Section: Psychiatry

Original Research Article

EVALUATION OF PSYCHOLOGICAL FACTORS IN CHRONIC LOW BACK PAIN OF NORTH KARNATAKA POPULATION

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Abstract

Background: Chronic low back pain (CLBP) studies using imaging to identify the morphological pathologies had high rates of false positive results; hence, a bio-sychosocial approach will be more effective. **Materials and Methods:** 60 (sixty) patients with CLBP were studied. Every patient was scaled to rule out the grades of anxiety, depression, and strain and treated accordingly. **Result:** The descriptive status of the DASS score in mean values of minimum and maximum were compared and significant p<0.001. Severe depression was 5% and 3.2% anxiety; 6 (16%) severe stress was noted. In the individual study of grades like depression, anxiety, and stress, stress had a significant p value (p<0.001). **Conclusion:** It is concluded that bio-psychosocial treatment is quite effective in CLBP, especially in elderly patients.

INTRODUCTION

Chronic low back pain (CLBP) is a major public health problem globally. Diagnosing the cause of CLBP as pain localized below the costal margin and above the inferior gluteal folds is essential to the triage of patients with specific or non-specific CLBP.[1] It is reported that studies using imaging to identify the morphological pathology of CLBP had falsely positive results. 20% of the patients who underwent lumbar surgery have residual symptoms, among which pain is most prevalent.[2] Recently, it has been indicated that psychological factors like depression, anxiety, and stress are often CLBP. Such CLBP should be approached by considering not only the morphological basis but also biopsychological and social interventions.[3]

It is also observed that lumbar fusion surgery for chronic LBP after previous surgery is no more effective than cognitive intervention. Hence, the attempt was made to evaluate the psychological profiles of chronic low back patients (CLBP), and results were recorded.

MATERIALS AND METHODS

60 (sixty) patients regularly visited the neurosurgery department of Mahadevappa Rampure Medical College Kalaburgi (585103, Karnataka) were studied.

Inclusive Criteria

Patients who had chronic low back pain for more than six months and patients who gave written consent for their treatment were included in the study.

Exclusion Criteria

Patients below 20 years and above 60 years with spine trauma, infections, and tumors were excluded from the study.

Method: The depression and anxiety stress scale (DASS-42) developed by Lovebird and Lavibond in 1995 was used in the study (5). It is a comprehensive questionnaire of 42 questions assessing the presence and severity of depression, anxiety, and stress. Each question has four possible scores from 0 to 3. In the end, scores for all three subtypes are rated from normal to extremely severe. All patients must fulfill the above-mentioned criteria.

The duration of the study was from June 2023 to November 2023.

Statistical analysis: The descriptive status of DAAS was compared with the t-test grades of CLP and classified with percentages. Various parameters of depression, anxiety, and stress were studied using the ANOVA test. The statistical analysis was carried out in SPSS software. The ratio of males and females was 1:2.

RESULTS

[Table 1] Descriptive status of the depression, anxiety, stress scale (DAAS)

- Score of depression Mean value 6 (±1) minimum, 24 (± 2) is the maximum, t test was 62.3 and p<0.001
- Score of anxiety: 4 (± 2) minimum, 20 (± 3) and maximum anxiety; t test was 34.5 and p<0.01

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- Scale of stress: 6 (± 1) minimum, 28 (± 3) maximum anxiety; t test was 53.8 and p<0.001

[Table 2] Study of level of severity (depression, anxiety, and stress) among chromic low back plan patients (CLBP)

- Normalcy of patients: 26 stress depression, 20 (33.3%) anxiety, 40 (66.6%)
- Minimal level of chronic low back pain: 15 (2.5%) depression, 11 (18.3%) anxiety, and 10 (16.6%) stress
- Moderate levels of CLBP: 16 (40%) depression, 13 (21.6%) anxiety, and 4 (6.6%) stress
- Severe CLBP: 2 (3.33%) anxiety, 6 (16%) stress

[Table 3] – a) Depression - 24 (± 2) normal, 15 (± 2) mild, 18 (± 3) moderate, and 3 (±1) severe df-2, p<0.001. b) Anxiety: 35 (± 3) normal, 13 (± 2) mild, 7 (± 2) moderate, 5 (± 1) severe, df 3 and p<0.001. c) Stress: 37 (± 3) normal, 8 (± 2) mild, 5 (± 1) moderate, 10 (± 3) and p<0.001.

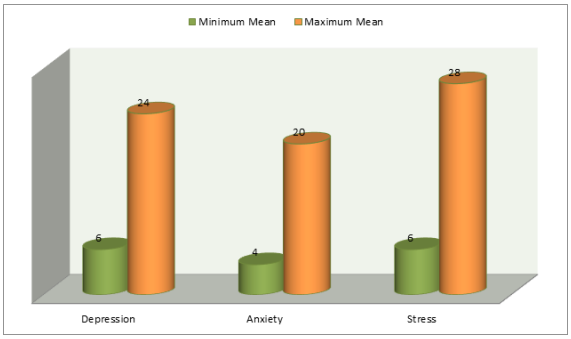

Figure 1: Descriptive Status of Depression, Anxiety, stress scale (DAAS)

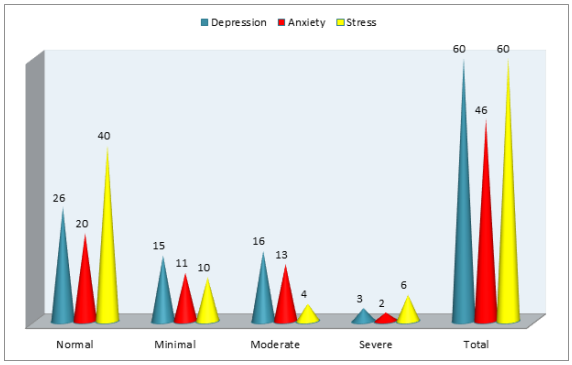

Figure 2: Study of levels of severity (depression, Anxiety and stress) among chronic low Back pain patients (CLBP)

