



Original Article

Prevalence of Low Back Pain and Its Intensity Among Teachers of Universities in Lahore

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ABSTRACT

Back pain (BP) is one of the most debilitating conditions inflicting grief, discomfort, and disability to its bearer. Teachers are more at risk of having low back. As teaching requires such activities like long standing and sitting as occupational demand so making this profession more prone to develop low back pain. **Objectives:** To check the prevalence and intensity of low back pain in the teachers of universities in Lahore. **Methods:** This study was based on cross-sectional research. Total 261 participants were included in the study with systematic random sampling technique, and collection of the data is done by using an authentic scale "Owestery Disability Scale". SPSS version 21.0 was used and frequency charts and bar charts are used. **Results:** Low back pain prevalence in university teachers is 56% and 44% participants were having no pain. Most of the teachers having pain were in age range of 31 to 40 years, 52.5% were females and 47.5% were male. Most of the participants who were having low back pain experienced mild pain which constitute about 86% of total respondents with low back pain. Moderate pain was experienced by 24% participants. Only 6% teachers from the sample size felt severe pain. **Conclusion:** There was a significant prevalence of low back pain in teachers of universities in Lahore. The intensity of pain varied from mild to severe and most of the teachers experienced mild low back pain.

INTRODUCTION

Pain at low back (LBP) is defined as pain from the region of 12th rib to the region of inferior gluteal folds, with or without leg pain [1]. Globally it is one of the most frequently presented musculoskeletal issue that is related to poor mechanics of body, posture and improperly bending forward [2]. As back is responsible for supporting much of the body weight and it also plays an important role in carrying out the body movements. So, when there is any damage or trauma to these structures like ligaments, bones or muscles can be easily identified in erect standing position [3]. Now a days doing therapeutic exercise is

considered very important in case of low back pain, it is basically a physical activity which is repeated and planned and aims to enhance fitness of low back [4]. There are various clinical presentations of low back pain and include, pain at lumber region which is dull and diffuse in character, it may radiate to both or one lower extremity and restricted range of motion [5]. Many factors are associated with low back pain and several occupations like teaching profession which require prolong sitting and standing as well as poor postures are considered as risk factor for developing the pain [6]. When the pain lasts for more than three months it

comes under the category of chronic low back pain. Chronic low back pain has many detrimental effects on the life of the patient as it may affect his sleep, working efficiency and socialization as well as mental health [7]. Back pain that is due to some underlying pathology is termed as specific LBP, it may be due to disc pathology, spinal canal pathology, osteoporosis or fractures. It is also known as non-mechanical LBP [8]. Nonspecific low back pain is defined under the definition provided by National Institution for Health and Care Excellence (NICE), any pain due to muscle soreness, stiffness and without any underlying pathology or specific cause, at the level of low back [9]. One of the common reason of LBP is lumbar lordosis, it is increased lumbar curve and responsible for increased shearing and compression between the vertebrae and can lead to muscle strain and disc herniation [10]. Furthermore, causes of work related LBP are basically physical. WHO recommends that physical activity has a vital role in person s health and wellbeing, 30 minutes of physical activity daily is important for improving quality of life is suggested by world health organization [11]. There are wide variety for LBP interventions such that, medications, behavioral therapy, physiotherapy and educating about postures and physical exercises. Now a day literature supports exercise therapy for chronic non-specific LBP [12]. Non pharmacologic treatment is now considered as effective and better choice of treatment. Chronic low back pain is better treated with exercise therapy as compared to NSAIDs and painkillers. In addition to these there is less evidence supporting which exercise protocol is better as compared to other available exercises [13]. The objective of this study was to explore the prevalence of low back pain and its intensity in teachers of universities in Lahore. The study only conducted in 3 specific universities of Lahore. Lahore is a big city of Pakistan and there are many private and public sector universities, where the academic life and ergonomic health related problems of faculties are often ignored and this study provides a little glance towards this essential matter at institutional level.

