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A STUDY TO ASSESS THE LEVEL OF ANXIETY AND DEPRESSION AMONG PATIENTS WITH OSTEOARTHRITIS IN SELECTED HOSPITAL, CHENNAI.

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ABSTRACT:

Backround: Osteoarthritis (OA) involves various joint disorders triggered by mechanical stress, with contributions from both genetic and environmental factors. Contemporary views regard OA as a disease impacting the entire joint. **Aim:** The main aim of the study to assess the level of anxiety and depression among patients with osteoarthritis in selected hospital, Chennai. **Methods:** The present study was adopted a cross-sectional design. The required sample size was determined to be 185 patients. Using a convenient sampling technique, the sample was selected from osteoarthritis patients who attending the OPD and who are admitted in ward at the selected hospital. **Finding:** The study revealed that in depressive symptoms, 16.2% (30 patients) experienced mild symptoms, while 83.8% (155 patients) had moderate symptoms. Anxiety symptoms were mild in 18.4% (34 patients) and moderate in 81.6% (151 patients). **Conclusion:** The study found that osteoarthritis patients experience moderate to high levels of depression and anxiety, with these conditions being positively correlated with the severity of the disease. This correlation is especially significant in women and patients aged 40 years or younger.

Keywords: Osteoarthritis, Anxiety, Depression, Assess.

1. INTRODUCTION

Osteoarthritis (OA) involves various joint disorders triggered by mechanical stress, with contributions from both genetic and environmental factors. Contemporary views regard OA as a disease impacting the entire joint. (1) These alterations often cause significant pain and disability,leading to a considerable burden on individuals, society, and the economy. As the occurrence and prevalence of OA rise with age, the increasing life expectancy will likely amplify these effects inthe future. Current treatments mainly aim to alleviate symptoms and improve function, but many patients do not experience adequate relief. The variability in symptoms and outcomes among individuals with OA cannot be solely attributed to the disease pathology. (2)

Knee osteoarthritis (OA) affects patients' physical capabilities and has enduring psychological consequences. Significant evidence suggests that the disability observed in OA patients is not solely due to radiographic findings. Psychological factors like anxiety and depression may contribute to some of the symptoms in patients suffering from painful OA. (3)

Recent research suggests that high pain levels, poor function, numerous OA-affected sites,and slow walking speed may be linked to depression. However, the exact mechanisms connecting OA and depression remain unclear. Along with immune inflammation and structural brain changesnoted in imaging studies, psychosocial factors might also influence this relationship. Evidence indicates that early intervention can be effective in treating depression. (4)

Osteoarthritis (OA) is a significant health concern in India. As of 2019, approximately 62.35 million individuals in India were affected by OA, a substantial increase from 23.46 millionin 1990. This condition is particularly prevalent among women and older adults, with knee OA being the most common type. The increasing burden highlights the need for more extensive research and improved healthcare strategies to manage and mitigate the impact of OA on the population. (5)

Aim of the Study

A study to assess the level of anxiety and depression among patients with osteoarthritis in selected hospital, Chennai.

2. MATERIAL AND METHODS

The present study was adopted a cross-sectional design. The required sample size was determined to be 185 patients. Using a convenient sampling technique, the sample was selected from osteoarthritis patients who attending the OPD and who are admitted in ward at the selected hospital. The study focused exclusively on patients diagnosed with osteoarthritis. The study utilized the Degenerative Joint Scoring System (DJSS) to assess the severity of osteoarthritis and the Hospital Anxiety and Depression Scale (HADS) to measure the levels of anxiety and depression among the patients. After obtaining written consent from the patients. Semi structured questionnaire was administered. The data was collected using excel spread sheet. SPSS version 26 software was usedto analyse the data. In the statistical analysis, the association between osteoarthritis activity and the state of depression/anxiety was determined using the Pearson correlation test. Subgroup analyses were also conducted to evaluate the influence of age, sex, and disease duration on the correlation between depression/anxiety and osteoarthritis activity. Chiquare χ^2 test were

applied tocompare quantitative and categorical variables, respectively.

3. RESULTS

The study involved 185 patients diagnosed with osteoarthritis, with a gender distribution of 65.4% females (121 patients) and 34.6% males (64 patients). The average age of the patients was 54.2 years with a standard deviation (SD) of 9.8 years, and the average disease duration was
7.1 years with an SD of 5.8 years. The Degenerative Joint Scoring System (DJSS) mean score among the patients was 3.6 with an SD of 0.8. Out of the total participants, 11.9% (22 patients) were in a state of remission. Regarding educational background, 21.6% (40 patients) had no formal education, 67.6% (125 patients) had completed primary and secondary education, and 10.8% (20patients) had attained higher education at the university level.

In terms of mental health, 16.2% (30 patients) experienced mild depression, while a significant 83.8% (155 patients) suffered from moderate depression. For anxiety, 18.4% (34 patients) had mild anxiety, and 81.6% (151 patients) were dealing with moderate anxiety.

