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Psychological distress among caregivers of patients in hospital settings: A comparative analysis in OPD and IPD attendants in Raipur

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Abstract
Background: Hospitalization often exacerbates psychological distress, with depression, anxiety, and stress being highly prevalent among patients undergoing medical or surgical treatment along with their caregivers. Caregivers play a crucial role in supporting patients in both OPD and IPD settings but often experience unrecognized psychological distress. Understanding these mental health patterns across the caregivers of outpatient (OPD) and inpatient (IPD) settings is crucial for holistic healthcare delivery.
Objectives: This study investigates the prevalence, severity, and correlates of depression, anxiety, and stress among caregivers of patients attending OPD versus IPD services, with subgroup analyses by gender, treatment type, and residential background.
Methods: A cross-sectional study of 100 caregivers (50 OPD and 50 IPD) was conducted. Participants were equally distributed by gender (50 males, 50 females) and represented both urban (n = 59) and rural (n = 41) populations. The Depression Anxiety Stress Scales (DASS-21) was used to assess psychological distress. Data were analysed using descriptive statistics, independent t-tests, and Pearson's correlation coefficients.
Results: Caregivers of In-patients reported significantly higher distress compared to caregivers of out-patients across all domains. Total distress (M = 28.82 vs. 16.08, $p<.001$), depression (M = 9.08 vs. 4.74, $p<.001$), anxiety (M = 9.70 vs. 5.28, $p<.001$), and stress (M = 10.04 vs. 6.06, $p<.001$). No significant differences were found by gender, treatment type, or residence. Strong positive correlations were observed among depression, anxiety, and stress (r =.499-.592, $p<.001$).
Conclusion: Caregivers of IPD patients experience substantially higher psychological distress than caregivers of OPD patients, underscoring the need for routine mental health screening and psychosocial support in hospital settings. Integrating psychological services into caregivers o can improve outcomes and overall well-being.

Keywords: psychological distress, depression, anxiety, stress, OPD, IPD, caregivers, DASS-42

Introduction
Caregiving is an essential but often under recognized aspect of healthcare systems worldwide. In India, where family support structures remain central to healthcare, caregivers frequently accompany patients both in outpatient (OPD) and inpatient (IPD) departments. Caregivers are individuals who dedicate their time and effort to supporting loved ones—be it family members, friends, or others in need. While their role is invaluable in providing care to patients, caregivers often face significant challenges, including physical strain, emotional distress, anxiety, sleep disturbances, fatigue, and depression [1-3].Caregivers of OPD patients typically engage in shorter-term support. Their relatively flexible role involves logistical and emotional investment; the demands are generally limited in duration. In contrast, IPD caregiving is far more intensive. Caregivers often stay with the patient for extended periods, sometimes overnight, and are expected to provide physical assistance, emotional reassurance, financial coordination. Comparative research suggests that inpatient caregiving is associated with greater psychological morbidity than outpatient caregiving [4].
Over the past decade there have been several studies on the impact of patients' hospitalization on caregivers [5, 6]. Studies reported that caregivers are at high risk of fatigue and sleep disturbances [7] and also experience more negative reactions [8, 9].

Studies consistently show that caregivers experience high levels of psychological morbidity, often exceeding those of the patients themselves [10]. However, most of the available research focuses on caregivers in specialized contexts (e.g., oncology or psychiatric care). Much less is known about the experiences of caregivers in general hospital settings, where caregiving burdens may vary significantly between OPD and IPD.

The DASS-42 is a reliable and cross-culturally applicable valid measure of these three domains [11-12]. (Lovibond and Lovibond, 1995).

Past literature on the topic has looked at the evidence of caregiver distress depending on demographic or clinical characteristics. The differences in genders are also frequently mentioned, higher levels of depression and psychological morbidity was reported among female caregivers [13]. Equally, the rural-urban disparity has been explored, and rural caregivers have even more obstacles due to the inability to access healthcare services, lack of money, and stigma [14]. The type of treatment- medical or surgical treatment of the patient- can also have an influence on caregiver stress, but the results are not consistent.

