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STUDY ON THE CLINICAL PROFILE OF PATIENTS WITH CHRONIC LOW BACK PAIN ATTENDING NEUROLOGY CLINIC AT TERTIARY CARE HOSPITAL

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ABSTRACT

Aim: To Study the clinical profile of patients with chronic low back pain attending neurology clinic at Tertiary Care Hospital**.**

Objective: To Identify low back pain intensity in difference age group, gender, occupation, duration and to understand different types of low back pain.

Materials and Method: Data collected form patient present with principal complaint, patients were interviewed using numeric pain rating scale, Oswestry low back pain disability questionnaire, Oswestry Disability Index (ODI).

Result: A total of 60 patients were included in our study as per inclusion and exclusion criteria. Among 60 patients, there were 55 % female and 45 % male. Most of the patients belong to age group of above 50 years (31.66%). Housewives were more prone to low back pain (41.66%). Patients experiencing back pain for less than 6 months were the most common (56.66%). The majority of the patients in the study felt radiating back pain (63.33%). The mean score of pain scale in male was found to be 6.11±2.082 which is more than that of female which was found to be 6.03±1.667. The mean Oswestry Disability Index (ODI) score for males is greater which is found out to be 55.33±24.57 than females which is recorded as 52.12±19.41.

Conclusion: In conclusion, females are more likely to suffer from back pain especially the housewives compare to male. Back pain also associated with poor posture and heavy lifting.

Keywords: Low Back Pain (LBP), Oswestry Disability Index (ODI), Numeric Pain Rating Scale (NPRS)

INTRODUCTION

Around 80% population suffers from LBP at some point in their lifetime **[1]**. These individuals should take care and should follow all the preventive steps. In recent times housewives are more prone to it because of long standing hours at the same time people who sit in front of computers while working for long time also are more likely to get it because of improper posture **[2]**. Causes of lower back pain are musculoskeletal, Musculoligamentous strain, Osteoarthritis influence, Spondylolisthesis myelopathy, poor posture **[3]**. The signs and symptoms of low back pain are reduced lumbar flexibility, reduced flexion-relaxation observed in subjects and static balance **[4]**. Diagnosis can be done by physical examination like Linear walking while observe for abnormal flexion and extension, Screening assess by walking on toes after that on heels, Position observe as changing position of patients, Inspect the patient in the prone position. Examine supraspinous ligament, inter-spinous ligament, paraspinal muscles. Examine tenderness and nodules of iliac crest Ischial tuberosity assessment also done. Medical aid for back pain in first line care includes Advice, reassurance, encouragement of physical activity consider as a first line care for patients with LBP as per guidelines. The need of teaching patients how to self-manage their LBP is also emphasized in the guidelines. Patients should be told that non-specific LBP is benign, that most persons have a good prognosis with significant improvement in the first month, that there is unlikely to be a major disease present, and that imaging is not required and will not modify care **[5]**. And second line care includes non-pharmacological treatment, non-pharmacological treatments are given a higher priority in all recent four guidelines than they were previously but the degree of emphasis varies. Manual therapy (such as massage and spinal manipulation) and psychological therapies (Cognitive Behavioral Therapy) are now more consistently recommended as second line options because they provide small to moderate improvements in pain. Pharmacological treatment: Recent guidelines suggest that medication should

only be used if non-pharmacological measures have failed to improve the patients' condition. Medications should be examined on a frequent basis for evidence of effectiveness and if there has been no improvement, they should be stopped. Paracetamol did not improve outcomes for people with acute LBP when compared to placebo, according to recent Cochrane systemic study, while its effect on chronic LBP is unknown. Three of four guidelines recommended NSAIDS which is consistent with recent systemic review indicating efficacy of this type of therapy for both acute and chronic low back pain **[6]**. Opioids are one of the most widely prescribed drugs in primary care for LBP, although their potential for damage is now more understood. All guidelines emphasize that opioids should only be used if predicted benefits outweigh the danger to patients, and they should not be used for lengthy periods of time because they are linked to serious side effect such as addiction and accidental overdose. Invasive Non-surgical treatment: Injection of corticosteroids, an aesthetics, sclerosing agents and products derived from patients own tissues that are supposed to enhance healing under this category. However, the mint study found that denervation technique targeting facet joints, sacroiliac joints have no clinically significant effect. Surgical treatment: Surgical treatments were once suggested for individual who failed conservative treatment only when conservative treatment has failed and there are radiological and clinical data to justify surgery, according to some guideline, should sciatica surgery be considered **[7]**.