METHODS

This study was cross-sectional research held on university teaching faculty of three universities of Lahore. Simple random sampling technique was utilised and three universities were randomly selected and a sample of 261 participants was obtained. Sample size was determined by sample size calculator (<https://www.calculator.net/sample-size-calculator.html>). It was a survey based study at University of Management and Technology Lahore, Punjab University Lahore and University of Central Punjab Lahore. The population comprised of teachers in our selected universities, the target of our sample size was 261

participants. The age range of participant was between 18 to 60 years. Administrative staff and teachers who had experience less than 1 year excluded from study. The questionnaire we used to obtain data was oldest and most reliable for low back pain, Oswestry Low Back Pain Disability Questionnaire (ODI). It is designed for assessment of functional and disability status. Basically ODI is a 60 item questionnaire but we only focused on occurrence and intensity of pain. The study design of this study is cross-sectional, such type of study does not require any follow up and frequency can be determined through this type of study. A cross sectional study is a type of research study which provides the clear picture of the occurrence and pattern of a disease in a given inhabitants at a specific point in time. The study was held at three universities of Lahore (UMT, PU and UCP) and the analysis of data was done SPSS version 21.0 Descriptive analysis of the data was done for variables in the study by means of statistical measurement. Rate of recurrence graphs, tables, proportions, standard deviations and means were used. Non probability or convenient sampling was used. A convenience sample is a group of people who are easily approached by researcher and available for study.

RESULTS

Both male and females participated in the study 131 females and 130 males (Figure1).

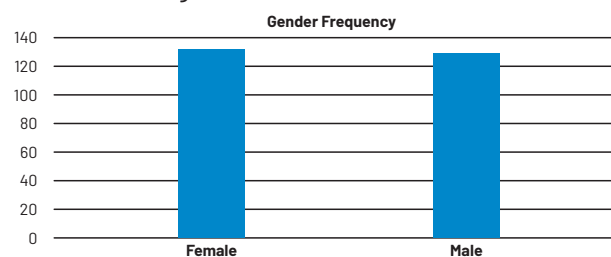
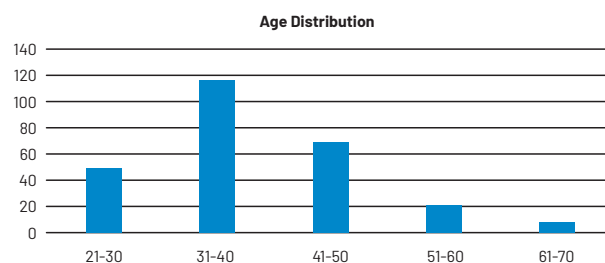


Figure1: showing both gender responded equally in the study and gender biasness is avoided

Most of the participants were young adults and lie in 31-40 years of age. Regarding prevalence of the low back pain out of 261, 145 participants (56%) participants were having low back pain. The respondents with low back pain were having pain intensity that range from mild to severe low back pain. While 116(44%) participants were having no pain. Age distribution and low back pain is shown in figure 2 and 3.



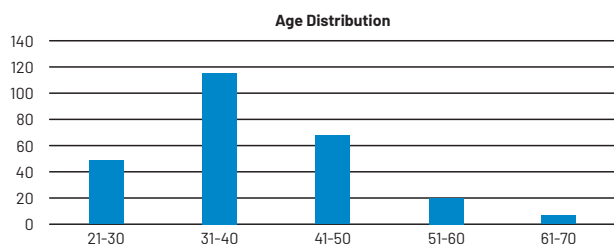


Figure 2: Showing age sets of the participants and most of the participants comes under the age group of 31-40 years

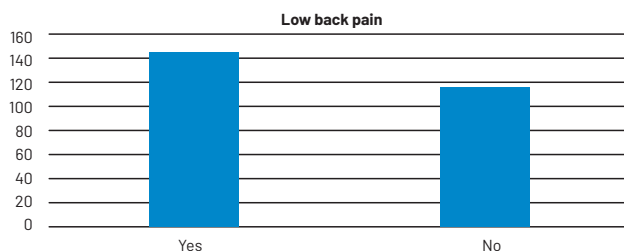


Figure 3: showing prevalence of the low back pain

The intensity of low back pain among teachers of universities is shown in table 2. According to pain intensity as it is evident from the above chart that most of the participants who were having low back pain experienced mild pain which constitute about 33% of the total respondents with low back pain. Moderate pain was experienced by 13% participants. Only 4% teachers from the sample size felt severe pain.

Pain Intensity	Frequency	Percent
No pain	116	44.4
Mild pain	87	33.3
Moderate pain	35	13.4
Severe	9	3.4
Very severe	8	3.1
Worst pain	6	2.3
Total	261	100.0

Table 2: Frequency of low back pain intensity among university teachers.