Research Gap

To date, most Indian studies on caregiver burden focus on disease-specific populations, such as cancer caregivers, caregivers of psychiatric patients, or caregivers of those with chronic neurological disorders. While valuable, these studies do not capture the broader reality of caregiving in general hospital OPD and IPD settings. Few studies have systematically compared caregivers across these two contexts using standardized psychometric instruments.

Objectives of the Study

Psychological distress in both OPD and IPD settings of a tertiary care hospital is the gap that the current study fills as it measures the psychological distress experienced by the caregivers of both groups of patients. The specific objectives are:

1. To ascertain the level and intensity of depression, anxiety and stress in the care givers.
2. To make comparisons between psychological distress between OPD and IPD caregivers.
3. To examine demographic and clinical predictors of caregiver distress, such as gender, treatment modality and residential background.
4. To test the relationships between depression, anxiety and stress.

By placing the caregivers in the spotlight rather than the patients, the study is expected to capture a largely ignored aspect in healthcare delivery within the hospital and drive towards interventions that will address the psychosocial needs of both caregivers and patients.

Methodology

Study Design

A cross-sectional comparative study was done to investigate psychological distress in caregivers of patients receiving outpatient (OPD) and inpatient (IPD) services in a tertiary care hospital. The research involved a comparison of the rates of depression, anxiety and stress levels between the two groups and the demographic and clinical correlates.

Study Setting

The analysis was conducted within the general hospital services of a tertiary care hospital located in an urban and a rural set up. The OPD consists of consultation services and diagnostic services whereas the IPD is where patients are admitted receiving long term treatment and monitoring. The two settings are based on extensive family caregivers who attend and assist patients in the process of visiting or staying at a hospital.

Participants

Definition of Caregiver

For the purpose of this study, a caregiver was defined as an adult family member or relative who accompanied or stayed with the patient and assumed responsibility for attending to the patient's needs, communicating with hospital staff, and providing logistical or emotional support.

Sample Size and Distribution

A total of 100 caregivers participated in the study, with equal representation from outpatient (OPD, n = 50) and inpatient (IPD, n = 50) settings. The sample comprised 50 male and 50 female caregivers, ensuring gender balance. In terms of residential background, 59 participants were from urban areas and 41 from rural areas, reflecting a mixed catchment population. With respect to the type of treatment sought by the patients under their care, 75 caregivers were attending to patients receiving medical treatment, while 25 were caring for patients undergoing surgical interventions.

Inclusion Criteria

The inclusion criteria specified that participants had to be caregivers aged 18 years or above, identified by the patient as the primary attendant at the time of data collection. Only those who were able to understand the purpose of the study and provide informed consent were considered eligible to participate.

Exclusion Criteria

Caregivers were excluded from the study if they were paid or professional attendants such as nurses or hired helpers, if they had a self-reported or documented history of psychiatric illness, or if they declined to provide consent or were unable to complete the assessment.

Instruments

Data collection was carried out using two instruments. First, a structured Demographic and Clinical Information Form was used to record basic caregiver details such as age, gender, and place of residence, along with patient-related characteristics including OPD or IPD status and treatment type (medical or surgical). Second, caregiver psychological distress was assessed using the Depression Anxiety Stress Scales - 42 items (DASS-42), a standardized self-report tool comprising 42 items divided into three subscales. The DASS-42 has been validated in Indian populations and demonstrates robust reliability and cross-cultural applicability [15].

Procedure

Caregivers were recruited from OPD waiting areas and IPD wards while they were accompanying their patients. The purpose of the study was explained in the local language, and informed consent was obtained prior to participation. Data collection began with recording demographic and clinical details, followed by administration of the DASS-42 questionnaire. Caregivers were given the choice of completing the tool independently or with interviewer

assistance in cases where literacy posed a constraint. Each assessment required approximately 15-20 minutes to complete. Caregivers who scored in the severe or extremely severe range on any of the DASS-42 subscales were provided with psychological first aid and referred to the hospital's psychiatry unit for further evaluation. To ensure confidentiality, all data were anonymized by assigning identification codes to participants, and no identifying information was included in the analysis.

Ethical Considerations

Participation was voluntary, and caregivers were informed of their right to withdraw at any stage without any impact on the patient's treatment. The study adhered to the ethical principles outlined in the Declaration of Helsinki (2013 revision).

