

Epidemiology and Burden of Lumbar Backache: A Cross-Sectional Study of Peripheral Populations

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ABSTRACT

Aim and objective: To assess the burden of lumbar backache in the periphery of district Lakki Marwat.

Materials and method: The current descriptive cross-sectional was conducted from December 2019 to July 2020 after the approval ethical review board in the periphery of the district Headquarter hospital of Lakki Marwat. A total of 846 participants were selected through a systematic random sampling technique by using the Rao soft calculator. The age of the participants was 25-75 years including both males and females. Informed consent was taken from each participant and a questionnaire was filled from each individual. All the data were collected and analyzed by using the latest version of SPSS 24.

Results: A total of 846 participants of selected for the study aged 25-75 years. 26.12 % of the participants were from 46-55 years of age, however, 20.80 % were from 36-45 years of age. 513 (60.63 %) of them were male and 333 (39.36 %) of them were female participants. 22.93 % of them were house workers, 14.89 % of them were office boys, 22.34 % were students, and 10.16 % of them were health care professionals. 56.50 % had lumbar backache and 41.13 % had not experienced it. Table 4 indicates the numeric pain rating scale in which 35.98 % had mild, 44.56 % had moderate pain in addition, and 19.45 % had severe lumbar backache.

Conclusion: The current study concluded that the overall burden of lumbar backache was 56.50 % among the participants, therefore, proper awareness among the people of peripheries in the district Lakki Marwat for the prevention of LBA and management are needed to prevent their disabilities in their future lives and maintain healthy lifestyles.

Keywords: Lumbar backache, Numeric pain rating scale, back pain.

INTRODUCTION

The most frequent musculoskeletal condition worldwide is also referred to as lower back ache¹. It serves as the primary factor in activity restriction and absence from employment² and causes enormous financial and medical expenses³. It is a significant global problem in public health as a result⁴. The Worldwide prevalence of diseases study conducted in 2016 found that LBP was the most prevalent cause of year living with disabilities (YLD), accounting for 57.6 million (40.8-75.9 million) among all YLDs. Since 1990, LBP has increased by over fifty percent in nations with low or middle incomes⁵. The quality of life for adults is significantly impacted by (LBP), a highly frequent health condition^{6,7}. In underdeveloped countries, backache constitutes one of the leading causes of disabilities, accounting for between 50 % and 85 % of all musculoskeletal disorders⁸. It is estimated that between 50- 80 % of the population worldwide may experience low back pain at some point in their lives⁸, and this condition is the 2nd most prevalent reason for individuals visiting a doctor⁹. In accordance with the location (LBP) as well as the length of pain, pain in the lower back may be divided into different categories. Pain that continues to be persistent for fewer than thirty days is considered acute. Sub-acute ache is discomfort that has persisted for one to six months; Moreover, after six months, pain is considered to be persistent¹⁰. Discogenic LBP, as the name implies, is LBP caused by the disc, and it is not radicular. Despite any spinal deformity, instabilities, or neuronal strain, discogenic pain arises. The etiology of discogenic pain is unknown, however, due to the disc, it emerges¹¹. Muscle pain, often known to be acute LBP, tightness or spasms that are unrefined in relation to the inferior costal margin or lower gluteal folding, and they can occasionally spread to the lower limbs. Pain is known as intense discomfort if it persists for roughly six weeks, soreness subsides acute once it has been going for 12 weeks. nevertheless, does not last longer than 12 weeks or turn persistent after that¹². The majority of people will have some sort of low back discomfort at some point in their lives. The annual economic loss due to work-related ergonomic hazards is estimated to be 37% among all LBP cases worldwide. Moreover, 819 thousand years lost due to handicap¹³. Lower pain in the back for a variety of reasons.

Occupation, bad form, strenuous labor, stress in the workplace, mental strain, and repetitive motions like stretching and twisting are all contributors¹⁴. Therefore, due to limited research studies in the area to determine the prevalence of lumbar backache in the general population, the present aim is to assess the burden of backache among the population living in the peripheries of district Lakki Marwat.

Aim and objective: To assess the burden of lumbar backache in the periphery of district Lakki Marwat.

