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RESEARCH ARTICLE

CLINICAL TRENDS IN PATIENTS WITH LOW BACK ACHE; AN EPIDEMIOLOGICAL STUDY IN A TERTIARY CARE CENTRE

***Dr. Vijay Vikas Sharma, Dr. Mohammad Azhar ud din Darokhan, Dr. Omeshwar Singh, Dr. Kanav Mahajan and Dr. Jabreel Muzaffar**

Department of Orthopaedics G.M.C. Jammu India

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ABSTRACT

Low back pain is an extremely common health problem throughout the world. It is one of the common causes of activity limitation and work absentism and hence causes great economic burden on our country. Low back ache has multifactorial etiology. Aim of this observatiobal study that was conducted from December 2013 to December 2014, was to know about the clinical trends of low backache in patients and its distribution with respect to age, sex and occupation. Present study was conducted on 1800 patients at post graduate department of orthopaedics G.M.C Jammu on out patient department basis. In this study low back ache was seen more common in third and fourth decade, more in males but with female preponderance in the geriatric age group. Low back ache was more common in non sedentary occupation group of population. Duration of low back ache was mostly two months to two years. Most of the etiological causes were responsible for mechanical back ache.

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INTRODUCTION

Low back ache is neither a disease nor a diagnostic entity of any sort, it is just a constellation of symptoms. Low back ache is an important clinical, social, economic, and public health problem affecting the general population indiscriminately. It is a disorder with many possible etiologies, occurring in various occupational groups of the population. Therefore the vast literature available on low back ache is not only heterogeneous but also contradictory (Manchikanti, 2000). In accordance with the report of World Health Organization in 2002, low back ache constituted about 37% of all occupational risk factors which occupies first rank among the disease complications caused by work. Such high prevalence of complications at international levels has made the World Health Organization to name the first decade of the third millennium as the "decade of campaign against musculoskeletal disorders (as the silent epidemic)" (WHO, 2005). Low back ache is the most common health problem in the United States and is the leading cause of disability for persons younger than age 45.The prevalence of low back ache in Indian population has been found to vary between 6.2% (in general population) to 92% (in construction workers).

****Corresponding author: Dr. Vijay Vikas Sharma,***
Department of Orthopaedics G.M.C. Jammu India.

The prevalence of low back ache has been found to increase with age and to be more common among females in the geriatric age group. Low socioeconomic status, poor education, various physical factors such as lifting heavy weights, repetitive job, prolonged static posture and awkward posture, psychosocial factors such as anxiety, depression, job dissatisfaction, lack of job control and mental stress, prolonged working hours and obesity have been found to be associated with low back ache.

MATERIALS AND METHODS

This was an observational study done on 1800 patients including both male and female patients between the age group 11 to 90 years attending out patient department of post graduate department of orthopaedics G.M.C Jammu over the period of one year from December 2013 to December 2014. History and physical examination of all patients were done after taking a verbal informed consent.

History: Included name, age, sex, occupation, residence whether rural or urban, duration of low back ache, sciatica, neurodeficit if any. All details regarding pain: mode of onset, duration, character, severity, progression, radiation, aggravating and relieving factors were noted.

Examination: General, systemic and local examination was done. Local examination included tenderness of spine, kyphosis / scoliosis, lumber lordosis, any swelling / spasm, gait of the patient, spine movements, tests for the lumber root tension like straight leg raising test (SLR) etc. was done, sacroiliac straining whether painful or not with pump handle test and Gaenslen's test.

Investigations: Routine complete blood count, ESR, urine examination, plain X ray Lumbo sacral spine- AP view, lateral view, right /left oblique view for congenital anomalies, scoliosis / kyphosis to note for any; fracture of spine, straightening of spine, decrease intervertebral disc space, osteophyte formation, spondylosis, spondylolysis, spondylolisthesis, evidence of any infection etc. MRI was done in 200 patients with clinical evidences of protruding disc who didn't respond to conservative treatment and were considered for surgery, long standing history of LBA, significant motor weaknesses resulting from nerve root compression. Other investigations like CT scan, myelography, myeloma profile, HLA B27, RA factor, anti-CCP etc. were done in selected group of patients.

