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PSYCHOLOGICAL DISTRESS AMONG ORTHOPEDIC PATIENTS AND THE ROLE OF SOCIAL SUPPORT

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Abstract

***Objectives**: This study aimed to explore the prevalence of psychological distress (anxiety, depression, and stress) among orthopedic patients, assess the role of social support in mitigating distress, and identify key demographic and clinical factors associated with psychological distress.*

***Methods:** A cross-sectional study was conducted at orthopedic hospitals in Gujrat, Pakistan, from January 2021 to March 2021. A purposive sampling technique was used to recruit 250 orthopedic patients (90 males, 159 females) aged 18 to 89 years. Data were collected using the Psychological Distress Scale (PDS) to measure anxiety, depression, and stress, and the Social Support Scale (SSS) to assess perceived social support. Statistical analyses, including Pearson's correlation and multiple linear regression, were performed using SPSS Version 24.*

***Results**: The study found a high prevalence of psychological distress among orthopedic patients. The mean scores for anxiety, depression, and stress were 32.78 (SD = 1.50), 19.22 (SD = 1.16), and 21.53 (SD = 1.24), respectively. Psychological distress was significantly higher in female patients and those with a history of multiple hospitalizations. Pearson correlation analysis showed a significant negative association between social support and psychological distress ($r = -0.549$, $p < 0.01$). Regression analysis revealed that social support explained 30.2% of the variance in anxiety, 17.7% in depression, and 22.1% in stress ($p < 0.01$), indicating its crucial role in reducing psychological distress. Older age and family history of orthopedic disease were also significant predictors of distress.*

***Conclusion:** Psychological distress is prevalent among orthopedic patients, with social support playing a crucial role in reducing its impact. These findings highlight the need for integrating mental health interventions into orthopedic care to improve patient well-being*

Keywords: Psychological Distress (MeSH), Orthopedics (MeSH), Social Support (MeSH), Anxiety (MeSH), Depression (MeSH), Psychological Stress (MeSH), Mental Health (MeSH), Orthopedic Disorders (MeSH).

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INTRODUCTION

Orthopaedic impairments represent a significant global health burden, affecting millions of individuals and leading to both physical disabilities and psychological distress. These orthopaedic impairments such as fractures, arthritis, scoliosis, muscular dystrophy, and amputations, not only limit mobility but also impact mental well-being. Psychological distress, comprising anxiety, depression, and stress, is highly prevalent among Orthopaedic patients, often exacerbated by chronic pain, functional limitations, and social isolation (Brewer et al., 1995; Crichlow et al., 2006). International studies indicate that Orthopaedic trauma patients experience psychological distress at rates significantly higher than the general population, with prevalence rates ranging from 19% to 45% (Mengesha et al., 2017; Joy & Elizabeth, 2019). In Pakistan, where mental health is often overlooked, Orthopaedic patients may experience heightened psychological distress due to inadequate psychological support and social stigma surrounding mental health issues (Husain et al., 2010).

Despite growing awareness of mental health concerns in medical settings, the psychological challenges faced by Orthopaedic patients remain understudied, particularly in the context of social support. Social support, which includes emotional, informational, and instrumental assistance, has been shown to mitigate the effects of psychological distress among individuals with chronic illnesses (Glynn et al., 1999; Nusrat & Humail, 2010). However, many Orthopaedic patients, especially those with long-term disabilities, face limited social interactions and inadequate emotional support, which may worsen their psychological distress (McCarthy et al., 2003). The existing literature highlights a strong association between social support and mental health outcomes, but few studies have specifically examined this relationship in Orthopaedic patients in Pakistan. This study aims to bridge this gap by investigating the prevalence of psychological
distress in Orthopaedic patients and evaluating the role of social support in moderating its impact. By addressing these gaps, the research will contribute to a more comprehensive understanding of the mental health challenges faced by Orthopaedic patients and inform the development of targeted interventions to improve their psychological well-being.

Objectives of the study

1. To explore the prevalence of psychological distress (anxiety, depression, and stress) among Orthopaedic patients.
2. To assess the role of social support in influencing the psychological distress experienced by Orthopaedic patients.
3. To identify key demographic and clinical factors (such as age, gender, and medical history) associated with psychological distress in Orthopaedic patients.

METHODS

This cross-sectional analytical study was conducted from 05 January 2021 to 20 April 2021, after obtaining approval from Departmental Research Review Committee (DRRC) of Department of Psychology, University of Gujrat, Pakistan. Data was collected from Orthopaedic hospitals across the Gujrat district, Pakistan.

