

To Determine the Frequency of Chronic Backache in the Nursing Staff of A Tertiary Care Hospital

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ABSTRACT

Objective: To Determine the frequency of chronic backache in the nursing staff of a tertiary care hospital.

Study Design: Cross sectional study.

Place and Duration of Study: This study was carried out at Civil Hospital Karachi from 1st November 2011 to 30th April 2012.

Materials and Methods: Two hundred seventy two patients were included who fulfilled the inclusion criteria after taking the informed consent. The SPSS version 14 was applied to the data. Data was analyzed through SPSS software.

Results: 49 (18%) males and 223 (82%) females. The mean age of study population was 43 ± 7.5 years and mean duration of job was 19.3 ± 7.6 years. 10 (3.7%) subjects had history of daily duration of work of less than 6 hours and only 06 (2.2%) work for more than 12 hours daily as compared to this 256 (94.1%) study subjects work for 6-12 hours daily. 05 (1.8%) had history of posture of sitting at most of their working hours, followed by 10 (3.7%) standing, 85 (31.3%) mobile and 172 (63.2%) subjects had non-specific posture. 197 (72.4%) had backache as compared to this 75 (27.6%) did not had backache. Out of 197, 05 (1.8%) had backache at thoracic area, another 05 (1.8%) had backache at cervical & lumbar areas followed by 20 (7.4%) had backache at cervical area and 167 (61.4%) had backache at lumbar area. 77 (28.3%) had the history of radiation of backache. 7 (2.6%) had backache for <6 weeks, 32 (11.8%) had backache for 6 weeks to 3 months and 158 (58.1%) had back ache for >3 months.

Conclusion: The findings of this study suggest that backache is a common problem in the population of nurses in Pakistan. LBP is a widespread disease affecting nurses but not a major cause of sickness absence in the workplace. Poor knowledge of back care ergonomics and unavailability of lifting equipment are major predisposing factors to LBP among nurses (occupation hazard oriented).

Key Words: Chronic backache, Health care workers, LBP, Nurses

INTRODUCTION

Backache is a major health related problem¹. Low backache is most commonly reported with radiation in leg in 22 %, followed by neck pain with radiation in arm in 16 % of the cases. Thoracic spine is least commonly involved². Low backache is defined as the pain localized below the line of 12th rib and above the inferior gluteal folds, with or without radiation³. Neck pain is defined as the pain localized below the occipital protuberance and above the line between two shoulders, with or without radiation. Thoracic pain localized between neck and lower back.

It is defined to be acute if its duration is less than 6 weeks, sub acute if the duration is between 6 weeks and 3 months and chronic when it lasts for more than 3 months. Frequent episodes are defined as recurrent backache.

Low backache affects approximately 60-85 % of adults during some point in their lives. Fortunately for the large majority of individuals symptoms are mild and transient with 90 % subsiding within 6 weeks⁴. A study

conducted in North Carolina shows significant rise in the prevalence of chronic backache from 3.9 % in 1992 to 10.2 % in 2006⁵. For the most part, epidemiological studies are conducted in high income countries which comprise less than 15 % of world's population. Little is known about epidemiology of this common health problem in rest of the world.

Back problems are strongly correlated to work related mechanical factors. Occupational factors suspected of causing backache include accidental trauma, heavy physical loading and material handling, bending and twisting, prolonged sustained postures like sitting and standing e.g. vehicle driving⁶. Studies conducted in different working environments have shown that life time prevalence of low backache was 59 % in wrestlers and 23 % in heavy weight lifters⁷. Hospital staff based studies show low backache to be prevalent in 77% of nurses in a survey conducted in 6 different hospitals associated with a Turkish university⁸.

Backache is one of the most frequent complaints in the nursing profession⁹. Unfortunately no study is conducted in Pakistan to detect the prevalence of this

common condition in the nursing staff. This issue can be a major cause of sick leaves and work related abstinence, further contributing to overburden our nation's productivity. This prompted me to detect the frequency of this common problem in the nursing staff in our community as it will reflect the severity of the issue and further measures can be taken to prevent its occurrence through posture training and better working environment.

