



PSYCHOLOGICAL MORBIDITY AND ASSOCIATED FACTORS AMONG PARTICIPANTS ATTENDING OUTPATIENT DEPARTMENT AT A TERTIARY CARE TEACHING HOSPITAL IN MAHARASHTRA: A CROSS-SECTIONAL ANALYTICAL STUDY

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ABSTRACT

Background: Psychological morbidity among individuals attending outpatient department (OPD) services remains an under-recognized public health concern, particularly in tertiary care healthcare settings. Factors such as chronic illness, financial burden, overcrowding, prolonged waiting time, and psychosocial stress may contribute to anxiety, depression, and stress among hospital attendees. Early identification of psychological morbidity is essential for improving patient-centered healthcare delivery and overall quality of care.

Methodology: A hospital-based cross-sectional analytical study was conducted among 203 adult participants attending OPD services at a tertiary care teaching hospital in Maharashtra. Participants were selected using systematic random sampling. Data were collected using a predesigned semi-structured questionnaire comprising sociodemographic and clinical variables. Psychological morbidity was assessed using the validated Depression Anxiety Stress Scale-42 (DASS-42). Data were analyzed using Statistical Package for the Social Sciences (SPSS) version 25. Descriptive statistics were expressed as frequency, percentage, mean, and standard deviation. Chi-square test and multivariate logistic regression analysis were applied to assess association and predictors of psychological morbidity. A p-value of <0.05 was considered statistically significant.

Results: The mean age of participants was 33.07 ± 10.51 years, with majority belonging to the 18–29 years age group (42.9%). Females constituted 51.7% of the study population. Depression, anxiety, and stress symptoms were observed among 28.6%, 31.5%, and 23.2% participants respectively. Anxiety emerged as the most common psychological morbidity. Severe-to-extremely severe anxiety, depression, and stress were observed among 18.2%, 12.3%, and 9.9% participants respectively. Majority of participants with illness had disease duration exceeding three months (68.2%). No statistically significant association was observed between psychological morbidity and age group, gender, occupational status, or work timing ($p > 0.05$).

Conclusion: The present study demonstrated a considerable burden of psychological morbidity among participants attending OPD services at a tertiary care teaching hospital in Maharashtra. The findings emphasize the need for routine psychological screening and integration of mental health support services within outpatient healthcare settings to ensure comprehensive and holistic patient care.

KEYWORDS: Psychological Morbidity, Anxiety, Depression, Stress, Outpatient Department.

Introduction

Psychological morbidity is a significant yet frequently underdiagnosed component of the global burden of disease and includes conditions such as depression, anxiety, stress, and other emotional disturbances that adversely affect physical health, quality of life, social functioning, and treatment adherence[1]. According to the World Health Organization, mental health disorders contribute substantially to disability worldwide and are increasingly encountered in general healthcare settings[2]. In tertiary care hospitals, outpatient departments (OPDs) serve large numbers of patients with acute and chronic illnesses, many of whom experience considerable psychological distress related to disease burden, uncertainty regarding diagnosis, prolonged treatment, financial constraints, overcrowding, and long waiting times[3].

The relationship between physical illness and psychological morbidity is complex and bidirectional. Chronic medical conditions such as diabetes mellitus, cardiovascular diseases, neurological disorders, infertility, and chronic pain syndromes are associated with significantly higher prevalence of anxiety and depression[4]. Psychological stress activates neuroendocrine pathways including the hypothalamic-pituitary-adrenal axis and sympathetic nervous system, leading to altered immune responses, inflammatory cytokine release, impaired coping mechanisms, and worsening clinical outcomes[5]. Untreated psychological morbidity may result in poor treatment compliance, reduced healthcare-seeking behavior, increased healthcare utilization, and diminished patient satisfaction[6].

In addition to patients, attendants accompanying individuals to hospitals are also vulnerable to psychological distress. In the Indian healthcare setting, attendants play a major role in caregiving, financial management, transportation, communication with healthcare professionals, and decision-making regarding treatment. Continuous caregiving responsibilities, uncertainty regarding illness outcome, loss of wages, and disruption of social and occupational activities may contribute to anxiety, stress, and emotional exhaustion among attendants[7]. Previous studies have demonstrated significant psychological burden and reduced quality of life among caregivers of medically ill and chronically diseased patients[8].