MATERIALS AND METHOD

The current descriptive cross-sectional was conducted from December 2019 to July 2020 after the approval ethical review board in the periphery of the district Headquarter hospital of Lakki Marwat. A total of 846 participants were selected through a systematic random sampling technique by using the Rao soft calculator. The age of the participants was 25-75 years including both males and females. The individuals who were willing to participate and aged according to the criteria were included in the study, while those having autoimmune diseases and chronic spinal diseases were excluded from the study. Informed consent was taken from each participant and a questionnaire was filled from each individual. All the data were collected and analyzed by using the latest version of SPSS 24.

RESULTS

A total of 846 participants of selected for the study aged 25-75 years. 26.12 % of the participants were from 46-55 years of age, however, 20.80 % were from 36-45 years of age. 513 (60.63 %) of them were male and 333 (39.36 %) of them were female participants. 233 of them had primary metrics, and 128 of them had postgraduate degrees. Table 2 summarizes the occupation of the participants, 22.93 % of them were house workers, 14.89 % of them were office boys, 22.34 % were students, and 10.16 % of them were health care professionals.

Table 3 shows the burden of lumber backache, 56.50 % had lumbar backache and 41.13 % had not experienced it. Table 4 indicates the numeric pain rating scale in which 35.98 % had mild,

44.56 % had moderate pain in addition, and 19.45 % had severe lumbar backache.

Table 1 Sociodemographic Characteristics

Age (years)	Number	Percentage
25-35	143	16.90 %
36-45	176	20.80 %
46-55	221	26.12 %
56-65	144	17.02 %
66-75	162	19.14 %
Gender		
Male	513	60.63 %
Female	333	39.36 %
Educational status		
Illiterate	84	
Primary	233	
Matric	213	
Intermediate	188	
Graduate	128	
Postgraduate		

Table 2 Occupation of the participants

Occupation	Number	Percentage
House worker	194	22.93 %
Self-employees	110	13.00 %
School teachers	98	11.58 %
Office boys	126	14.89 %
Students	189	22.34 %
Management officials	43	5 %
Health professionals	86	10.16 %

Table 3 Burden of Lumbar Backache

Lumbar Backache	Number	Percentage
Yes	478	56.50 %
No	368	41.13 %

Table 4 Numeric Pain Rating Scale (NPRS)

	Number	Percentage
Mild	172	35.98 %
Moderate	213	44.56 %
Severe (Worst)	93	19.45 %

DISCUSSION

Lumbar backache is the most common health problem experienced by the people of developing countries. Occasionally it comes on quickly, such as after an injury, falling, or a big lift, and other times it comes on gradually, like after years of related to age degeneration of the vertebral column. Back discomfort can be caused by osteoarthritis or another medical disease. Proper awareness among the public regarding the prevention and management needed in order to prevent long-term disabilities and affecting their daily life. In the present study, there were 513 (60.63 %) of them were male and 333 (39.36 %) of them were female participants. 22.93 % of them were house workers, 14.89 % of them were office boys, 22.34 % were students, and 10.16 % of them were health care professionals. Another study conducted by Tanzil S et al reported that in a study of healthcare workers who reported low back discomfort, 72.6% reported no or mild disabilities. Whereas moderately to profound functional impairment has been shown to impact the interpersonal as well as employment-related functioning of 27.4% of medical professionals experiencing pain in their backs. The odds ratio (OR) between low back pain and functional impairment was found to be 1.82¹⁵. In the current study, 56.50 % had lumbar backache and 41.13 % had not experienced it. Numeric pain rating scale 35.98 % had mild, 44.56 % had moderate pain in addition, and 19.45 % had severe lumbar backache. A comparable study by Bansal D et al reported that LBP was reported to have a 59% lifelong frequency, 32% baseline distribution, 12% continuous prevalence, and 48% one-year occurrence in the research cohort¹⁶. In a study conducted by Shah SZ et al there was a 72.9% occurrence of LBP caused by employment. Thirty percent of the individuals reported symptoms that were mild, while the same number reported medium LBP and 7.9% reported severe LBP. Of the participants, 27.1% were diagnosed with chronic LBP, 13.6% with acute LBP, and 31.4% with subacute LBP. Factors found to increase the

likelihood of injury included working with a high caseload, using a variety of manual treatment techniques, remaining in one position for extended periods of time, transporting or moving patients who had become dependent, and completing tasks repeatedly¹⁷.

CONCLUSION

The current study concluded that the overall burden of lumbar backache was 56.50 % among the participants, therefore, proper awareness among the people of peripheries in the district Lakki Marwat for the prevention of LBA and management are needed to prevent their disabilities in their future lives and maintain healthy lifestyles.