MATERIALS AND METHODS

This study was conducted in Dhiraj general hospital, Vadodara, Gujarat, India for six months after taking necessary permission and approval. Consent of patients from neurology OPD was taken and necessary and relevant information was collected. Patients in the age of 18 to 70 years were only taken who had a complaint of low back pain at any point due to any reason. Pregnant females were excluded from the study. Patients with malignant low and traumatic low back pain were also excluded from this study. Results were drawn using Oswestry disability index from and numeric pain rating scale using various statistical analysis.

Oswestry low back pain disability questionnaire is considered as 'gold standard' of low back functional outcomes tools. It consists of 10 daily activities which can be affected due to the pain, so on the basis of answers given by the patient the intensity of

the pain was detected and divided in groups of gender, age and occupation.

Numeric rating scale is a scale which is commonly used to know the pain experienced by the patient which ranges from 0-10 with 0 implying as no pain and 10 as worst pain possible.

RESULT

In this study a total of 60 patients were evaluated, in which female patients were more (55%, N=33) compared to the male patients (45%, N=27) **(Figure 1)**.

Patients with the age of 18 years or above were evaluated with a minimum age being 18 years and the maximum age being 63 years. Clubbing the age groups it was found out that patients above the age of 50 years are the highest (31.66%, N=19), then the patients with the age group of 31-40 years (26.66%, N=16), then the patients with the age group of 41-50 (23.33%, N=14) and lastly the patients with the age group of 18-30 years (5.82%, N=11). The mean age amongst the patients was found to be 42.65 **(Figure 2)**.

In our study the patients with the duration of back pain less than 6 months were the most (56.66%, N=34), then the patients with the duration of 6-24 months (35%, N=21) and last with the duration of more than 24 months (8.30%, N=5) **(Figure 3)**.

Considering the occupation of the patients, housewives were more (41.66% N=25), then the patients with job (40%, N=24), then the farmers (11.66%, N=7), then the students 95%, N=3) and least were the shopkeepers (1.66%, N=1) **(Figure 4)**.

Out of all the patients enrolled most of them had radiating type of back pain (63.33%, N=38) compared to the patients with non-radiating type of back pain (36.67, N=22) **(Figure 5)**.

The mean score of pain scale in male was found to be 6.11±2.082 which is more than that of female which was found to be 6.03±1.667. The age group 31 to 40 years has the highest mean score of 6.69±2.41, then the patients above the age of 50 years with mean score of 6.21±1.54, then the patients who fall in the age group of 18 to 30 years having mean score 5.82±1.53 and the least score is of patients in category of 41 to 50 years with mean of 5.36±1.59. Considering the occupation of the patients, housewives experience the most pain with mean score of 6.16±1.772, then patients having jobs and shopkeepers together with a mean score of 6.08±2.100, and least are the patients who are farmers and students with mean score of 5.80±1.476 **(Table 1)**.

The mean Oswestry Disability Index (ODI) score for males is greater which is found out

to be 55.33±24.57 then females which is recorded as 52.12±19.41. Considering the age factor most disability was found out in the age group 31 to 40 years old patients with a mean score of 63.38±28.46, then in the patients with age above 50 years with a mean of 53.47±18.54, then in the patients who are in the age of 18 to 30 years with a mean score of 50.91±21.52 and least patients are in the age group of 41 to 50 years with a mean score of 44.57±12.97. Considering the occupation of the patients, the ones who have job or who are shopkeeper have the highest Oswestry Disability Index (ODI) score with a mean score of 55.76±24.90, then comes the housewives with a mean score of 53.68±20.98 and lastly the ones who are students or farmers with a mean score of 47.80±14.921 **(Table 2)**.