Studies conducted in outpatient settings have reported considerable prevalence of depression, anxiety, and stress among hospital attendees. Anandakumar et al. reported depression among 22.4% of patients attending a tertiary care

OPD, with many patients presenting predominantly with somatic complaints rather than psychological symptoms[9]. Similarly, studies among patients with infertility and chronic diseases have shown high levels of psychiatric morbidity and emotional distress[10,11]. Despite growing evidence regarding mental health problems among medically ill patients, most available studies have focused either on disease-specific populations or exclusively on patients, with comparatively limited attention toward attendants accompanying them to OPD services.

In developing countries like India, mental health screening remains inadequately integrated into routine outpatient healthcare services. Increasing patient load, resource limitations, and lack of awareness regarding psychological disorders further contribute to under-recognition of mental health problems in tertiary care settings[12]. Furthermore, there is limited literature from Maharashtra evaluating psychological morbidity simultaneously among adult OPD patients and their attendants along with associated sociodemographic and healthcare-related factors.

Assessment of psychological morbidity among OPD patients and attendants is important from both clinical and hospital administration perspectives because untreated psychological distress may adversely influence patient satisfaction, communication, treatment adherence, healthcare utilization, and overall quality of healthcare delivery. Identification of associated factors may help in planning targeted mental health interventions, strengthening counseling services, and improving holistic patient-centered care in tertiary healthcare institutions.

Therefore, the present study was undertaken to assess psychological morbidity and associated factors among adult patients and their attendants attending OPD services at a tertiary care teaching hospital in Maharashtra.

Methodology

A hospital-based cross-sectional analytical study was conducted among adult patients and their attendants attending outpatient department (OPD) services at a tertiary care teaching hospital in Maharashtra over a period of 10 weeks. The study population included adult patients aged 18 years and above attending selected OPDs along with one accompanying adult attendant for each patient. Participants who were critically ill, previously diagnosed with severe psychiatric illness, cognitively impaired, unwilling to participate, or unable to provide informed consent were excluded from the study. Ethical approval for the study was obtained from the Institutional Ethics Committee prior to

data collection, and written informed consent was obtained from all participants.

The sample size was estimated using the formula for single population proportion:

$$n = \frac{Z^2 \times p \times q}{d^2}$$

where n = required sample size, Z = standard normal variate at 95% confidence interval (1.96), p = anticipated prevalence, $q = 1 - p$, and d = absolute precision. Based on a previous study conducted among tertiary care outpatient attendees by Anandakumar et al., which reported prevalence of depression as 22.4% [9], the prevalence (p) was considered as 22.4% and q as 77.6%. Taking allowable error as 6% and confidence level as 95%, the calculated minimum sample size was 185 participants. After adding 10% for possible non-response and incomplete questionnaires, the final sample size was estimated as 203 participants.

Data were collected using a predesigned, pretested, semi-structured questionnaire comprising sociodemographic variables, clinical characteristics, healthcare-related factors, and psychological assessment parameters. Psychological morbidity was assessed using the Depression Anxiety Stress Scale-42 (DASS-42), a validated instrument consisting of 42 items assessing depression, anxiety, and stress domains. Each item was scored on a 4-point Likert scale, and severity grading was performed according to standard DASS-42 scoring guidelines.

Data were entered into Microsoft Excel and analyzed using Statistical Package for the Social Sciences (SPSS) version 25. Descriptive statistics such as mean, standard deviation,

frequency, and percentage were used for summarization of data. Association between categorical variables was assessed using Chi-square test or Fisher's exact test, while comparison of continuous variables was performed using Student's t-test or Mann-Whitney U test as appropriate. Multivariate logistic regression analysis was carried out to identify independent predictors of psychological morbidity. A p-value of <0.05 was considered statistically significant. For the purpose of association analysis (Table 3) and multivariate logistic regression (Table 4), age was dichotomized into two groups (≤ 39 years and >39 years) based on the median age of the study sample, as this binary split provided sufficient cell frequencies to ensure statistical validity of the Chi-square and regression analyses.

