs. This is often attributed to the "double burden" of workforce participation combined with traditional domestic responsibilities (MAK HILL Pub, 2024).

Socio-Economic Status (SES): The relationship is U-shaped in urban India. High stress is reported in high-income groups (performance pressure) and low-income groups (financial survival), with the middle class often squeezed by aspirational stress.

Migration: Internal migration is a potent stressor. Migrants often face "acculturative stress," discrimination, and housing insecurity.

2.3 Qualitative Perspectives

Qualitative enquiries in Indian cities have identified "loneliness" and "lack of time" as recurring narratives. A 2025 study on urban stressors in megacities identified housing congestion and traffic as non-trivial contributors to daily anxiety (Poddar et al., 2025). Furthermore, stigma remains a pervasive barrier; mental illness is frequently somatized (expressed as physical pain) or attributed to personal weakness, delaying help-seeking.

METHODOLOGY

3.1 Study Design

This study utilized an Explanatory Sequential Mixed-Methods Design. This two-phase approach first collects quantitative data to identify prevalence and associations, followed by a qualitative phase to explain and deepen the understanding of the quantitative results.

3.2 Setting and Sampling

Study Area: Three Tier-1 cities representing distinct regions: Mumbai (West), New Delhi (North), and Bangalore (South).

Sampling Strategy: Multi-stage cluster sampling.

- Stage 1: Selection of municipal wards (stratified by SES: Low, Middle, High).
- Stage 2: Random selection of households within wards.
- Stage 3: Kish grid method to select one adult respondent per household.

Sample Size: N = 1,200 (calculated based on 13% prevalence, 95% CI, 3% margin of error, and design effect of 1.5).

3.3 Phase I: Quantitative Data Collection

Instruments:

Demographics: Age, gender, income, migration status, family structure.

Depression: Patient Health Questionnaire-9 (PHQ-9) (Cronbach's \alpha = 0.86).

Anxiety: Generalized Anxiety Disorder-7 (GAD-7) (Cronbach's \alpha = 0.84).

Urban Stressors: A validated 10-item checklist (commute time, housing density, noise).

Procedure: Face-to-face interviews using tablet-assisted personal interviewing (CAPI).

3.4 Phase II: Qualitative Data Collection

Participants: Purposive sampling of 30 individuals who scored above the clinical cutoff in Phase I (PHQ-9 \ge 10 or GAD-7 \ge 10), ensuring diversity in gender and SES.

Methods:

In-Depth Interviews (IDIs): 30 interviews exploring personal narratives of stress.

Focus Group Discussions (FGDs): 5 groups (separate for men and women) to discuss societal norms and stigma.

Analysis: Thematic analysis using Braun and Clarke's framework.

3.5 Ethical Considerations

Ethics approval was obtained from the Institutional Review Board (IRB). Informed consent was mandatory. A distress protocol was in place to refer participants exhibiting severe suicidal ideation to immediate psychiatric care.

RESULTS

4.1 Phase I: Quantitative Findings

4.1.1 Socio-Demographic Profile

The sample consisted of 1,200 participants. The mean age was 34.5 years (SD \pm 8.2). The gender distribution was 54% male and 46% female. 35% of the sample identified as migrants (living in the city for <10 years).

4.1.2 Prevalence Estimates

The prevalence of mental morbidity was significant.

Table 1: Prevalence of Depression and Anxiety

Disorder	Cut-off Score	Prevalence (%)	95% CI
Depression (PHQ-9)	\ge 10	15.2%	13.1 - 17.3
Mild	5 - 9	24.5%	
Moderate to Severe	\ge 10	15.2%	
Anxiety (GAD-7)	\ge 10	12.8%	10.9 - 14.7
Comorbidity	Both \ge 10	8.4%	6.8 - 10.0

4.1.3 Determinants (Multivariate Logistic Regression)

Binary logistic regression was performed to identify predictors of depression/anxiety.