Participants and sampling: Purposive sampling technique was used to recruit 250 Orthopaedic patients from both inpatient and outpatient departments. Inclusion criteria required participants to be aged 18 to 89 years, diagnosed with an Orthopaedic impairment for at least one week, and willing to provide informed consent. Patients with severe cognitive impairments, psychiatric disorders, or recent traumatic injuries (such as those requiring immediate intensive care) were excluded to ensure the validity of responses. A total of 250 Orthopaedic patients (90 males, 159 females, and one unreported) participated in the study.

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The mean age of the participants was 49.33 years (SD = 18.69), ranging from 18 to 89 years. Patients were selected from various Orthopaedic departments across hospitals, ensuring diversity in demographic factors such as education level, socioeconomic status, and family structure. Data collection involved both self-reported questionnaires and researcher-assisted interviews for participants with low literacy levels. The data collection period spanned from January 2021 to March 2021.

Research instruments: Three validated instruments were used to assess psychological distress and social support. The Psychological Distress Scale (PDS), developed by Khalid (2020), is a 38- item scale that measures anxiety, depression, and stress using a 4-point Likert scale (1 = never to 4 = often). The scale has high internal consistency (Cronbach's $\alpha = 0.91$). The Social Support Scale (SSS), developed by Awan (2020), is a 16-item scale that assesses perceived social support across different domains (family, friends, and significant others) using a 4-point Likert scale (1 = never to 4 = always). The scale's reliability is strong (Cronbach's $\alpha = 0.84$). The demographic form collected essential participant information, including age, gender, education, income, family system, hospitalization history, medication use, and exercise habits, to analyze potential confounding factors.

Data collection procedure: Ethical approval was obtained from the University of Gujrat's Psychology Department. Permission was granted by hospital authorities, and written informed consent was obtained from all participants. Patients were approached in hospital wards and outpatient clinics, where they were briefed about the study's objectives. Educated participants completed self-administered questionnaires, while the researcher assisted illiterate participants by reading out the questions and recording their responses. Data collection was completed over two months, ensuring adherence to ethical considerations and patient confidentiality.

Data analysis: Data were analyzed using SPSS Version 24 (IBM Corp., Armonk, NY, USA). Descriptive statistics (means, standard deviations, and percentages) were calculated to summarize demographic variables. Pearson's correlation analysis was used to assess relationships between psychological distress and social support. Multiple linear regression analysis was performed to examine whether social support moderated the relationship between orthopedic impairment and psychological distress. A significance level of $p < 0.01$ was used for all analyses. This methodology ensures the study's reliability and validity while providing a framework for future research on the psychological health of orthopedic patients in Pakistan.

RESULTS

A total of 250 orthopedic patients participated in the study, with a mean age of 49.33 years (SD = 18.69, range = 18–89 years). The sample included 90 males (35.6%) and 159 females (62.8%), with one participant not reporting gender. Table I presents the demographic characteristics of the participants, including age, gender, education level, income, family system, weight, exercise habits, medication use and compliance, and family history of orthopedic illness.

Table I: Demographic characteristics of the participants (N=250)

Variables		**Frequency**	**%**
	18-30	37	14.7
	31-40	21	8.4

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Age (Mean= 49.33)	41-50	48	19.1
	51-60	59	23.5
	61-70	36	14.3
	71-80	23	9.2
	81-90	16	6.4
	91-100	9	3.6
Gender	Male	90	35.6
	Female	159	62.8
Education	1-5	39	15.4
	6-10	101	39.9
	11-14	77	30.4
	15-18	33	13

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Income	0-15k	47	18.6
	15k-30k	79	31.2
	30k-50k	53	20.9
	Above 50k	71	28.1
Family system	Joint	108	43.0
	Separate	139	55.4
Weight	40-60	53	20.9
	60-80	149	58.9
	80-110	47	18.6
Exercise	Yes	91	36.4
	No	159	63.6
Medicine	Yes	208	82.9
	No	40	15.9
Medication compliance	0%	3	1.2
	50%	82	32.4
	100%	125	49.4
Family history of disease	Yes	145	58%
	No	105	42%

Descriptive statistics indicated a high prevalence of psychological distress among orthopedic patients. The mean scores for anxiety, depression, and stress were 32.78 (SD = 1.50), 19.22 (SD = 1.16), and 21.53 (SD = 1.24), respectively. Patients with a family history of orthopedic disease showed significantly higher depression scores ($r = 0.265$, $p < 0.01$; Table 4.2).

Table II: Pearson correlation of family history of disease and depression

Variables	***N***	***r***	***Significance***
Depression	250	.265**	0.00

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Note: P<0.01**.

Table III illustrates the relationship between gender and psychological distress. The findings revealed that female patients exhibited significantly higher levels of anxiety (r = 0.318, p < 0.01), depression (r = 0.402, p < 0.01), and stress (r = 0.366, p < 0.01) compared to males. This suggests that being female is a significant predictor of psychological distress among orthopedic patients.