Results

A total of 203 study participants were included in the present study, comprising adult OPD patients and one accompanying adult attendant for each patient. Since the primary aim was to assess overall psychological morbidity burden among OPD attendees, analyses were performed on the combined sample rather than as separate subgroup comparisons between patients and attendants. Table 2 depicts Sociodemographic Characteristics of Study Participants Attending OPD Services at a Tertiary Care Teaching Hospital in Maharashtra. Majority of the participants belonged to the age group of 18–29 years (42.9%), followed by 30–39 years (33.5%). Female participants constituted 51.7% of the study population, while males accounted for 48.3%. More than half of the participants were employed (60.1%), and the majority were engaged in day-shift work (70.4%). The mean age of the participants was 33.07 ± 10.51 years.

Table 1: Comparison of Demographic Characteristics

Categories	Depression	Anxiety	Stress
Normal	0–9	0–7	0–14
Mild	10–13	8–9	15–18
Moderate	14–20	10–14	19–25
Severe	21–27	15–19	26–33
Extremely Severe	≥ 28	≥ 20	≥ 34

Table 2: Sociodemographic Characteristics of Study Participants Attending OPD Services at a Tertiary Care Teaching Hospital in Maharashtra

Variable	Category	Frequency (n)	Percentage (%)
Age group (years)	18–29 years	87	42.9
	30–39 years	68	33.5
	40–50 years	34	16.7
	>50 years	14	6.9
Gender	Female	105	51.7
	Male	98	48.3
Occupational status	Employed	122	60.1
	Unemployed	81	39.9

Work timing	Day shift	143	70.4
	Random shift	56	27.6
	Night shift	4	2.0

Figure 1 depicts the distribution and severity of Depression, Anxiety, and Stress among 203 study participants according to the DASS-42 Scale. Normal depression scores were observed in 145 (71.4%) participants, while mild, moderate, severe, and extremely severe depression was noted in 10 (4.9%), 23 (11.3%), 16 (7.9%), and 9 (4.4%) participants respectively. Regarding anxiety, 139 (68.5%) participants scored in the normal range, whereas mild, moderate, severe, and extremely severe anxiety was identified in 9 (4.4%), 18 (8.9%), 14 (6.9%), and 23 (11.3%) participants respectively. For stress, 156 (76.8%) participants had normal scores, with mild, moderate, severe, and extremely severe stress observed in 7 (3.4%), 20 (9.9%), 19 (9.4%), and 1 (0.5%) participants respectively. Overall, extremely severe anxiety was the most prominent finding (23, 11.3%), followed by severe-to-extremely severe depression (25, 12.3%) and severe-to-extremely severe stress (20, 9.9%) among the study participants.

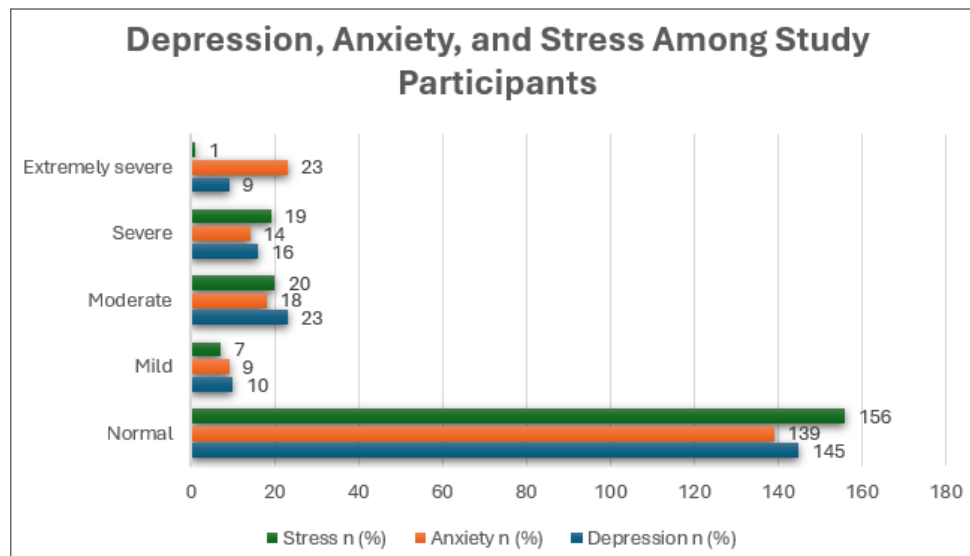


Figure 1. Distribution and Severity of Depression, Anxiety, and Stress Among Study Participants According to DASS-42 Scale