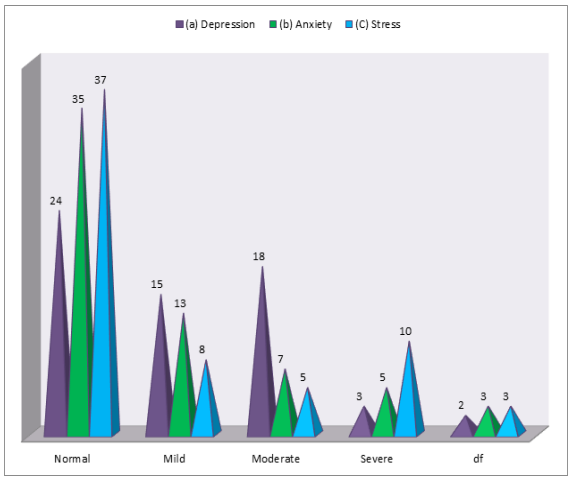

Figure 3: Study of DAAS levels in chronic low back pain patients (ANOVA Test)

Table 1: Descriptive Status of Depression, Anxiety, stress scale (DAAS)

Score	Minimum Mean (±SD)	Maximum Mean (±SD)	t test	p value
Depression	6 (± 1)	24 (± 2)	62.3	P<0.001
Anxiety	4 (± 2)	20 (± 3)	34.3	p<0.001
Stress	6 (± 1)	28 (± 3)	53.8	P<0.001

Table 2: Study of levels of severity (depression, Anxiety and stress) among chronic low Back pain patients (CLBP)

Grades of CLBP	Depression	Anxiety	Stress
Normal	26 (43.3%)	20 (33.3%)	40 (66.6%)
Minimal	15 (25%)	11 (18.3%)	10 (16.6%)
Moderate	16 (40%)	13 (21.6%)	4 (6.64%)
Severe	3 (5%)	2 (3.35%)	6 (10%)
Total	60 (100%)	46 (76.6%)	60 (100%)

Table 3: Study of DAAS levels in chronic low back pain patients (ANOVA Test). (No. of Patients: 60)

Normal	Mild	Moderate	Severe	df	p value
(a) Depression					
24 (± 2)	15 (± 2)	18 (± 3)	3 (± 1)	2	P<0.001
(b) Anxiety					
35 (± 3)	13 (± 2)	7 (± 2)	5 (± 1)	3	P<0.001
(C) Stress					
37 (± 3)	8 (± 2)	5 (± 1)	10 (± 3)	3	P<0.01

DISCUSSION

Present evaluation of psychological factors in CLBP in the north Karnataka population. In the descriptive status of the depression anxiety stress scale (DASS), In depression, the mean value was 6 (± 1) minimum and 24 (± 2) maximum; the t test was 62.3 and p<0.001. In anxiety, the mean value was 4 (± 2) minimum, 20 (± 3) maximum, and the t test was 34.3 and p<0.001. In stress, the mean value was 6 (± 1) minimum, 28 (± 3) maximum, and the t test was 58.3 and p<0.001 [Table 1]. In the study of CLBP, severe was in 3 (5%), severe anxiety in 2 (3.35%), and severe strain was in 6 (16%) [Table 2]. In the

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individual evaluation, depression 24 (± 2) was normal and 15 (± 2) was mild. 18 (± 3) modulate, 3 (± 1) was severe df=2 and p<0.001, and anxiety study 35 (± 3) were normal. 13 (± 2) was mild, 7 (± 2) was moderate, 5 (± 1) was severe, and df was 3 and p<0.001. In the study of stress, 37 (± 3) were normal, 8 (± 2) were mild, 5 (± 1) were moderate, 10 (± 3) were severe, and df was 3, and the p value was highly significant. These findings are more or less in agreement with previous studies.[7-9]

Personal occupational-age psychological factors also influence CLPBP, but psychological factors influence it predominantly; smoking and alcohol consumption will increase the DASS score. Moreover, chronic alcoholics suffer from osteoporotic diseases; many studies have reported that genetic factors also play a vital role in CLBP patients.[10]

Psychological factors, including fear, avoidance behaviour (social withdrawal), low mood withdrawal expectation of passive treatment, and negative pain beliefs such as catastrophizing, have been known to be risk factors for the development of CLBP pain coupling skills. Self-efficacy and perceived injustice are known to be important properties associated with pain-related outcomes in CLBP patients. Three major aspects of CLBP are usually defined as somatic, depressive, and social. Comparing the depression, stress, and anxiety scores with the level of severity across genders, it is observed that both genders had depression and anxiety, but females were more stressed as compared to males. It may be understandable that, with a chronic condition, the stress-anger factor diminishes with time. Psychological factors must be considered in managing any patients with CLBP. DASS-42 plays a significant role in treating CLBP in adults and the elderly too.

CONCLUSION

In the treatment of CLBP, apart from treating musculo-skeletal disorders, physiotherapy and mindfulness are very useful strategies for treating chronic pain, and updated biomedical knowledge is also required in psychotherapeutic approaches for chronic low back pain, especially in elderly patients.

Limitation of study: Owing to the tertiary location of the research center, the small number of patients, and the lack of the latest technique, we have limited findings and results.

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