The study examined the correlation between osteoarthritis and mental health conditions, specifically depressive and anxiety symptoms, among the patients. The Figure 1 indicates the depressive symptoms, 16.2% (30 patients) experienced mild symptoms, while 83.8% (155 patients) had moderate symptoms. Anxiety symptoms were mild in 18.4% (34 patients) and moderate in 81.6% (151 patients). The correlation between the presence of osteoarthritis and depressive symptoms had a coefficient (r) of 0.175 ($p = 0.014$), while for anxiety symptoms, the coefficient was 0.231 ($p = 0.001$). Among men ($n = 64$), the correlation coefficients were 0.208 (p
$= 0.22$) for depressive symptoms and 0.381 ($p = 0.023$) for anxiety symptoms. Among women (n
$= 121$), the correlation coefficients were 0.170 ($p = 0.032$) for depressive symptoms and 0.192 (p
$= 0.015$) for anxiety symptoms.

For patients younger than 40 years ($n = 25$), the correlation coefficients were 0.274 ($p = 0.18$) for depressive symptoms and 0.491 ($p = 0.013$) for anxiety symptoms. For those older than 40 years ($n = 160$), the correlation coefficients were 0.163 ($p = 0.034$) for depressive symptoms and 0.182 ($p = 0.017$) for anxiety symptoms. Considering disease duration, patients with osteoarthritis for less than a year ($n = 46$) had correlation coefficients of 0.384 ($p = 0.009$) for depressive symptoms and 0.383 ($p = 0.009$) for anxiety symptoms. For those with the disease formore than a year ($n = 139$), the correlation coefficients were 0.120 ($p =$ 0.14) for depressive symptoms and 0.187 ($p = 0.021$) for anxiety symptoms.

Table 1: Demographic variable and Characteristic of disease among patients with osteoarthritis

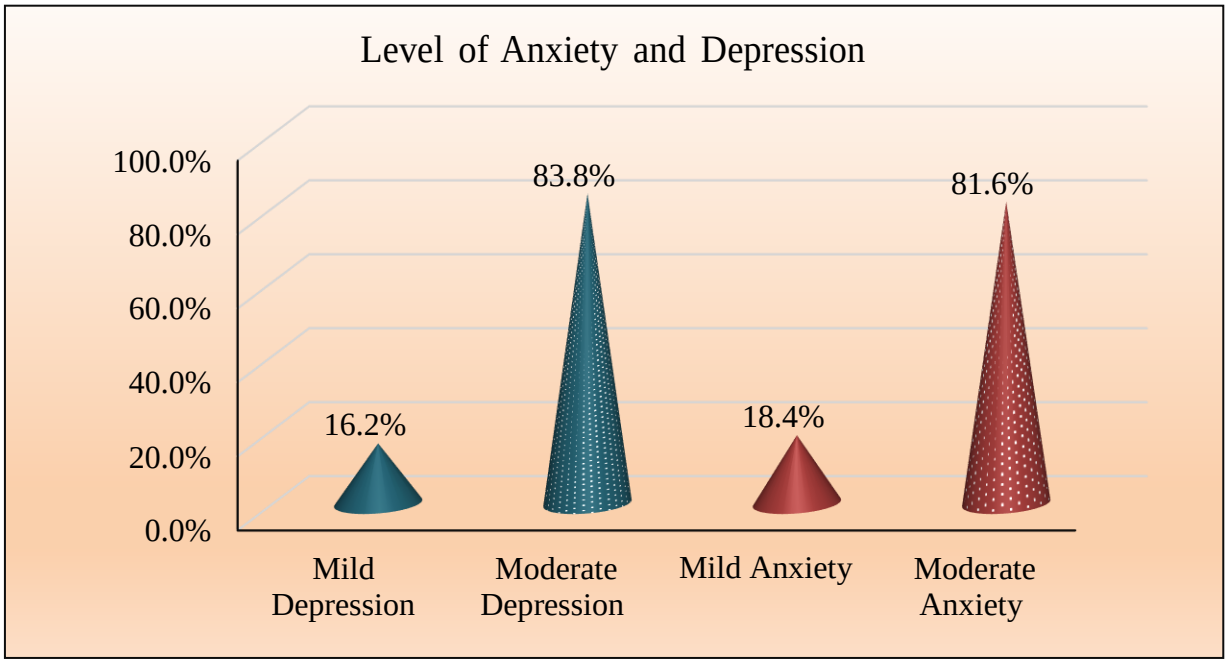
Characteristic	Frequency	Percentage (%)
Total Number of Patient with Osteoarthritis	185	100%
Female	121	65.4%
Male	64	34.6%
Average Age (±SD), Years	54.2 ± 9.8	-
Average Disease Duration (±SD), Years	7.1 ± 5.8	-
Degenerative Joint scoring system (DJSS Mean ± SD)	3.6 ± 0.8	-
Participants in state of Remission*	22	11.9%
Educational Background		
No Formal Education	40	21.6%
Primary and Secondary Education	125	67.6%
Higher Education (University Level)	20	10.8%
Mental Health Conditions		
Patients with Mild Depression	30	16.2%
Patients with Moderate Depression	155	83.8%
Patients with Mild Anxiety	34	18.4%
Patients with Moderate Anxiety	151	81.6%