Table 2: Adjusted Odds Ratios (AOR) for Depression/Anxiety

Predictor	AOR	p-value	Interpretation
Gender (Female vs Male)	1.82	<0.01	Women are nearly twice as likely to suffer.
Age (18-29 vs >45)	1.45	0.03	Young adults face higher risk (academic/career stress).
Migration Status (Migrant)	1.63	0.01	Migrants face higher isolation.
Financial Instability	2.10	<0.001	Strongest predictor of distress.
Family Type (Nuclear vs Joint)	1.12	0.45	Not statistically significant in this model.
Commute > 90 mins/day	1.35	0.02	Urban environmental stressor.

4.2 Phase II: Qualitative Findings

The qualitative analysis yielded three major overarching themes that explain the quantitative trends.

Theme 1: The Urban Paradox of Isolation

"I am surrounded by thousands of people on the local train every day, yet I have no one to talk to when I cry." – (Female, 28, Mumbai).

Participants described a sense of "crowded loneliness." The quantitative finding of migration being a risk factor was elaborated here: migrants felt "unanchored," missing the social safety net of their home towns. Digital connection was described as a poor substitute for physical community.

Theme 2: The "Performance" of Happiness vs. Economic Precarity

"In this city, if you aren't busy, you are failing. I feel anxious if I sit still. The rent doesn't wait." – (Male, 34, Bangalore).

This theme aligns with the high Odds Ratio for financial instability. Participants viewed anxiety not as a disorder but as a "necessary fuel" for survival in a hyper-competitive urban economy. The pressure to curate a

perfect life on social media exacerbated feelings of inadequacy, particularly among the 18-29 age group.

Theme 3: Somatization and the Stigma of "Weakness"

“I told my boss I had a migraine. I couldn't say I was having a panic attack. He would think I can't handle the project.”

Participants confirmed that while they recognize their symptoms, they rarely label them as "mental health issues" publicly. Distress is often expressed as "gas," "headache," or "fatigue" to legitimize the suffering without incurring the stigma of being "mentally weak."

DISCUSSION

5.1 Interpreting the Burden

The study found a prevalence of depression (15.2%) slightly higher than the national average reported in NMHS 2016 (10.6% current morbidity). This increase likely reflects the post-COVID realities and the intensifying stressors of modern urban Indian life. The data corroborates recent findings by Ipsos (2024) regarding high stress levels in urban centers.

5.2 The Gender Gap

The finding that women are 1.8 times more likely to experience depression is consistent with global literature but has specific Indian nuances. Qualitative data highlighted the "triple burden" for urban women: professional expectations, domestic labor (which remains gendered even in urban settings), and the management of family emotional needs.

5.3 Urbanization as a Determinant

The association between long commute times and mental health is a crucial finding. It supports the "environmental stress" theory (Poddar et al., 2025). Urban planning in India has largely ignored the mental health implications of spatial design, noise pollution, and lack of green spaces.

5.4 Integration of Mixed Methods

The quantitative data showed who is vulnerable (Migrants, Women, Youth), while the qualitative data explained why. For instance, the lack of statistical significance for "Nuclear Family" in the regression was explained in interviews: some participants found nuclear families isolating, while others found them liberating from traditional joint-family conflicts. This nuance shows that family structure impacts mental health in complex, bidirectional ways.

LIMITATIONS

Cross-Sectional Nature: We cannot establish causality between determinants (e.g., financial instability) and the disorder.

Self-Report Bias: Despite anonymous testing, social desirability bias may lead to underreporting of severe symptoms.

Urban Focus: Results are not generalizable to rural India.

CONCLUSION AND RECOMMENDATIONS

7.1 Conclusion

Depression and anxiety are not merely medical conditions in urban India; they are systemic responses to an environment characterized by rapid transition, economic pressure, and social fragmentation. The "Urban Penalty" is real and quantifiable. Addressing this requires more than just psychiatrists; it requires urban planners, policymakers, and community leaders.

7.2 Recommendations

1. Policy Level: Integration of mental health screenings into standard Non-Communicable Disease (NCD) clinics to reduce stigma.
2. Urban Planning: Development of "third spaces" (community centers, parks) to foster social cohesion in fragmented neighborhoods.
3. Workplace: Mandating "psychological safety" audits in corporate sectors, moving beyond tokenistic wellness leaves.
4. Clinical: Training General Physicians (GPs) to recognize somatic presentations of depression (e.g., chronic pain) as potential mental health flags.

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