Given the sensitive nature of the topic, special care was taken to provide reassurance to participants. Those experiencing distress during the survey were immediately supported, and confidentiality was strictly maintained throughout the study.

Data Analysis

Data were analysed using IBM SPSS Statistics, Version 25. Descriptive statistics, including means, standard deviations, frequencies, and percentages, were calculated to summarize demographic characteristics and DASS-42 scores. Independent samples t-tests were conducted to compare levels of psychological distress across caregiver subgroups, including OPD versus IPD, male versus female, medical versus surgical treatment, and urban versus rural residence. The significance level was set at $p<.05$, and effect sizes (Cohen's d) were computed to evaluate the magnitude of observed differences. Pearson's correlation coefficients were used to examine the associations between depression, anxiety, and stress subscales. In addition, DASS-42 scores were categorized into severity ranges (normal, mild, moderate, severe, and extremely severe) for interpretation and reporting.

Results & Discussion

Demographic Data

Table 1: Distribution of Caregivers by Gender across OPD and IPD Settings

	OPD	IPD	Total
Male	29	21	50
Female	21	29	50
Total	50	50	100

The study included a total of 100 caregivers, equally distributed between outpatient (OPD, n = 50) and inpatient (IPD, n = 50) settings. The gender distribution was balanced overall, with 50 males and 50 females; however, notable differences were observed between groups. The OPD's caregivers were predominately male (29 male, 21 female) whereas for the IPD caregivers, the female members accounted for more than the male caregivers (29 female, 21 male). In some respect, this indicates that caregivers' roles are influenced by the care scenario, where males typically accompany patients to OD visits, and female caregivers expand their roles when care involves in-patient services. A similar trend was demonstrated in a study that Men may generally be more available for outpatient visits which are less time-intensive and aligns with the expectations of the division of labor within cultural constructs regarding employment and family life [16]. The findings highlight the importance of considering the gendered dimensions that influences caregiving roles when developing interventions to support caregivers, especially in-hospital environments where caregivers who are female may experience greater load.

Table 2: Distribution of Patients' Caregivers by Treatment Type (Medical vs. Surgical) in OPD and IPD

	OPD	IPD	Total
Medical t/t	39	36	75
Surgical t/t	11	14	25
Total	50	50	100

The 100 caregivers were divided into 75 caring of patients under medical care (39 in OPD and 36 in IPD) and 25 taking care of surgical cases (11 in OPD and 14 in IPD). The increased rate of caregivers associated with medical care is representative of the overall hospital population, with chronic and acute medical issues being the most common type of admission to the hospital compared with surgical. This fairly equal representation of OPD and IPD in both types of treatments indicates that the duties of caregiving are widely distributed, irrespective of the need of the patient to be maintained under medical care or undergo surgery. Previous research has demonstrated that medical patients can subject their caregivers to long-term stress (because of the long treatment regimens and lack of recovery), whereas surgical caregivers might be exposed to acute and less prolonged distress (because of the potential risks in surgery and hospital stay) (Mehta and Thomas, 2021). The current results suggest that, though the nature of the treatment can determine the character of the care giving demands, the psychological burden on the caregiver is more likely to be determined by the presence or absence of the patient in OPD or IPD care.

Table 3: Distribution of Patients' Caregivers by Place of Residence (Urban vs. Rural) in OPD and IPD

	OPD	IPD	Total
Urban	33	26	59
Rural	17	24	41
Total	50	50	100

The number of individuals aged above 18 years who were included in the caregiver population was 59 (33 OPD and 26 IPD) and 41 (17 OPD and 24 IPD) respectively. The overall representation of urban caregivers was a bit higher, which is also in line with the hospital catchment area and accessibility by the city residents. Interestingly, a higher number of rural caregivers were observed in the IPD group which is an indication that rural families might not seek inpatient care until the patient is severe enough to warrant hospital care. This trend is in line with other studies that showed that caregivers in the rural setting tend to postpone medical care to a later stage when the sickness is severe and result in increased hospitalizations [17]. Other problems rural caregivers might experience during inpatient stay include travel distance, financial burden, and social support, which are also known to worsen psychological distress [18] These results demonstrate the need to customize hospital-based caregiver support services to meet the unique needs of rural

families, especially in IPD environments where caregiving needs are the greatest.