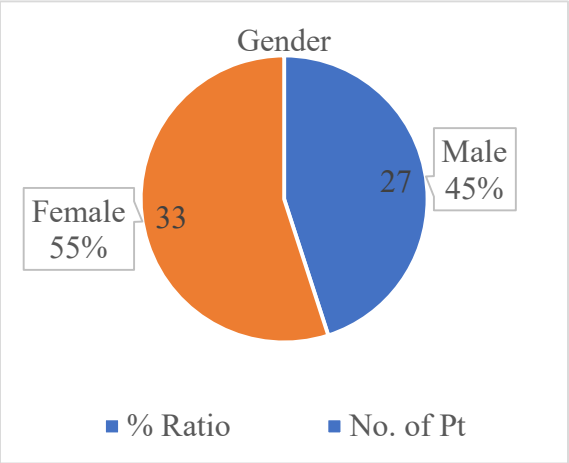

Figure 1: gender distribution among patients

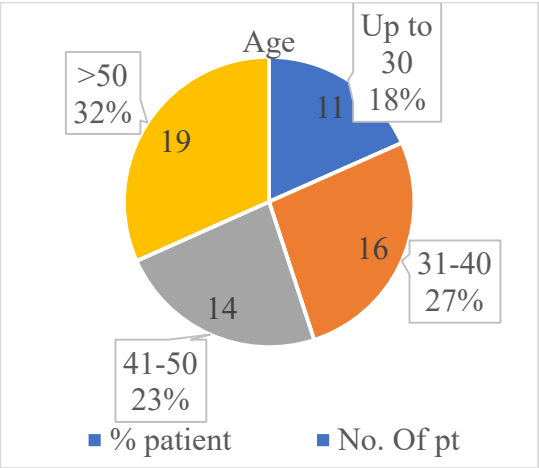

Figure 2: age distribution among patients

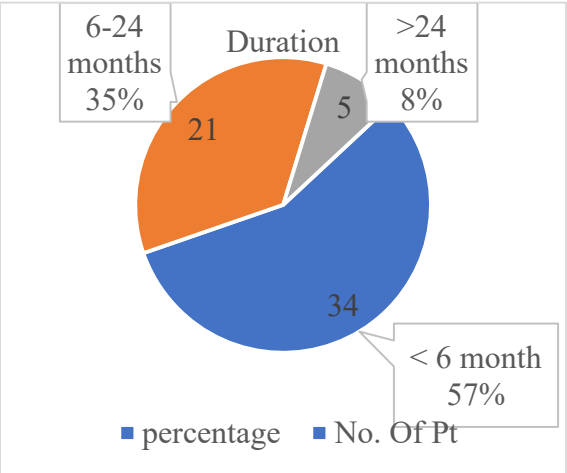

Figure 3: duration of back pain

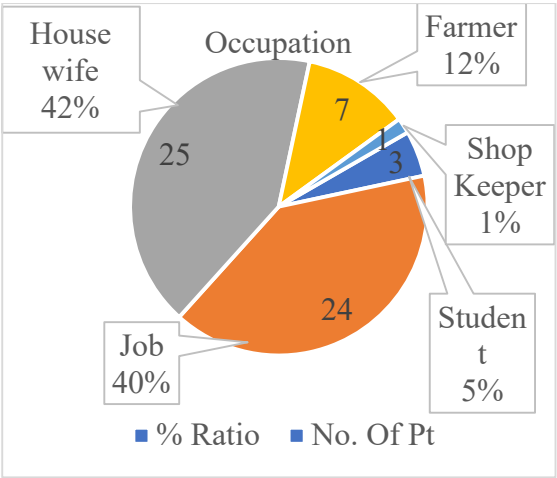

Figure 4: occupation of patients

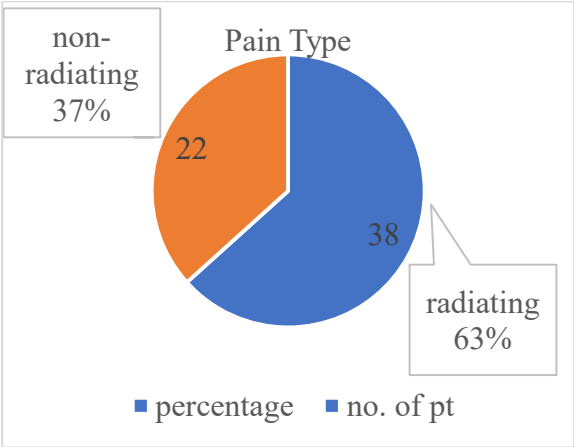

Figure 5: type of back pain

Table 1: patient demographics and pain scale

Numeric Pain scale						
Pain scale	**Total**	**1 to 3**	**4 to 6**	**≥7**	**Mean±SD**	**P- Value**
Gender						
Male	**27(45%)**	**3(5%)**	**13(21.67%)**	**11(18.33%)**	**6.11±2.082**	**0.887**
Female	**33(55%)**	**1(1.67%)**	**18(30%)**	**14(23.33%)**	**6.03±1.667**	
Total	**60**	**4**	**31**	**25**		
Age						
18 to 30	**11(18.33%)**	**0**	**7(11.66%)**	**4(6.66%)**	**5.82±1.53**	**0.246**
31 to 40	**16(27%)**	**2(3.37%)**	**5(8.43%)**	**9(15%)**	**6.69±2.41**	
41 to 50	**14(23.33%)**	**2(3.33%)**	**9(15%)**	**3(5%)**	**5.36±1.59**	
>50	**19(31.66%)**	**0**	**10(16.66%)**	**9(15%)**	**6.21±1.54**	
Total	**60**	**4**	**31**	**25**		
Occupation						
Farmer/Student	**10(16.66%)**	**1(1.66%)**	**4(6.66%)**	**5(8.43%)**	**5.80±1.476**	**0.876**
Housewife	**25(41.66%)**	**1(1.66%)**	**13(21.66%)**	**11(18.34%)**	**6.16±1.772**	
Job/Shopkeeper	**25(41.66%)**	**2(3.33%)**	**14(23.33%)**	**9(15%)**	**8.08±2.100**	
Total	**60**	**4**	**31**	**25**		

Table 2: patient demographics and ODI

Oswestry Disability Index (ODI)								
Oswestry Disability Index (ODI)	**Total**	**1 to 20%**	**21 to 40%**	**41 to 60%**	**61 to 80%**	**81 to 100%**	**Mean±SD**	**P-Value**
Gender								
Male	**27(45%)**	**0**	**9(15%)**	**9(15%)**	**3(5%)**	**6(10%)**	**50.91±24.57**	**0.574**
Female	**33(55%)**	**0**	**9(15%)**	**13(21.66%)**	**8(13%)**	**3(5%)**	**52.12±9.41**	