Table III: Pearson correlation in relation of gender with psychological distress

Variables	**N**	**r(males)**	**r(females)**	**Significance**
Anxiety	250	-.324**	.318**	0.00
Depression	250	-.402**	.402**	0.00
Stress	250	-.370**	.366**	0.00

Note: P<0.01**

Table IV presents the correlation between the number of hospitalizations and psychological distress. The results indicated that an increase in hospital admissions was significantly associated with higher anxiety (r = 0.249, p < 0.01), depression (r = 0.502, p < 0.01), and stress (r = 0.224, p
< 0.01). This finding suggests that patients with repeated hospital visits are more likely to suffer from psychological distress.

Table IV: Pearson correlation of hospitalizations and psychological distress

Variables	**N**	**r**	**Significance**
Anxiety	250	.249**	0.00
Depression	250	.502**	0.00
Stress	250	.224**	0.00

Note: P<0.01**

Regression analysis was conducted to examine whether age predicts psychological distress (Table V). The results showed that age significantly predicted anxiety (β = 0.247, p < 0.01, R^2 = 0.061, F
= 16.088), depression (β = 0.321, p < 0.01, R^2 = 0.103, F = 28.465), and stress (β = 0.357, p < 0.01,

R^2 = 0.127, F = 36.194).

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Table V: Regression analysis of age and psychological distress

Variables	R	R^2	Adjusted R^2	F	P
Anxiety	.247	.061	0.57	16.088	0.00
Depression	.321	.103	0.99	28.465	0.00
Stress	.357	.127	1.24	36.194	0.00

Note: P<0.01**

Table VI presents the regression analysis of social support and psychological distress. The results demonstrated that social support significantly predicted lower anxiety ($\beta = -0.549$, $p < 0.01$, $R^2 = 0.302$, $F = 107.087$), depression ($\beta = -0.421$, $p < 0.01$, $R^2 = 0.177$, $F = 53.288$), and stress ($\beta = -0.470$, $p < 0.01$, $R^2 = 0.221$, $F = 70.197$). These results confirm that higher levels of social support are associated with lower psychological distress, emphasizing its critical role in mental health management for orthopedic patients.

Table VI Regression analysis of social support and psychological distress

Variables	R	R^2	Adjusted R^2	F	P
Anxiety	.549	.302	.299	107.087	0.00
Depression	.421	.1777	.174	53.288	0.00
Stress	.470	.221	.217	70.197	0.00

Note: P<0.01**

DISCUSSION

The findings of this study highlight the high prevalence of psychological distress among orthopedic patients, with anxiety, depression, and stress being commonly reported. These results align with previous studies indicating that orthopedic impairments significantly impact mental health, particularly due to chronic pain, reduced mobility, and dependency on others (Mengesha et al., 2017; Joy & Elizabeth, 2019). The study also found that female patients experienced greater psychological distress than males, consistent with research suggesting that women are more vulnerable to anxiety and depression, particularly in the context of chronic health conditions (Casey, 2019; Nusrat & Humail, 2010).

A key finding of this study was the significant negative relationship between social support and psychological distress, reinforcing the notion that strong support systems play a crucial role in mitigating mental health challenges among orthopedic patients. This is consistent with previous research showing that perceived social support serves as a protective factor against depression and anxiety in individuals with chronic illnesses (Glynn et al., 1999; Stephen, 2014). The moderating effect of social support suggests that individuals with higher levels of support experience lower psychological distress despite the physical burden of their condition. This highlights the importance of integrating psychosocial interventions alongside medical

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treatment for orthopedic patients to improve their overall well-being.

The study also identified age and hospitalization history as significant predictors of psychological distress, with older patients and those with multiple hospital admissions reporting higher levels of anxiety, depression, and stress. These findings are in line with studies indicating that aging and repeated medical interventions can contribute to feelings of helplessness, social solation, and emotional distress (McCarthy et al., 2003; Mengesha & Tolesa, 2019). Additionally, the association between a family history of orthopedic disease and increased depression levels suggests a possible genetic or environmental influence on mental health outcomes in these patients.

While this study provides valuable insights, certain limitations must be acknowledged. The cross-sectional design prevents the establishment of causal relationships between variables. Additionally, the use of self-reported measures may introduce response biases, as participants' psychological distress and social support perceptions were subjectively assessed. Future research should consider longitudinal studies to better understand the long-term psychological impact of orthopedic impairments and the role of social support over time. Moreover, exploring intervention strategies to strengthen social support systems could offer practical solutions for improving mental health outcomes in orthopedic patients.

These findings underscore the importance of addressing psychological distress in orthopedic care and suggest that healthcare providers should incorporate mental health screening and support services into routine orthopedic treatment plans. Further studies are recommended to explore culture-specific factors influencing psychological distress and social support in orthopedic patients, particularly in regions like Pakistan where mental health care remains underprioritized.

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