RESULTS AND DISCUSSION

Treatment: After all history, physical examination and investigation, most patients were managed conservatively with bed rest, anti inflammatory, muscle relaxant drugs, firm mattress, physiotherapy i.e., traction, TENS, heat therapy and supports or braces. Only 120 patients required surgery out of which 80 patients had prolapsed intervertebral disc, 20 patients had spinal canal stenosis, 10 patients had tuberculosis, 10 patient had neoplasm. In disc prolapse cases surgery was done in patients with neurodeficit, intractable pain not responding to conservative management and cauda equina syndrome.

Gender Distributuion

Age	Male / percentage		Female / percentage	
11-30	280	29.16%	170	20.23%
31-50	490	51.04%	470	55.95%
51-70	110	11.45%	150	17.85%
71-90	080	08.33%	050	05.95%

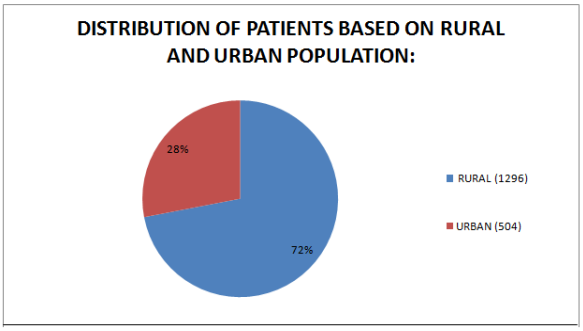
Total Patients: 1800 MALES: 960 (53.33%) Females: 840 (46.66%)

Age Wise Distribution

AGE	LBA PATIENTS / PERCENTAGE
11-30	450 25.00%
31-50	960 53.33%
51-70	260 14.44%
71-90	130 07.22%

Distribution of cases according to occupation

Sedentary (390)			Non sedentary (1410)		
Officers	090	23.07%	Housewives	500	35.00%
Businessmen	100	25.64%	Policemen	190	13.47%
Shopkeepers	070	17.94%	Labourers	120	08.51%
Accountant /clerk/others	130	33.33%	Army/bsf/ Security forces	220	15.60%
			Farmers	110	07.80%
			Students	090	06.38%
			Drivers	100	07.09%
			Others	080	05.67%



Distribution of Patients According to Duration of Pain

From 2 days - < 2 weeks :	150	
2 weeks- 1month:		120
1month – 3month :	290	
3 month – 6 month :	330	
6 month – 1 year:		220
1 year – 2 year:		190
2 year- 3 year :		120
3 year – 4 year:		100
4 year – 5 year :	060	
>5years upto 20 years :		220

Distribution According to Mode of Presentation

LBA only	680 (38%)
LBA with sciatica unilateral or bilateral	1170 (65%)
LBA with stiffness of back	900(50%)
LBA with paresthesia of legs	210(12%)
LBA with weakness of legs	180(10%)

Distribution of Patients According to Etiology Responsible for LBA

Causes of LBA	Number (percentage)
Intervertable disc prolapsed	430(23%)
Lumber spondylosis	470 (26.11%)
Spinal canal stenosis	090 (05%)
Spondylolisthesis	090(05.00%)
Compression fracture	100 (06.00%)
Neoplasm	030 (02.00%)
TB	090 (05.00%)
LS strain	050 (3%)
Senile osteoporosis	180 (10%)
Scoliosis	030(2%)
Obesity (BMI>25)	030 (2%)
Fibro farcitis	100 (6%)
Congenital lumbosacral malformation	100 (6%)

The following observations were made in this study on 1800 patients with low back ache attending OPD at post graduate department of orthopaedics G.M.C. Jammu in between period of December 2013 to December 2014.