Total	**60**	**0**	**18**	**22**	**11**	**9**		
Age								
18 to 30	**11(18.33%)**	**0**	**3(5%)**	**5(8.33%)**	**2(3.33%)**	**1(1.66%)**	**50.91±21.52**	**0.119**
31 to 40	**16(27%)**	**0**	**5(8.33%)**	**2(3.33%)**	**3(5%)**	**6(10%)**	**63.38±28.46**	
41 to 50	**14(23.33%)**	**0**	**5(8.33%)**	**7(11.66%)**	**2(3.33%)**	**0**	**44.57±12.57**	
>50	**19(31.66%)**	**0**	**5(8.33%)**	**8(13.33)**	**4(6.66%)**	**2(3.33%)**	**53.47±18.54**	
Total	**60**	**0**	**18**	**22**	**11**	**9**		
Occupation								
Farmer/Student	**10(16.66%)**	**0**	**3(4.99%)**	**5(8.33%)**	**2(3.33%)**	**0**	**47.80±14.92**	**0.627**
Housewife	**25(41.66%)**	**0**	**7(11.66%)**	**8(13.33%)**	**7(11.66%)**	**3(5%)**	**53.68±20.98**	
Job/Shopkeeper	**25(41.66%)**	**0**	**8(13.33%)**	**9(15%)**	**2(3.33%)**	**6(10%)**	**55.76±20.24**	
Total	**60**	**0**	**18**	**22**	**11**	**9**		

DISCUSSION

A total of 60 patients were recruited in this study and it was found that females (55%) are more likely to suffer from back pain compared to males (45%). Females are twice more likely to suffer from back pain than males **[8]**.

Along with the mean age of patients was found to be 42.65±12.004 and it also showed that patients above 50 years of age suffered more than any other age group (31.66%) and young patients are least likely to have back pain (18.33%). With age people are more prone to back pain, especially after the age of 50 years. Hence, ageing is a risk factor as well as a cause for back pain. In the study conducted on clinical profile of the patients with chronic back pain, the mean age of patients was 42.22±8.07 years and most patients were in the age group of 40 to 49 years (40.3%) and 39.2% in the age group of 30 to 39 years **[9]**.