Table 3, depicts Association Between Sociodemographic Factors and Psychological Morbidity Among Study Participants. Psychological morbidity was observed among 35.0% of the study participants. Higher prevalence of psychological morbidity was noted among participants aged more than 39 years (38.8%) compared to those aged 39 years or younger (33.8%), although the association was not statistically significant ($p = 0.563$). Male participants demonstrated comparatively higher psychological morbidity (40.8%) than female participants (29.5%), but the difference did not reach statistical significance ($p = 0.124$). Similarly, no statistically significant association was observed between occupational status or work timing and psychological morbidity.

Table 3: Association Between Sociodemographic Factors and Psychological Morbidity Among Study Participants

Variable	Category	Psychological Morbidity Present n (%)	Psychological Morbidity Absent n (%)	p-value*
Age group (years)	≤39 years	52 (33.8)	102 (66.2)	0.563
	>39 years	19 (38.8)	30 (61.2)	
Gender	Female	31 (29.5)	74 (70.5)	0.124
	Male	40 (40.8)	58 (59.2)	
Occupational status	Employed	47 (38.5)	75 (61.5)	0.297
	Unemployed	24 (29.6)	57 (70.4)	
Work timing	Day shift	50 (35.0)	93 (65.0)	0.884
	Night/Random shift	21 (35.0)	39 (65.0)	

Table 4 depicts Multivariate Logistic Regression Analysis Showing Independent Predictors of Psychological Morbidity Among Study Participants. Multivariate logistic regression analysis demonstrated that male participants had 1.62 times higher odds of psychological morbidity compared to females, although the association was not statistically significant (AOR: 1.62; 95% CI: 0.90–2.91; $p = 0.105$). Participants aged more than 39 years showed 1.24 times higher odds of psychological morbidity compared to younger participants; however, this association also lacked statistical significance (AOR: 1.24; 95% CI: 0.63–2.43; $p = 0.535$). Overall, while odds ratios were computed for all sociodemographic variables, none achieved statistical significance ($p > 0.05$), and therefore none of the included variables could be confirmed as independent predictors of psychological morbidity in the present study cohort.

Table 4: Multivariate Logistic Regression Analysis Showing Independent Predictors of Psychological Morbidity Among Study Participants

Variable	Adjusted Odds Ratio (AOR)	95% Confidence Interval	p-value
Male gender	1.62	0.90 – 2.91	0.105
Age >39 years	1.24	0.63 – 2.43	0.535

Discussion

The present hospital-based cross-sectional analytical study assessed psychological morbidity among participants attending OPD services at a tertiary care teaching hospital in Maharashtra using the DASS-42 scale. The study included both adult OPD patients and their accompanying attendants as participants, with analyses performed on the combined sample. The study demonstrated a substantial burden of depression, anxiety, and stress among the study population, emphasizing the importance of mental health assessment in routine outpatient healthcare settings.

In the present study, the mean age of participants was 33.07 ± 10.51 years, with majority belonging to the younger age group of 18–29 years (42.9%). Similar findings were reported by Mane et al., who observed predominance of younger economically productive age groups among OPD attendees in a tertiary care hospital in Tamil Nadu.^[12] Younger adults are often exposed to occupational stress, financial insecurity, academic pressure, and uncertainty regarding future prospects, which may contribute to increased psychological vulnerability.

Females constituted 51.7% of the study population, which is comparable to findings reported in previous hospital-based outpatient studies^[12,13]. However, psychological morbidity in the present study was comparatively higher among males (40.8%) than females (29.5%), although the association was not statistically significant. Similar gender-related variations have been reported in earlier studies assessing psychological morbidity among medically ill patients^[4]. This difference may be attributable to occupational burden, social expectations, substance use, and reduced help-seeking behavior among males.