- Low back ache is a common health problem mostly seen in both genders between third to fifth decade (53.33%).
- Overall cases of males (53.33%) getting affected by low back ache were more than females but it was also been seen that after 50years of age females (23.8%) got more affected by low back ache than males (19.79%).
- Low back ache was more in patients of rural area (72%) than urban area.

- Incidence of low back ache was more in patients of non sedentary occupation (78.33%).
- In majority of patients duration of pain was from one month to two years (57.22%).
- Commonest presentation was low back ache associated with sciatica (65%) followed by stiffness of back (50%), etc.
- Most of the causes of low back ache were of mechanical back ache i.e, lumber spondylosis (26%), disc prolapse (23%), followed by senile osteoporosis (10%), compression fracture (6%), spinal canal stenosis (5%), spondylolithesis (5%) etc.

DISCUSSION

The prevalence of low back ache in our country has been found to vary from 6.2% (in general population) to 92% (in construction workers). Such large variation can be attributed to the heterogenecity of patients in different occupational groups. The prevalence of low back ache has been found to increase with age and to be more common among females. Low socioeconomic status and poor education have been found to be associated with low back ache. Heavy physical work in terms of lifting heavy loads, repetitive job, prolonged static posture and awkward posture have been found to be some of the risk factors of low back ache. Anxiety, depression, job dissatisfaction, lack of job control and mental stress has been found to be some of the psychosocial factors related to low back ache.

The length of occupational exposure in terms of prolonged working hours and number of years in to present occupation have been found to be associated with low back ache. Out of lifestyle factors obesity can be a factor associated with low back ache. At the same time, impact of low back ache in terms of change/loss of job and activity limitation cannot be ignored. Regarding utilization of health services for low back ache, it has been observed that a large number of patients took no consultation, followed by over the counter medication and a majority preferred traditional treatment over the allopathic system of medicine. Koley *et al.* (2008) found a gradual increase of pain score with the increase of age in both the sexes, the increment of pain score was more in females. Goon *et al.,* 2010 in a study on long distance truck drivers observed that 44% of the population which suffered low back ache was above 40 years old. Similar results were also observed by Bandhopadhyay *et al.,* 2012, Sidhu *et al.* (2012).

The present study also observed that low back ache is a common health problem and that it was mostly seen in between third to fifth decade (53.33%). Mohapatra *et al.,* 2011 found low back ache to be more common among females than males in geriatric patients attending a railway hospital in Uttar Pradesh; among females (17%) than ($p<0.001$) males (11.1%) in residents of national capital region (Bihari *et al.,* 2011); among females (34.21%) in Pimpri, Pune (Banerjee *et al.,* 2012). The present study observed though males (53.33%) were overall more affected than females but after 50 years of age females (23.8%) outnumbered males (19.7%). Haldiya *et al.,* (2010) found that complaints of back pain were higher in rural area than urban area (7.5%; 5.5%). Sidhu *et al.,* (2012) found that 68% of the sufferers with low back ache belonged to low socioeconomic status. The present study observed that most patients of low back pain belonged to rural area (72%). Sharma (1999) reported the maximum frequency (50%) of low back ache in people involved in jobs requiring handling of heavy loads, followed by people with sitting jobs (19.09%), with standing jobs (16.36%) and with prolonged standing (14.54%) from the northern parts of India. Joshi *et al.,* 2001 observed that lumbar pain was more common in buffing, operators working on presses, those using hand and power tools and those lifting heavy manual loads. Sharma *et al.,* 2003 found that 57% subjects with low back ache were in blue collar jobs (heavy manual laborers.