The mean NPRS for females in this study was found to be 6.03±1.667 and that of males was found to be 6.11±2.082. In a study conducted in medical college of Wisconsin, USA, the mean NPRS was found out to be 4.7±2.0 **[2]**.

In this study it was also found that patients with jobs/ shopkeeper and housewives are more likely to suffer from back pain in early stages of life. People in the working age are also more prone to back pain because of the kind of work they do. Most of the people having jobs sit on the work desk and in front of computers don't realise their posture. Improper sitting posture or standing for long hours, like in case of housewives, contributes to problem of back pain. This shows that people who have improper sitting posture or long standing or sitting hours are more likely to get back pain in future. In this study it was found out that heavy lifting is the foremost cause of back pain and on contrary least common cause is sleeping, daily activities and sex life. In the study conducted on clinical profile of the patients with chronic back pain, 58.8% were housewives, 19.6% were government service holders, 10.8% businessmen and other occupations comprised of 9.8% **[2]**.

With this study it was found that the mean ODI score for females is 52.12±19.49 whereas, for male was found to be 55.33±24.57. In the study conducted in medical college of Wisconsin, USA, the mean ODI score was 30.3±17.7 **[10]**.

CONCLUSION

It was found that females are more prone to suffer from low back pain compared to males. The perception of pain is more in males compared to females. Hence, the

Oswestry Disability Index (ODI) average is also more. The patients with radiating type of pain (pain originated as back pain and radiated to other parts of body like legs) are more compared to non- radiating type.

Housewives were more compared to the patients having jobs or were shopkeepers, and the least of them were students and farmers. But the pain perception was highest in patients with jobs/shopkeeper and least in farmers/students.

Along with this it was also evident that number of young working patients aged (31-40 years) had higher perception of pain and least in patients aged 41 to 50 years.

Most patients visiting suffered from pain for less than six months and very few suffered for more than two years.

Conflict of Interest statement:

The authors declare no potential conflicts of interest.

REFERENCE

[1] Vrbanić TS. Križobolja-Od Definicije Do Dijagnoze Low Back Pain-From Definition To Diagnosis. Reumatizam. 2011; 58(2).

[2] Shakoor MA, Islam MA, Ullah MA, Ahmed MM, Al Hasan S. Clinical profile of the patients with chronic low back pain-A study of 102 cases. Journal of Chittagong Medical College Teachers' Association. 2007; 18(2): 16-20.

[3] Allegri M, Montella S, Salici F, Valente A, Marchesini M, Compagnone C, Baciarello M, Manferdini ME, Fanelli G. Mechanisms of low back pain: a guide for diagnosis and therapy. F1000 Research. 2016; 5.

[4] Casser HR, Seddigh S, Rauschmann M. Acute lumbar back pain: investigation, differential diagnosis, and treatment. Deutsches Ärzteblatt International. 2016 Apr; 113(13): 223.

[5] Hayashi Y. Classification, diagnosis, and treatment of low back pain. Japan Medical Association Journal. 2004; 47(5): 227-33.

[6] Almoallim H, Alwafi S, Albazli K, Alotaibi M, Bazuhair T. A simple approach of low back pain. International Journal of Clinical Medicine. 2014 Sep 9; 2014.

[7] Wong AY, Karppinen J, Samartzis D. Low back pain in older adults: risk factors, management options and future directions. Scoliosis and spinal disorders. 2017 Dec; 12(1): 1-23.

[8] Vander Zee KI, Sanderman R, Heyink JW, de Haes H. Psychometric

qualities of the RAND 36-Item Health Survey 1.0: a multidimensional measure of general health status. International journal of behavioral medicine. 1996 Jun; 3(2): 104-22.

[9] Stefane T, Santos AM, Marinovic A, Hortense P. Dor lombar crônica: intensidade de dor, incapacidade e qualidade de vida. Acta Paulista de Enfermagem. 2013; 26(1): 14-20.

[10] Donohue NK, Graf EJ, Visotcky AM, Tarima SS, Hsu AC. Prognostic Factors for Disability and Pain Outcomes in Patients with Axial Low Back Pain Undergoing a Multidisciplinary Spine Treatment Program. Int J Physiatry. 2020; 6: 019.