Table 4: Distribution of OPD Caregivers by Levels of Psychological Distress, Depression, Anxiety, and Stress

	Total Distress	Depression	Anxiety	Stress
Normal	47	42	35	49
Mild	1	7	5	0
Moderate	1	1	7	1
Severe	1	0	3	0
Extremely Severe	0	0	0	0

Of the 50 caregivers in the OPD group, the overwhelming majority had little psychological distress, and 47 of them were in the normal range of the overall distress index. This trend was also indicated in subscale scores where 42 caregivers scored normal in depression, 35 in anxiety and 49 in stress. Few of them exhibited higher symptoms, with seven cases of mild depression and one of each of moderate and severe, and the anxiety was a little more, with five cases of mild, seven moderate and three severe cases. Stress levels were not outstanding, with no caregiver in severe or extremely severe categories with only one in the moderate category. These findings indicate that OPD caregivers generally experience low levels of depression, anxiety, and stress, which is consistent with the less intensive nature of outpatient caregiving that typically involves shorter visits and limited exposure to prolonged hospital stressors. The few cases of elevated depression and anxiety in the OPD group may reflect situational stress related to uncertainty of diagnosis or financial concerns, but overall, OPD caregiving appears to impose a relatively lower psychological burden compared to inpatient caregiving.

Table 5: Distribution of IPD Caregivers by Levels of Psychological Distress, Depression, Anxiety, and Stress

	Total Distress	Depression	Anxiety	Stress
Normal	40	26	12	47
Mild	7	21	14	2
Moderate	3	3	20	1
Severe	0	0	4	0
Extremely Severe	0	0	0	0

Among the 50 caregivers in the IPD group, overall distress levels were notably higher compared to their OPD counterparts. While 40 caregivers scored in the normal range for total distress, a significant proportion reported elevated symptoms, with seven classified as mild and three as moderate. Of significant concern was depression with only 26 caregivers scoring within the normal range and 21 experiencing mild depression and three experiencing moderate symptoms. Anxiety emerged as the most pronounced issue: just 12 caregivers scored normal, whereas 14 were mildly anxious, 20 reported moderate anxiety, and four fell into the severe range, underscoring the heightened emotional strain of inpatient caregiving. Stress levels were comparatively lower, with 47 caregivers in the normal range and only three reporting mild or moderate stress. These findings clearly suggest that IPD caregivers are more vulnerable to depression and anxiety than OPD caregivers, reflecting the intensive demands of prolonged hospital stays, constant vigilance, financial strain, and emotional exhaustion associated with inpatient care. Prior research in India has similarly documented elevated anxiety and depression among caregivers of hospitalized patients, particularly in psychiatric and oncology settings, where inpatient caregiving often disrupts family routines and places disproportionate emotional and financial burdens on attendants [19]. The present study extends these observations to general hospital caregivers, emphasizing that IPD caregiving—irrespective of diagnosis—poses a substantial psychological burden that warrants systematic screening and psychosocial support.

Table 6: Gender-wise Differences in Psychological Distress among Patients' Caregivers

	Male	Female	P value
Total Distress	22.48 +/- 12.57	22.42 +/- 10.26	0.9792
Depression	7.02 +/- 4.75	6.8 +/- 4.15	0.8058
Anxiety	7.48 +/- 5.10	7.5 +/- 4.42	0.9833
Stress	7.98 +/- 5.02	8.12 +/- 4.14	0.8795