Significant interrelationship was found ($p<0.001$) between professional categories and low back ache in workers of Saharanpur with wood carving (25%), textile industry (30%), and manual laborer (22%). 45% perceived heavy work, followed by prolonged sitting or standing (24%) to be a cause of their low back ache (Sidhu *et al.,* 2012). Awkward posture followed by force exertion was found to be significantly associated with low back ache in construction workers of Karimnagar, Andhra Pradesh (Bodhare *et al.,* 2011). Awkward posture was found to be associated with high prevalence of low back ache ($p<0.01$) in oil drilling workers. However exposure to vibration and lifting of weights was not found to be associated with low back ache which can be partly attributed to the small sample size (71 workers) of the study (Tiwari and Saha, 2012). The present study also observed that low back ache was more common in patients with non sedentary occupations (78.33%) including labourers, farmers, paramilitary personnel etc.

Tiwari *et al.,* (2003) in their study found obese subjects to be at risk of developing low back ache. High BMI was found to be associated ($p<0.001$) with work related musculoskeletal discomfort and occupational psychosocial stress (Sethi *et al.,* 2011). BMI of ≥25 kg/m2 was found to be associated with low back ache in truck drivers of Nagpur city (Amod *et al.,* 2012). Statistically significant relationship was observed between low back ache and BMI ≥25 in dentists of Pune region (Paldikhar *et al.,* 2012). Body mass index > 25kg/m^2 and mean waist hip ratio of 0.91 was found to be a significant risk factor (5%) for low back ache in IT professionals of Tamilnadu (Hameed, 2013). On the other hand, Bihari *et al.* (2011) and Bodhare *et al.* (2011) did not find any association of low back ache and BMI. The present study observed that 2% of patients with low back pain were obese with BMI >25 kg/m^2.

Conclusion

Low back ache has an enormous impact on individuals, families, communities, governments and businesses throughout the world. Low back ache is an increasing health problem in developing countries such as India so determining the various etiological factors responsible for low back ache in general population as well as in different occupational groups through well designed epidemiological studies is the need of the hour to prevent and cater this “silent epidemic” which is one of the major causes of disability, high expenditure, sickness absentism and psychosocial co morbidity in our country. An

ergonomic approach should be applied to prevent the high prevalence of low back ache in active manpower of our country i.e, non sedentary population.

REFERENCES

Amod, B., Shubhangi, A., Sandeep, G. and Prashant, T. 2012. Study of occupational factors with low back pain in truck drivers of Nagpur city, India. *International Journal of Medical and Health Sciences,* 1(3).

Anap, D.B., Iyer, C. and Rao, K. 2013. Work related musculoskeletal disorders among hospital nurses in rural Maharashtra, India: a multi centre survey. *International Journal of Research in Medical Sciences* 1(2) 101-107.

Bandhopadhyay, A., Dev, S. and Gangopadhyay, S. 2012. A study on prevalence of musculoskeletal disorders among the coalminers of eastern coalfields of India. *International Journal of Occupational Safety and Health,* 2(2) 34-37.

Bandyopadhyay, L., Baur, B., Basu, G. and Haldar, A. 2012. Musculoskeletal and other health problems in workers of small scale garment industry- An experience from an urban slum, Kolkata. *IOSR Journal of Dental and Medical Sciences,* 2(6) 23-28.

Banerjee, A., Jadhav, S.L. and Bhawalkar, J.S. 2012. Limitations of activities in patients with musculoskeletal disorders. *Annals of Medical and Health Sciences Research,* 2(1).

Bihari, V., Keasavachandran, C., Pangtey, B.S., Srivastva, A.K. and Mathur, N. 2011. Musculoskeletal pain and its associated risk factors in residents of National Capital Region. *Indian Journal of Occupational and Environmental Medicine,* 15(2) 59-63.

Bodhare, T., Valsangar, S. and Bele, S. 2011. An epidemiological study of work related musculoskeletal disorders among construction workers in Karimnagar, Andhra Pradesh. *Indian Journal of Community Medicine,* 36(4).

Chopra, A., Patil, J., Billempelly, V., Relwani, J. and Tandle, H.S. 2001. Prevalence of rheumatic diseases in a rural population in western India: a WHO-ILAR COPCORD Study. *Journal of the Association of Physicians of India,* 49 240-6.