DJSS score system

Tabel 2: correlation between depression, anxiety and degenerative joint scoring system inpatients with rheumatoid arthritis

Factors	Depressive Symptoms	Anxiety Symptoms
	Mild: n = 30 (16.2%)	Mild: n = 34 (18.4%)
	Moderate: n = 155 (83.8%)	Moderate: n = 151 (81.6%)
	Correlation coefficient (r)	Correlation coefficient (r)
Total Patients	0.175 (p = 0.014)	0.231 (p = 0.001)
Sex		
Men (n = 64)	0.208 (p = 0.22)	0.381 (p = 0.023)
Women (n = 121)	0.170 (p = 0.032)	0.192 (p = 0.015)
Age		
Less than 40 yrs (n = 25)	0.274 (p = 0.18)	0.491 (p = 0.013)
More than 40 yrs (n = 160)	0.163 (p = 0.034)	0.182 (p = 0.017)
Disease Duration		
Less than year (n = 46)	0.384 (p = 0.009)	0.383 (p = 0.009)
More than 1 year (n = 139)	0.120 (p = 0.14)	0.187 (p = 0.021)

Figure: 1 Percentage of level of anxiety and depression among patient with osteoarthritis.



4. DISCUSSION

The results of this study indicated that 16.2% of osteoarthritis patients experienced mild depression and 83.8% had moderate depression. Additionally, 18.4% of the patients had mild anxiety, while 81.6% experienced moderate anxiety. There was a weak but significant positive correlation between depression/anxiety and osteoarthritis activity, with the correlation being stronger during the first year of disease onset. However, after adjusting for other covariates, only female gender and age ≤ 40 years were independent predictors of disease activity in osteoarthritispatients with depression.

A similar study found that patients with osteoarthritis tend to have higher levels of anxietyand depression and a lower quality of life compared to their age- and sex-matched peers. The study indicated that a comprehensive psychological approach could significantly enhance the management of joint symptoms in osteoarthritis patients. (6) In a similar cross-sectional study conducted by the Tehran Rheumatology Research Center involving 414 RA patients, 63.6% were found to have depression, and 84.1% had anxiety. Furthermore, 60.2% of the patients experiencedboth anxiety and depression. The high prevalence of these conditions in this study is likely due tothe severity of RA in the patients, as the research center provides tertiary care for advanced RA cases. Generally, the prevalence of depression in RA varies from 15.29% to 42.9% across differentstudies. (7)

The study by Zheng, S et al. concluded that risk factors and joint symptoms associated with knee osteoarthritis (OA), along with pain in multiple sites, are linked to the development of depression. This implies that effectively managing OA risk factors and symptoms may play a crucial role in preventing and treating depression in individuals with knee OA. (8)

5. CONCLUSION

In conclusion, the study indicates that high moderate level of depression and anxiety in osteoarthritis patients and a positive correlation of these conditions with disease activity, particularly in women and in patients aged 40 years and younger. Considering the significant contribution of psychological factors, particularly depression, in the perception of pain,

identifying individuals with depression and providing appropriate treatment are expected to reduce osteoarthritis activity. This issue merits additional research.

6. REFERENCE:

1. Lories, R., Luyten, F. The bone–cartilage unit in osteoarthritis. Nat Rev Rheumatol 7, 43–49 (2011). https://doi.org/10.1038/nrrheum.2010.197
2. Sharma, A., Kudesia, P., Shi, Q., & Gandhi, R. (2016). Anxiety and depression in patients with osteoarthritis: impact and management challenges. Open Access Rheumatology: Research and Reviews, 8, 103–113. https://doi.org/10.2147/OARRR.S93516
3. Dhaon, P., Khan, H., Singh, R., & Shukla, M. (2020). Depression in patients of primary knee osteoarthritis: A cross-sectional study. Indian Journal of Rheumatology, 1, 27. https://doi.org/10.4103/injr.injr_87_19
4. Wang, S. T., & Ni, G. X. (2022). Depression in Osteoarthritis: Current Understanding. Neuropsychiatric disease and treatment, 18, 375–389. https://doi.org/10.2147/NDT.S346183
5. Pal, C.P., Singh, P., Chaturvedi, S. et al. Epidemiology of knee osteoarthritis in India and related factors. IJOO 50, 518–522 (2016). https://doi.org/10.4103/0019-5413.189608
6. Vergés Milano, J. et al. "Anxiety and Depression in Knee Osteoarthritic Patients: Results from EMARTRO Study." Osteoarthritis and Cartilage (2016): S218–S219. Crossref. Web.3 July 2024.
7. Moudi, S., Heidari, B., Yousefghahari, B., Gholami, R., Gholinia, H., & Babaei, M. (2023). The prevalence and correlation of depression and anxiety with disease activity in rheumatoid arthritis. Reumatologia, 61(2), 86–91. https://doi.org/10.5114/reum/154905
8. Zheng, S., Tu, L., Cicuttini, F. et al. Depression in patients with knee osteoarthritis: risk factors and associations with joint symptoms. BMC Musculoskelet Disord 22, 40 (2021). https://doi.org/10.1186/s12891-020-03875-1