t-test: Significance level (α): 0.05, Effect: medium, Effect size: 0.5

When caregiver distress was compared by gender, no statistically significant differences were observed across any of the DASS-42 domains. Male caregivers reported mean scores of 22.48±12.57 for total distress, 7.02±4.75 for depression, 7.48±5.10 for anxiety, and 7.98±5.02 for stress, while female caregivers reported nearly identical values of 22.42±10.26, 6.80±4.15, 7.50±4.42, and 8.12±4.14 respectively. The p-values for all comparisons exceeded 0.05, confirming that gender was not a significant determinant of caregiver distress in this sample. Although the effect size was moderate (Cohen's d = 0.5), the lack of significant differences suggests that both male and female caregivers experience comparable levels of psychological burden in hospital settings. This finding aligns with studies which reported no substantial gender differences in caregiver distress among medical caregivers, but contrasts with research suggesting that women often report higher levels of psychological morbidity due to cultural expectations and caregiving responsibilities [20]. In the present study, the equal distribution of caregiving roles across genders and the shared intensity of hospital-based caregiving may explain the absence of gender-related disparities. These results highlight that caregiver distress is shaped more by the caregiving environment (OPD vs. IPD) than by gender differences.

OPD vs IPD

Table 7: Differences in Psychological Distress between OPD and IPD Caregivers

	OPD	IPD	P value
Total Distress	16.08 +/- 11.97	28.82 +/- 6.10	1.309e-9
Depression	4.74 +/- 4.16	9.08 +/- 3.59	2.124e-7
Anxiety	5.28 +/- 4.78	9.7 +/- 3.57	9.415e-7
Stress	6.06 +/- 4.82	10.04 +/- 3.34	0.000005636

t-test: Significance level (α): 0.05, Effect: medium, Effect size: 0.5

A comparison of psychological distress between OPD and IPD caregivers revealed highly significant differences across all domains of the DASS-42. OPD caregivers reported substantially lower mean scores for total distress (16.08±11.97) compared to IPD caregivers (28.82±6.10), with the difference reaching high statistical significance (p<0.001). Similar trends were observed for depression (4.74±4.16 vs. 9.08±3.59, p<0.001), anxiety (5.28±4.78 vs.

9.70±3.57, $p<0.001$), and stress (6.06±4.82 vs. 10.04±3.34, $p<0.001$). The effect size was moderate (Cohen's d = 0.5), underscoring that these differences are not only statistically significant but also clinically meaningful. These findings clearly indicate that IPD caregivers experience markedly higher levels of depression, anxiety, and stress compared to OPD caregivers. This pattern is consistent with the more intensive demands of inpatient caregiving, which involves prolonged hospital stays, disrupted routines, financial strain, and emotional exhaustion. Prior research supports this conclusion; studies in Indian hospital contexts have shown that inpatient caregivers, particularly those of chronic illness or oncology patients, exhibit significantly higher psychological morbidity compared to caregivers in outpatient settings [21]. The present results extend this evidence to general hospital caregiving, highlighting the inpatient environment itself as a critical determinant of caregiver distress.

Medical vs Surgical treatment

Table 8: Comparison of Depression, Anxiety, Stress, and Total Psychological Distress among Caregivers of Patients Receiving Medical vs. Surgical Treatment

	Medical t/t	Surgical t/t	P value
Total Distress	21.84 +/- 11.61	24.28 +/- 10.82	0.3575
Depression	6.72+/- 4.55	7.48 +/- 4.10	0.4614
Anxiety	7.27 +/- 4.70	8.16 +/- 4.91	0.4183
Stress	7.85 +/- 4.75	8.64 +/- 4.05	0.4601

t-test: Significance level (α): 0.05, Effect: medium, Effect size: 0.5

When caregiver distress was compared based on the type of treatment received by patients, no statistically significant differences were observed across any of the DASS-42 domains. Caregivers of medical patients reported mean scores of 21.84±11.61 for total distress, 6.72±4.55 for depression, 7.27±4.70 for anxiety, and 7.85±4.75 for stress. In contrast, caregivers of surgical patients reported slightly higher values—24.28±10.82, 7.48±4.10, 8.16±4.91, and 8.64±4.05 respectively—but the differences were not statistically significant ($p > 0.05$ for all comparisons). These findings suggest that the caregiving burden is comparable across medical and surgical contexts, indicating that the psychological strain of caregiving is driven more by the inpatient versus outpatient setting than by treatment type. Previous studies have reported mixed results in this area: some studies find similar levels of distress across settings despite differences in medical / surgical or acute vs non-acute care [22]. The present findings align with the perspective, emphasizing that the caregiving environment and intensity of involvement, rather than treatment modality, play a more critical role in shaping caregiver psychological outcomes.