Dutta, D., Bharati, S., Roy, C. and Das, G. 2013. Measurement of prevalence of major depressive syndrome among Indian patients attending pain clinic with chronic pain using PHQ-9 scale. *Journal of Anaesthesiology Clinical Pharmacology,* 29(1).

Gilgil, E., Kacar, C., Butun, B., Tuncer, T., Urhan, S., Yildrim, C., Sunbuloglu, G., Arikan, V., Tekeoglu, L., Oksuz, M.C. and Dundar, U. 2005. Prevalence of low back pain in a developing urban setting. *Spine* 30 1093–1098. *International Journal of Basic and Applied Medical Sciences ISSN: 2277-2103 (Online) An Open Access, Online International Journal Available at http://www.cibtech.org/jms.htm 2015 Vol. 5 (1) January-April, pp. 166-179/Bindra et al. Review Article © Copyright 2014 | Centre for Info Bio Technology (CIBTech)* 178

Goon, M., Ghoshal, S., Chandrasekaran, B. and Sharma, C. 2010. Prevalence of Low back pain in long distance truck drivers of mountainous terrain. *Advances in Occupational, Social and Organizational Ergonomics* (CRC press).

Haldiya, K.R., Mathur, M.L., Mathur, N.C. and Mathur, A. 2010. Epidemiology of musculoskeletal conditions in India. Annual Report 2009-2010, Dr. S.N. Medical College, Jodhpur.

Jadhav, A.V. 2012. Prevalence of backache among bus drivers and associated modifiable risk factors in Latur, Maharashtra. Tivandtrum, Achutha Menon Centre for Health Science Studies, Sree Chitra Tirunal Institute for Medical Sciences and Technology, Working Paper no.14.

Joshi, T.K., Menon, K.K. and Kishore, J. 2001. Musculoskeletal disorders in industrial workers of Delhi. *International Journal of Occupational Medicine and Environmental Health,* **7**(3) 217-21.

Koley, S., Kaur, J. and Sandhu, J.S. 2010. Biological risk indicators for non specific low back pain in young adults of Amritsar, Punjab, India. *Journal of Life Sciences,* 2(1) 43-48.

Koley, S., Singh, G. and Sandhu, R. 2008. Severity of disability in elderly patients with low back pain in Amritsar, Punjab. *Anthropologist,* 10(4) 265-268.

Manchikanti, L. 2000. Epidemiology of low back pain. *Pain Physician,* 3(2) 167-192.

Mohapatra, A., Handoo, S.K., Gambhir, I.S. and Mohapatra, S.C. 2011. A study of non communicable morbidity pattern in geriatric patients attending a referral railway hospital in Allahabad, Uttar Pradesh. *National Journal of Community Medicine,* 2(2).

Sethi, J., Sandhu, J.S. and Imbanathan, V. 2011. Effect of body mass index on work related musculoskeletal discomfort and occupational stress of computer workers in a developed ergonomic set up. *Sports Medicine, Arthroscopy, Rehabilitation, Therapy and Technology,* 3 22.

Sharma, R. 1999. A study on prevalence of low back pain in general population. Dissertation of Masters in Sports Physiotherapy, (Unpublished), Guru Nanak Dev University, Amritsar, Punjab, India.

Sharma, S.C., Singh, R., Sharma, A.K. and Mittal, R. 2003. Incidence of low back pain in work age adults in rural North India. *Indian Journal of Medical Sciences,* **57** 145-7.

Sidhu, A., Sidhu, G., Jindal, R.C., Banga, A. and Nishat, S. 2012. Sociodemographic profile of low back pain-Saharanpur spine. *Pb Journal of Orthopaedics,* 8(1).

Tiwari, R. and Saha, A. 2012. An Epidemiological study of low back pain among oil drilling workers in India. *Toxicology and Industrial Health,* 28(2) 170-3.

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