DISCUSSION

The central point of our research work was to detect the prevalence of pain at low back in teachers of universities and to identify the level of intensity of that pain at the level of low back. The results of our research showed that there is 56% prevalence rate of LBP. Aregawi et.al., conducted a study on low back pain and associated factors in teachers and came up with the conclusion that low back prevalence was high among the teachers and occupational activities like prolong standing and sitting was considered the possible risk factors for high prevalence of low back pain [14]. Similarly, in our study prevalence of low back was high among university teachers. Swatisuman et.al., held a cross sectional study on secondary school teachers and concluded that there was significant prevalence of low back in the teachers and supported the results if this

current study [15]. A study conducted by Nirav et.al., on musculoskeletal disorders of school teachers and found that a high prevalence of musculoskeletal pain in the shoulder, knee, and back [16]. A 2019 study concluded that there is a prevalence of LBP in 64% teachers of primary school in Kenya, whereas in our study it came out to be 56% that indicates teaching profession is associated with low back pain [17]. Another study done on muscular pain at various anatomical sites in secondary school teachers and concluded that there is high prevalence of low back pain in teachers and this pain is associated with working conditions of the teachers and ergonomics [18]. Saikou et.al., done a study on association of risk factors with prevalence of low back pain on university teachers and came up with the results that there is a significantly high prevalence of low back pain in university staff and risk factors may include physical inactivity [19]. However, in our study there is also a high prevalence rate of low back pain in universities of Lahore. Another study also done in 2019 on teachers and different factors affecting their health concluded that psychological health also affects physical health. So, low back pain is also associated with depression of the teaching faculty [20]. In 2021 a study was done on female teachers and was amid on not only prevalence but also on the level of intensity of that pain. The study was done on 782 female teachers and physical inactivity was related to it. After analysis of results the conclusion that came was there is high prevalence and positive relation between physical inactivity and back pain [21]. So conducting the current study on teachers is significant and results also supports the correlation of teaching and low back pain. Mai et.al., done a systematic review on prevalence of low back pain and its associated factors, the prevalence of low back pain in specific group of population like teaching is examined and the fact that their professional activities are such that which may be a causative factor for inducing low back pain [22]. Our study also held on teachers and came up with the conclusion that there is a high occurrence rate of low back pain among teaching faculty of universities. A study done by Anuar et.al., on secondary school teachers and concluded that ergonomics and occupational activities are linked with prevalence of low back pain [23]. Where as in our study there was also association of teaching and prevalence of low back pain.

CONCLUSIONS

There is a significant prevalence of low back pain in teachers of universities in Lahore. The intensity of pain varied from mild to severe and most of the teachers experienced mild low back pain.