MATERIALS AND METHODS

This was a cross sectional study, conducted at Civil Hospital Karachi, from 1st November 2011 to 30th April 2012. This study consisted of two hundred and seventy two nurses. Inclusion criteria were nurses either gender being in the job for at least last twelve months and age group 20-50 years. Exclusions criteria were history of trauma, history of inflammatory or infectious joint disease and pregnant females.

RESULTS

Two hundred and seventy two subjects fulfilling the inclusion criteria were enrolled in this study. There were 49 (18%) males and 223 (82%) females (Chart No. I).

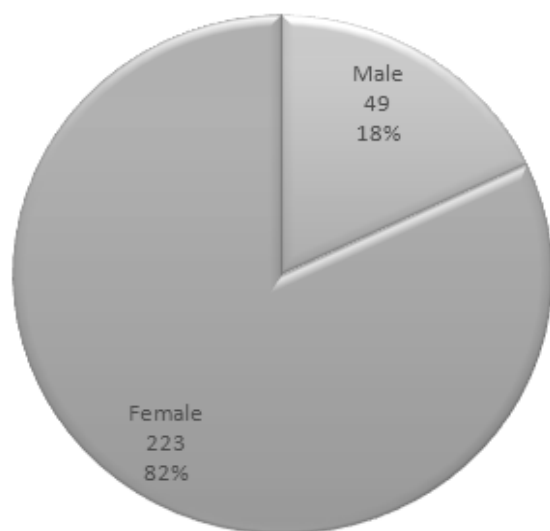


Chart No.1: Gender Distribution

The mean age $\pm$ standard deviation age of study population was 43 ± 7.5 years and mean duration of job was 19.3 ± 7.6 years. Mean age of males was 37.8 ± 7.7 years and mean age of females was 44.2 ± 7 years ($p=0.001$). 10 (3.7%) subjects had history of daily duration of work of less than 6 hours and only 06 (2.2%) work for more than 12 hours daily as compared to this 256 (94.1%) study subjects work for 6-12 hours daily (Table I). On analysis of posture of study subjects it was observed that 05 (1.8%) had history of posture of sitting at most of their working hours, followed by 10

(3.7%) standing, 85 (31.3%) mobile and 172 (63.2%) subjects had non-specific posture (Table I). 197 (72.4%) had backache as compared to this 75 (27.6%) did not had backache (Table I). Out of 197, 05 (1.8%) had backache at thoracic area, another 05 (1.8%) had backache at cervical & lumbar areas followed by 20 (7.4%) had backache at cervical area and 167 (61.4%) had backache at lumbar area (Table I). Out of 197, 77 (28.3%) had the history of radiation of backache (Table I).

Table No: 1 Variable

Variable	Frequency	Percentage
Duration of daily work		
<6 hours	10	3.7%
6-12 hours	256	94.1%
>12 hours	6	2.2%
Posture		
Standing	10	3.7%
Sitting	5	1.8%
Mobile	85	31.3%
Non-specific	172	63.2%
Chronic Backache		
Yes	197	72.4%
No	75	27.6%
Location of backache		
Cervical	20	7.4%
Thoracic	5	1.8%
Lumbar	167	61.4%
Cervical & Lumbar	5	1.8%
None	75	27.6%
Radiation of backache		
Yes	77	28.3%
No	121	44.5%
Duration of backache		
<6 weeks	7	2.6%
6 weeks to 3 months	32	11.8%
>3 months	158	58.1%

Table No.2: Analysis of duration of daily work among the chronic backache

Daily work duration	Backache	
	Yes	No
<6 hours	5	5
	50.0%	50.0%
6-12 hours	187	69
	73.0%	27.0%
>12 hours	5	1
	83.3%	16.7%

Out of 197, 7 (2.6%) had backache for <6 weeks, 32 (11.8%) had backache for 6 weeks to 3 months and 158 (58.1%) had back ache for >3 months (Table IX). Out of 197 patients having backache there were 31 (63.3%) males and 166 (74.4%) females ($p=0.113$) (Table I).

