

Original Research Article

Association between Anxiety and Chronic Low Back Pain with Gender Difference

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ABSTRACT

The study is aimed at finding association between anxiety and chronic low back pain with gender differences. Method: study was conducted among 30 patients (15 males and 15 females) with chronic low back pain to assess level of anxiety using state and trait anxiety scale. Results of the study showed significant association between chronic low back pain and anxiety with R value of 0.735 and P value of 0 that is with increase in chronicity of low back pain the level of anxiety also increases. Whereas the comparison of anxiety level among male and female patients result showed increased level of anxiety among female patients than male patients with U value of 46.5 and P-value of .00652 with $p < .05$. Conclusion: Anxiety is closely related to the chronic low back pain and screening of symptoms of anxiety for patients with low back pain during the initial assessment is important for treatment and overall management of patient and to have better prognosis.

Key words: Low Back pain, Anxiety, Gender Differences

INTRODUCTION

Low back pain is the common musculoskeletal problem; with most of the people having complains of Low back pain at some time in life. Severity of Low back Pain, its psycho physiological aspects and outcomes of treatments vary to a greater extent with respect to gender differences. Sex differences indicate that there is something about the experience of being a man and a woman that needs to be identified. [1] But gender is still not given appropriate consideration while studying the chronic pain. There is substantial evidence for a biological basis for sex differences in pain perception. [2] Back and spine impairments are more common in women than in men with women having greater predisposition to musculoskeletal disorders and specifically to muscle pain. [3,4] Chronic low back pain is one which persists for more

than twelve weeks and is often associated with psychological disturbances with anxiety being one of the common forms of psychological problem in patients with chronic low back pain. Association between psychological factors and occurrence of Low back pain has been indicated in various studies. [5] Symptoms of anxiety occur at a relatively higher frequency in patients with chronic low back pain. [6] Anxiety and pain is found to have stronger impact than physical conditions with impact of negative emotions than positive emotions. [7] Psychological disorders are common in woman than man in individuals with pain disorder. [8] Hence the purpose of the study is to identify the relation between the anxiety and Chronic low back pain and to find out gender difference with respect to anxiety level in patients with chronic low back pain.

METHODOLOGY

The main objective of this study was to study the anxiety level and gender difference among the patients suffering from Chronic Low Back Pain. For this purpose state and trait anxiety scale was used. The scale consists of 30 items, each in the state and trait form. The response category ranges from always, sometimes and never for each item. The possible range of the scores for scale varies from 30 to 90. The positive items are scored as 3, 2, 1 and negative items as 1, 2, 3 for the response categories always, sometimes and never. High rating indicates low anxiety. Sample size: The total sample size of 30 patients. 15 male and 15 female randomly selected with Mean age of 30 participants is 62.7 and Standard deviation 6.9389.

Inclusion criteria: Patients with age above 50 years suffering from low back ache (Chronic low back ache due to lumbar spondylosis, lumbar disc prolapsed, lumbar sacralisation and lumbar strain) were taken. Samples were collected from Jammu College of Physiotherapy OPD.

Exclusion criteria: Patients with known traumatic back conditions, congenital conditions, vertebral carcinomas, psychiatric problems, patients with neurological disorders, those on anti psychotic drugs and patients who are not mentally stable.

Procedure: Socio demographic details of each patient were collected followed by instruction regarding state and trait anxiety scale, questionnaire was given to each patient personally and their response was recorded. The questionnaire duly filled by the subjects were scored and on the basis of these scores result were analysed for correlation among patients with chronic Low back pain and anxiety by Spearman test ,results of the test showed that association between two variables was statistically significant with R value of 0.735 and P value of 0 that is with increase in chronicity of low back pain the level of anxiety also increases. Whereas the comparison of anxiety level among male

and female patients was done using Mann-Whitney U test which showed increased level of anxiety among female patients than male patients with U value of 46.5 and P-value of .00652 with $p < 0.05$.

Table 1. Anxiety in Relation to chronicity of Low Back Pain.

	Chronicity of Low Back Pain	Level of Anxiety
Mean	15.5	15.5
Standard Deviation	8.73	8.8
Covariance	56.46	
R- value	0.735	
P- value	0	

Inference the result of the study shows that the anxiety is significantly associated with chronicity of Low back pain.

Table 2. Comparison of anxiety level among male and female patients.

		Females	Males
Mean Age		60.86	64.53
Standard Deviation(age)		6.937	6.664
Sum of Ranks	465	298.5	166.5
Mean of Ranks	15.5	19.9	11.1
Standard Deviation	24.1091		
U-value	46.5	112.5	178.5
P-value	.00652 with $p < .5$		

Inference the results of the study show that the level of anxiety among female patients is more in comparison to male patients with respect to chronicity of low back pain with p-value of $< .5$ with mean anxiety score of female patients being 19.9 and that of male patients 11.1 and this difference was statistically significant.