Conflicts of Interest

The authors declare no conflict of interest

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REFERENCES

- [1] Balagué F, Mannion AF, Pellisé F, Cedraschi C. Non-specific low back pain. *The Lancet*. 2012 Feb; 379(9814):482-91. doi: 10.1016/S0140-6736(11)60610-7
- [2] Eyiah AK, Kheni NA, Quartey PD. An assessment of occupational health and safety regulations in Ghana: a study of the construction industry. *Journal of Building Construction and Planning Research*. 2019 May; 7(2):11-31. doi: 10.4236/jbcpr.2019.72002
- [3] Urits I, Burshtein A, Sharma M, Testa L, Gold PA, Orhurhu V, et al., Low back pain, a comprehensive review: pathophysiology, diagnosis, and treatment. *Current pain and headache reports*. 2019 Mar; 23(3):1-0. doi: 10.1007/s11916-019-0757-1
- [4] Wood L, Bishop A, Lewis M, Smeets RJ, Bronfort G, Hayden JA, et al., Treatment targets of exercise for persistent non-specific low back pain: a consensus study. *Physiotherapy*. 2021 Sep; 112:78-86.
- [5] Tu Y, Jung M, Gollub RL, Napadow V, Gerber J, Ortiz A, et al., Abnormal medial prefrontal cortex functional connectivity and its association with clinical symptoms in chronic low back pain. *Pain*. 2019; 160(6):1308. doi: 10.1016/j.physio.2021.03.005
- [6] Moreira RF, Moriguchi CS, Carnaz L, Foltran FA, Silva LC, Coury HJ. Effects of a workplace exercise program on physical capacity and lower back symptoms in hospital nursing assistants: a randomized controlled trial. *International Archives of Occupational and Environmental Health*. 2021 Feb; 94(2):275-84. doi: 10.1007/s00420-020-01572-z
- [7] Blackburn AN. Living with pain or living in pain: narrative journeys with low back pain. University of Northumbria at Newcastle (United Kingdom); 2011.
- [8] Abu-Naser SS and Aldahdooh R. Lower back pain expert system diagnosis and treatment. 2016.
- [9] O'Sullivan K, O'Keefe M, O'Sullivan P. NICE low back pain guidelines: opportunities and obstacles to change practice. *British journal of sports medicine*. 2017 Nov; 51(22): 1632-3. doi: 10.1136/bjsports-2017-097810
- [10] Linton SJ, Nicholas M, Shaw W. Why wait to address high-risk cases of acute low back pain? A comparison of stepped, stratified, and matched care. *Pain*. 2018 Dec; 159(12):2437-41. doi: 10.1097/j.pain.000000 000001308
- [11] Ghahremani E, Parandeh A, Vafadar Z, Ebadi A. Survey of the occupational hazards and related factors in health care workers in military hospitals during 2016-2017. *Journal of Military Medicine*. 2018 Apr; 20(1):56-64.
- [12] Pransky G, Buchbinder R, Hayden J. Contemporary low back pain research—and implications for practice. *Best practice & research Clinical rheumatology*. 2010 Apr; 24(2):291-8. doi: 10.1016/j.berh.2010.01.001
- [13] Van Dillen LR, Lanier VM, Steger-May K, Wallendorf M, Norton BJ, Civello JM, Czuppon SL, Francois SJ, Roles K, Lang CE. Effect of motor skill training in functional activities vs strength and flexibility exercise on function in people with chronic low back pain: a randomized clinical trial. *JAMA neurology*. 2021 Apr; 78(4):385-95. doi: 10.1001/jamaneurol.2020.4821
- [14] Kebede A, Abebe SM, Woldie H, Yenit MK. Low back pain and associated factors among primary school teachers in Mekele City, North Ethiopia: a cross-sectional study. *Occupational therapy international*. 2019 Jul; 2019:1-8. doi: 10.1155/2019/3862946
- [15] Behera S and Koley S. Low Back Pain And Its Associated Factors Among Secondary School Teachers In Cuttack, Odisha: A Cross-Sectional Study. *IJMSDR*. 2021; 5(6):90-7. doi: <https://doi.org/10.32553/ijmsdr.v5i6.816>
- [16] Vaghela NP and Parekh SK. Prevalence of the musculoskeletal disorder among school teachers. *National Journal of Physiology, Pharmacy and Pharmacology*. 2018 Aug; 8(2):197-201. doi: 10.5455/njppp.2018.8.0830218082017
- [17] Mwangi A, Downing R, Elias HE. Low back pain among primary school teachers in Rural Kenya: Prevalence and contributing factors. *African Journal of Primary Health care and family medicine*. 2019 Jan; 11(1):1-7. doi: 10.4102/phcfm.v11i1.1819
- [18] Abdel-Salam DM, Almuhaissen AS, Alsubiti RA, Aldhuwayhi NF, Almotairi FS, Alzayed SM, et al., Musculoskeletal pain and its correlates among secondary school female teachers in Aljouf region, Saudi Arabia. *Journal of Public Health*. 2021 Apr; 29(2):303-10. doi: 10.1007/s10389-019-01127-8
- [19] Diallo SY, Mweu MM, Mbuya SO, Mwanthi MA. Prevalence and risk factors for low back pain among university teaching staff in Nairobi, Kenya: a cross-sectional study. *F1000Research*. 2019; 8:808. doi: 10.12688/f1000research.19384.1
- [20] Ng YM, Voo P, Maakip I. Psychosocial factors, depression, and musculoskeletal disorders among teachers. *BMC public health*. 2019 Dec; 19(1):1-0. doi: 10.1186/s12889-019-6553-3

- [21] Prieto-González P, Šutvajová M, Lesňáková A, Bartík P, Buřáková K, Friediger T. Back pain prevalence, intensity, and associated risk factors among female teachers in Slovakia during the COVID-19 pandemic: a cross-sectional study. *InHealthcare* 2021 Jul 7 (Vol. 9, No. 7, p. 860). MDPI. doi:10.3390/healthcare9070860
- [22] Aldera MA, Alexander CM, McGregor AH. Prevalence and incidence of low back pain in the Kingdom of Saudi Arabia: a systematic review. *Journal of Epidemiology and Global Health*. 2020 Dec; 10(4):269. doi: 10.2991/jeqh.k.200417.001