Urban vs Rural

Table 9: Comparison of Depression, Anxiety, Stress, and Total Psychological Distress among Caregivers by Place of Residence (Urban vs. Rural)

	Urban	Rural	P value
Total Distress	21.10 +/- 10.67	24.39 +/- 12.29	0.1577
Depression	6.55 +/- 4.40	7.41 +/- 4.50	0.3461
Anxiety	7.17 +/- 4.54	7.95 +/- 5.05	0.4212
Stress	7.37 +/- 4.29	9.02 +/- 4.86	0.07617

t-test: Significance level (α): 0.05, Effect: medium, Effect size: 0.5

Analysis of caregiver distress by place of residence showed no statistically significant differences across DASS-42 domains, although rural caregivers consistently reported slightly higher scores than their urban counterparts. Urban caregivers had mean scores of 21.10±10.67 for total distress, 6.55±4.40 for depression, 7.17±4.54 for anxiety, and 7.37±4.29 for stress. In comparison, rural caregivers reported higher averages of 24.39±12.29 for total distress, 7.41±4.50 for depression, 7.95±5.05 for anxiety, and 9.02±4.86 for stress. While none of these differences reached statistical significance ($p > 0.05$), the higher stress levels among rural caregivers approached significance ($p = 0.076$), suggesting a possible trend toward greater psychological burden in this group. The lack of significant differences in this study suggests that once caregivers are engaged in hospital-based care, the immediate demands of caregiving may overshadow the influence of residential background. These findings highlight the need for further research with larger samples to clarify the potential vulnerabilities of rural caregivers and to inform targeted psychosocial interventions.

Correlation

Table 10: Relationship between Depression, Anxiety, and Stress among Patients' Caregivers

	Depression	Anxiety	Stress
Depression	1	0.5924	0.5006
Anxiety	0.5924	1	0.499
Stress	0.5006	0.499	1

Correlation analysis revealed strong positive associations among the three domains of psychological distress. Depression was significantly correlated with both anxiety (r = 0.59) and stress (r = 0.50), while anxiety also showed a similar positive correlation with stress (r = 0.49). These findings indicate that caregivers who reported higher depressive symptoms were also more likely to experience elevated anxiety and stress, reflecting the overlapping and multidimensional nature of caregiver distress. Such interrelationships have been consistently reported in prior research, with Indian validation studies of the DASS-21 also demonstrating high inter correlations among subscales, suggesting that distress in caregivers rarely occurs in isolation [23]. From a clinical perspective, these results underscore the importance of comprehensive screening, as targeting only one domain may overlook co-occurring difficulties. The strong associations highlight the need for holistic psychosocial interventions that address depression, anxiety, and stress together, rather than treating them as separate issues, in order to effectively reduce caregiver burden and improve overall well-being.

Strengths and Limitations

A major strength of this study is its focus on caregivers in general hospital settings, a group often neglected in the literature. By directly comparing OPD and IPD caregivers, the study highlights how the hospital environment itself shapes caregiver distress. The use of the validated DASS-42 instrument enhances reliability, and the balanced sampling across demographic groups provides robust comparisons.

However, the study also has limitations. The sample size was modest and drawn from a single tertiary care hospital, limiting generalizability. The cross-sectional design

prevents causal inferences, and the reliance on self-report measures may introduce response biases. Additionally, the study did not stratify results by specific patient diagnoses, which could further influence caregiver burden. Future research should employ larger, multi-center samples, incorporate longitudinal designs to track changes in caregiver distress over time, and explore disease-specific caregiving experiences.

Conclusion

This study demonstrates that caregivers of inpatient (IPD) patients experience significantly higher psychological distress compared to caregivers of outpatient (OPD) patients, particularly in terms of depression and anxiety. While gender, treatment type, and residence were not significant determinants, the caregiving environment emerged as the most critical factor influencing distress. Strong correlations among depression, anxiety, and stress highlight the multidimensional nature of caregiver burden. These findings underscore the need for routine psychological screening and targeted interventions for caregivers, especially in inpatient settings. By addressing caregiver well-being alongside patient care, hospitals can improve health outcomes for both groups and contribute to more holistic, family-centred healthcare delivery.

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