REFERENCES

- Hoy D, Bain C, Williams G, March L, Brooks P, Blyth F, Woolf A, Vos T, Buchbinder R. A systematic review of the global prevalence of low back pain. *Arthritis & rheumatism*. 2012 Jun;64(6):2028-37.
- Lee H, Hübscher M, Moseley GL, Kamper SJ, Traeger AC, Mansell G, McAuley JH. How does pain lead to disability? A systematic review and meta-analysis of mediation studies in people with back and neck pain. *Pain*. 2015 Jun 1;156(6):988-97.
- Hartvigsen J, Hancock MJ, Kongsted A, Louw Q, Ferreira RL, Genevay S, Hoy D, Karpainen J, Pransky G, Sieper J, Smeets MJ. What low back pain is and why we need to pay attention. *The Lancet*. 2018 Jun 9;391(10137):2356-67.
- Hoy D, March L, Brooks P, Blyth F, Woolf A, Bain C, Williams G, Smith E, Vos T, Barendregt J, Murray C. The global burden of low back pain: estimates from the Global Burden of Disease 2010 study. *Annals of the rheumatic diseases*. 2014 Jun 1;73(6):968-74.
- Vos T, Abajobir AA, Abate KH, Abbafati C, Abbas KM, Abd-Allah F, Abdulkader RS, Abdulle AM, Abebo TA, Abera SF, Aboyans V. Global, regional, and national incidence, prevalence, and years lived with disability for 328 diseases and injuries for 195 countries, 1990–2016: a systematic analysis for the Global Burden of Disease Study 2016. *The Lancet*. 2017 Sep 16;390(10100):1211-59.
- Imani A, Borna J, Alami A, Khosravan S, Hasankhani H, Bafandeh Zende M. Prevalence of low back pain and its related factors among pre-hospital emergency personnel in Iran. *Journal of Emergency Practice and Trauma*. 2019 Jan 1;5(1):8-13.
- Leroux I, Dionne CE, Bourbonnais R. Psychosocial job factors and the one-year evolution of back-related functional limitations. *Scandinavian journal of work, environment & health*. 2004 Feb 1:47-55.
- Tosunoz IK, Oztunc G. Low back pain in nurses. *Int J Caring Sci*. 2017 Sep 1;10(3):1728-32.
- Holtzman S, Beggs RT. Yoga for chronic low back pain: a meta-analysis of randomized controlled trials. *Pain Research and Management*. 2013;18(5):267-72.
- Rahimi-Movaghar V, Rasouli MR, Sharif-Alhoseini M, Jazayeri SB, Vaccaro AR. Discogenic sciatica: Epidemiology, etiology, diagnosis, and management. *The Sciatic Nerve: Blocks, Injuries and Regeneration*. New York (NY): Nova Science Publishers, Inc. 2011.
- Peng B, Wu W, Hou S, Li P, Zhang C, Yang Y. The pathogenesis of discogenic low back pain. *The Journal of Bone & Joint Surgery British Volume*. 2005 Jan 1;87(1):62-7.
- Hallegraef JM, van der Schans CP, Krijnen WP, de Greef MH. Measurement of acute nonspecific low back pain perception in primary care physical therapy: reliability and validity of the brief illness perception questionnaire. *BMC musculoskeletal disorders*. 2013 Dec;14(1):1-7.
- Punnett L, Prüss-Ütün A, Nelson DI, Fingerhut MA, Leigh J, Tak S, Phillips S. Estimating the global burden of low back pain attributable to combined occupational exposures. *American journal of industrial medicine*. 2005 Dec;48(6):459-69.
- Wong TS, Teo N, Kyaw MB. Prevalence and risk factors associated with low back among health care providers in a District Hospital. *Malaysian orthopaedic journal*. 2010;4(2):23-8.
- Tanzil S, Jamali T, Inam SN, Abbas A. Frequency and severity of low back pain among healthcare providers and associated factors in a tertiary care, public hospital in Karachi. *Occup Med Health Aff*. 2019;7(1):1000285.
- Bansal D, Asrar MM, Pharm M, Ghai B, Pushpendra D. Prevalence and impact of low back pain in a community-based population in northern India. *Pain Physician*. 2020;23(4):E389.
- Shah SZ, Jan MB, Rahman MU, Khan DA. Prevalence of work related low back pain among clinical physical therapists in Pakistan. *Annals of Allied Health Sciences*. 2016 Jun 1;2(1):19-22.