Mean age of patients having backache was 43.8 ± 7.4 years ($p=0.009$). Mean total duration of job was 20 ± 7.5 years ($p=0.037$). Out of 197 patients having backache 05 (50%) had the history of duration of daily work of <6 hours, 187 (73%) patients had daily working hours of 6-12 and 05 (83.3%) had >12 hours of daily work ($p=0.232$) (Table II). Out of 197 patients having backache 07 (70%) had the posture of standing, 01 (20%) sitting, 66 (77.6%) were mobile and 123 (71.5%) had non-specific posture ($p=0.043$).

DISCUSSION

Pain is an unpleasant emotional state felt in the mind but identifiable as arising in a part of the body. In other words, it is a subjective sensation. Pain is a defense mechanism designed to make the subject protect an injured part from further damage⁹. Low backache (LBP), perhaps more accurately called lumbago or lumbosacral pain, occurs below the 12th rib and above the gluteal folds¹⁰.

Low backache is a well recognized cause of morbidity in the industrialized world, where several studies^{11,12} have reported the occurrence of LBP in general population and occupational settings¹³. LBP is a common cause of morbidity in health care workers. Nurses are among the occupational groups within the health service that are vulnerable to LBP¹⁴.

According to Cesena et al¹⁵ mechanical hazards in the hospitals include LBP from manual lifting (patients in particular) which makes nursing one of the occupations most affected by LBP. Describing the extent of musculoskeletal injury in nurses, survey showed that nurses lost 750,000 days a year as a result of backache¹⁶. Harrington and Gill¹⁴ stated that LBP is the most common cause of early retirement on ground of ill health, sickness absence, job changes and a fall in the work speed among the working population.

Nurses are required to lift and transport patients or equipments, often in difficult environment particularly in developing nations where lifting aids are not always available or practicable. Despite this high prevalence, the etiology and nature of LBP are not yet well understood. Many studies have reported a strong association between musculoskeletal disorders and work related factors and work pressure¹⁷. This was also found among nurses¹⁸. Poor working and incorrect lifting postures has been implicated as causative factors in LBP¹⁹.

Omokhodion FO, et al²⁰ reported that The prevalence of low backache among staff was 46%. The highest prevalence of backache (69%) was recorded among nursing staff, followed by secretaries/administrative staff (55%) and cleaners/aides (47%). Heavy physical work (45%), poor posture (20%) and prolonged standing or sitting (20%) were the most frequent activities reported to be associated with low backache among these workers. The prevalence of low backache

among these workers is comparable to that of workers in high income countries. Health education on posture and correct lifting techniques can be introduced to reduce the burden of low backache among these workers.

Yip VY²¹ in his study reported that 38.9% nurses reported experiencing new low backache. Sedentary leisure time activity was not associated with new low backache. Being comparatively new on a ward (adjusted relative risk 2.90), working in bending postures (adjusted relative risk 2.76) and poor work relationships with colleagues (adjusted relative risk 2.52) were independent predictors of new low backache.

Feng CK, et al²² in their study reported that the based on the subjects' reports on the previous twelve months, the prevalence rates for pain lasting for at least one day, seeking of medical care, intense pain, sick leave, and chronic pain were 66.0%, 43.9%, 38.1%, 10.7%, and 8.6%, respectively. While multiple logistic regression analyses indicated that the risk factors varied with different measures of LBP, at least one high risk patient-handling task and one psychosocial factor were observed to be associated each LBP related measure. Three risk factors, including manual transfer of patients between bed/wheelchair and bath cart, perceived physical exertion, and psychological demands, were consistently associated with different measures of LBP. Besides, age was found to be associated with an increased risk of only chronic pain.