The present study demonstrated that 28.6% participants had depressive symptoms, 31.5% had anxiety symptoms, and 23.2% had stress symptoms according to DASS-42 assessment. Anxiety emerged as the most common psychological morbidity among study participants. Comparable findings were observed by Anandakumar et

al., who reported prevalence of depression among 22.4% of tertiary care OPD attendees in Sri Lanka^[9]. Similarly, Jayasree et al. reported anxiety among 79% and depression among 17% of diabetic patients attending a tertiary care hospital^[4]. Verma et al. also documented high prevalence of anxiety (68.9%) and depression (56.4%) among infertility patients attending outpatient services^[10]. The comparatively lower prevalence observed in the present study may be due to inclusion of general OPD attendees rather than disease-specific high-risk populations.

In the current study, severe-to-extremely severe anxiety was observed among 18.2% participants, while severe-to-extremely severe depression and stress were observed among 12.3% and 9.9% participants respectively. These findings indicate that a substantial proportion of outpatient attendees experience clinically significant psychological distress requiring early identification and intervention. Similar observations have been documented in studies evaluating psychiatric morbidity among chronically ill patients attending tertiary healthcare facilities^[15]. Psychological distress among OPD attendees may arise due to chronic illness burden, uncertainty regarding diagnosis and prognosis, prolonged treatment duration, repeated hospital visits, financial constraints, and disruption of daily activities.

The present study did not demonstrate statistically significant association between psychological morbidity and age group, gender, occupational status, or work timing. Although higher prevalence of psychological morbidity was observed among males and participants aged >39 years, these associations were not statistically significant. Multivariate logistic regression analysis similarly failed to identify independent sociodemographic predictors of psychological morbidity. It is important to note that the regression model in the present study included only sociodemographic variables; incorporation of clinical variables such as disease duration, diagnosis type, and comorbidity status may have yielded different results, as psychological morbidity is heavily intertwined with physical

illness burden. Comparable findings have been reported in previous studies where psychological morbidity appeared to be multifactorial and influenced by combined psychosocial and clinical determinants rather than isolated demographic characteristics[17].

The findings of the present study have important implications from both clinical and hospital administration perspectives. Psychological morbidity among OPD attendees often remains under-recognized because patients frequently present with somatic complaints rather than overt psychological symptoms[9]. Early screening using validated instruments such as DASS-42 may facilitate timely counseling, psychiatric referral, stress management interventions, and holistic patient-centered care. Integration of mental health screening into routine outpatient services may improve treatment adherence, patient satisfaction, communication, and overall quality of healthcare delivery.

The present study has certain limitations. Being a cross-sectional study, causal relationships between associated factors and psychological morbidity could not be established. The study was conducted in a single tertiary care teaching hospital, thereby limiting generalizability of findings. In addition, assessment of psychological morbidity was based on self-reported responses, which may be influenced by reporting bias and sociocultural stigma associated with mental health issues. Furthermore, although the study included both OPD patients and their accompanying attendants, separate subgroup analyses comparing psychological morbidity between these two groups were not performed, which limits the ability to draw differential conclusions regarding each subgroup. Additionally, the multivariate regression model was limited to sociodemographic variables; inclusion of clinical variables such as disease duration, diagnosis type (chronic versus acute illness), and comorbidity status may have strengthened the predictive model and provided more comprehensive insight into determinants of psychological morbidity.

Conclusion

The present study demonstrated a considerable burden of psychological morbidity among participants attending OPD services—comprising both OPD patients and their accompanying attendants—at a tertiary care teaching hospital in Maharashtra. Anxiety emerged as the most common psychological morbidity, followed by depression and stress. Although no statistically significant sociodemographic predictors were identified, a substantial proportion of participants exhibited varying degrees of psychological distress. The findings highlight the need for routine mental health screening, early identification, and integration of psychological support services within outpatient healthcare settings to promote holistic and patient-centred care.

Recommendations

1. Routine OPD psychological screening: Electronically

administered DASS-42 during waiting time is feasible and clinically productive.

2. Prioritise physically ill patients: Given the strong association with illness, psychological screening should be embedded in chronic disease management pathways.
3. Gender-sensitive screening: Male-targeted mental health strategies deserve greater attention in hospital-based programmes.
4. Targeted occupational outreach: Farmers and night-shift workers represent high-risk subgroups warranting dedicated screening initiatives.
5. Referral pathways: Screening must be paired with clear, actionable protocols for counselling and specialist linkage.
6. Multicentre longitudinal research: Prospective, multisite studies are needed to establish causal relationships and improve generalisability.

Conflict of Interest

The authors do not have any conflicts of interest.

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