DISCUSSION

According to the results of previous research studies prevalence of anxiety in the patients with chronic pain is considerably higher than mean public population. [9] Baliotis et.al. has reported high levels of pain anxiety symptoms in patients with chronic low back pain. [10] People with persistent pain typically have significantly higher rates of anxiety disorders than do those without persistent pain. [11] Asmundson et.al reported that 18% of the patients with current musculoskeletal pain had comorbid anxiety disorder. [12] This reinforces the results of present study for mutual relationship between chronic back pain and anxiety. This increase in anxiety in relation

to chronic low back pain can be attributed to psychological, physiological and behavioural state induced in animals and humans by a threat to well being or survival either actual or potential and is characterised by increased autonomic and neuroendocrine activation of specific behavioural patterns which leads to release of neurotransmitters such as dopamine and serotonin which cause variety of mental tensions which makes person feel anxious. [13] Studies have documented that anxiety results with tension and helplessness. If a realistic situation cannot be achieved the individual remains in a state of severe anxiety or resorts to be as the core of all neurosis. [14] Based on the results of the present study there is significant difference in anxiety among women and men with chronic low back pain with women have been found to have more anxiety than men which is consistent with the results of other similar studies. Anxiety symptoms are strongly associated with symptoms of depression in patients with chronic pain and studies have shown that these depressive symptoms occur more frequently in women with chronic pain. [15] Depression, anxiety and stress was seen more with females than males. [16] Women tend to report higher levels of anxiety and are at risk of many anxiety disorders. [17] These gender differences in anxiety of patients with chronic pain is due to differences in pain threshold and tolerance level, psychosocial factors and fear of movement and pain. [18] Higher rate of females with low back pain suffering from depression ,anxiety and stress than males, may be due to the possibility of greater rates of pains due to osteoporosis, menstruation and pregnancy among women or possibly because women were more willing to report depression, anxiety and stress than men More anxiety in women with low back pain could be greater dysfunction due to psychosocial variables such as financial stress, marriage, employment status or stress associated with continuing engaging into multiple roles despite serious health problems. [19]

CONCLUSION

Anxiety is closely related to the chronic low back pain and screening of symptoms of anxiety for patients with low back pain during the initial assessment is important for treatment and overall management of patient and to have better prognosis. Beside medical and physiotherapeutic treatment it is important that patient with chronic low back pain should undergo sessions of psychological counselling and should be taught relaxation exercises. These relaxation exercises along with stress coping strategies are important means of combating psychological disorders among women especially in post menopausal phase.

REFERENCES

1. Faglay, N.S., Miller, P.M (1990). Investigating and reporting sex differences: Methodological importance, the forgotten consideration. *American Psychologist*, 45,297-298.
2. Berkley.K.J (1997). Sex differences in pain. *Behavioural and Brain Sciences*, 20,371-380.
3. Rossignol M, Suissa S, Abenhaim L. Working disability due to occupational back pain: Three year follow up of 2300 compensated workers in Quebec. *J Occup Med* 1988, 30:502-05.
4. Diaz-Caballero AJ, et.al (2010). Ergonomic factors that cause the presence of pain muscle in students of dentistry. *Med Oral Patol Oral Cir Bucal*.15:e906-911.
5. Andersson GBJ. Epidemiology of spinal disorders. In: Frymoyer J W, Ducker T B, eds. *The adult spine principles and practice*.2nd ed. Philadelphia: Lippincott Raven, 1997:93-141.
6. Krishnan, et.al 1985. Chronic pain and depression II. Symptoms of anxiety in chronic low back pain patients and their relationship to subtypes of depression.*Pain*.22, 289-294.
7. Graham C, Higuera L, Lora E (2011) which health conditions cause the most unhappiness? *Health Econ*.20:1431-147.
8. Yalda Tangestani, et.al. Investigating the relationship between anxiety and pain catastrophizing in people with

- chronic low back pain. Asian. J. Med. Pharm. Res, 2(2):26-29, 2012.
9. Romano, JM, Turner, JA. Chronic pain and depression. Does the evidence support a relationship? Psychol Bull; 1985 Jan; 97(1):18-34.
 10. K.Baliois et.al.1920.apin anxiety symptoms and chronic low back pain. Differences between Greek man and women patients. European Psychiatry, vol28, supp 1, 2013, page 1.
 11. Salkovskis PM, Warwick HM. Making sense of hypochondriasis: a cognitive model of health anxiety. In Asmundson GJ, Taylor S, Cox BJ, eds. Health anxiety: Clinical and research perspectives on hypochondriasis and related conditions. New York. NY: John Wiley and sons;2001:46-64.
 12. Asmundson GJ, et.al. Social Phobia in disabled workers with chronic musculoskeletal pain. Behav Res Ther 1996; Nov-Dec; 34(11-12):939-43.
 13. Thierry Steimer, The biology of fear and anxiety-related behaviours. Dialogues-Clin-Neuro-Sci.2002. Sep; 4(3):231-249: PMID: PMC 3181681.
 14. Bienvenus, O. Joseph; Ginsburg. Golda, S. (2007). Prevention of anxiety disorders; International Review of Psychiatry 19 (6): 647-54; doi:10.1080/109540 260701797837-PMID18092242.
 15. Magni .G. et.al, Prospective study on the relationship between depressive symptoms and chronic musculoskeletal pain. Pain.1994, 56,289-297.
 16. Abdulbari B, Psychological factors: Anxiety, Depression and Somatisation symptoms in low back pain patients, 6ed.Qatar.Journal of Pain Research; 2013.
 17. Bekker MH, Van Mes-Verhulst J. Anxiety Disorders. Sex Difference in prevalence, degree and background but gender neutral treatment. Gen Med.2007;4 (Suppl B):S178-S193.[Pub Med].
 18. Vlaeven JW, Linton SJ, (2000).Fear avoidance and its consequences in chronic musculoskeletal pain: a state of art.Pain:85(3):317-32.
 19. Christine E. Sheffer et.al. Sex difference in presentation of chronic low back pain. Psychology of Women Quaterly. 26 (2002).329-340.

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