Landry MD et al²³ in their study reported that lifetime prevalence of LBP in the sample was 70.9%, and point prevalence of LBP was 21.5%. Karahan A et al²⁴ in their study reported that most respondents (65.8%) had experienced low backache, with 61.3% reporting an occurrence within the last 12 months. The highest prevalence was reported by nurses (77.1%) and the lowest amongst secretaries (54.1%) and hospital aides (53.5%). In the majority of cases (78.3%), low backache began after respondents started working in the hospital, 33.3% of respondents seeking medical care for 'moderate' low backache while 53.8% ($n = 143$) had been diagnosed with a herniated lumbar disc. Age, female gender, smoking, occupation, perceived work stress and heavy lifting were statistically significant risk-factors when multivariate logistic regression techniques were conducted ($P < 0.05$).

CONCLUSION

The findings of this study suggest that backache is a common problem in the population of nurses in Pakistan. LBP is a widespread disease affecting nurses but not a major cause of sickness absence in the workplace. Poor knowledge of back care ergonomics and unavailability of lifting equipment are major predisposing factors to LBP among nurses (occupation hazard oriented).

Recommendation:

(1) Refresher course on back care ergonomics and patient transfer should be organized for nurses on regular basis.

(2) Hospitals should be well equipped with all necessary lifting equipment. All these might go a long way in reducing the high rate of LBP among nurses.

REFERENCES

- Lamb SE, Lall R, Hansen Z, Withers J. Design consideration in a clinical trial of behavioral intervention for the management of low backache. *BMC Musculoskeletal Dis* 2007;8:14.
- Lebocuf- yde C, Nielsen J, Kyvik KO. Pain in lumbar, thoracic or cervical regions: Do age and gender matter? *BMC Musculoskeletal Dis* 2009; 10:39.
- Anderson JA. Epidemiological aspects of backache. *J Soc Occupational Med* 1986;36:90-4.
- Middleton K, Fish DE. Lumbar spondylosis: clinical presentation and treatment approaches. *Curr Rev Musculoskeletal Med* 2009;2(2):94-104.
- Janet K, Freburger PT, George M Holmes. The rising prevalence of chronic low backache. *Arch Intern Med* 2009;169(3):251-8.
- Videman T, Battie Mc. The influence of occupation on lumbar degeneration. *Spine (Phila PA 1976)* 1999;24 (11):1164-8.
- Granhed H, Morelli B. Low backache among retired wrestlers and heavy weight lifters. *Am J Sports Med* 1988:530-3.
- Karahan A, Kav S, Abbassoglu A, Dogan N. Low backache prevalence and associated risk factors among hospital staff. *J Adv Nurs* 2009;65(3): 516-24.
- Sikiru L, Hanifa S. Prevalence and risk factors of low backache among nurses in a typical Nigerian hospital. *Afr Health Sci* 2010;10(1):26-30.
- Owoeye IO. The human back: physical examination and physical assessment. *JNMRT* 1999;4(7):1-6.
- Waheed A. Effect of interferential therapy on low backache and its relevance to total lung capacity. *JNMRT* 2003;8(2):6-18.
- Picavet HS, Schoiten JS, Smit HA. Prevalence and consequences of low back problems in the Netherlands working Vs non working population, the Morgan study monitoring project on risk factors for chronic disease. *Public Health* 1999; 113:73-7.
- Hignett S. Work related backache in nurses. *J Adv Nurs* 1996;23:1238-46.
- Cuninham C, Flynn T, Blake C. Low backache and occupation among irish health service workers. *Occupational Med* 2006;56(7):447-54.
- Cesana G, Arduca A, Latocca R, Sirtori G. Risk evaluation and health surveillance in hospitals: A critical review and contribution regarding experience obtained at Garardo dei Tintori Hospital in Monza. *Med Lav* 1998;89(1):23-46.
- Triolo PK. Occupational health hazard of hospital staff nurses. Part II Physical, chemical and biological stressors. *AAOHN J* 1988;37(7):274-9.
- Ofil AN, Sogbesan S. Occupational hazards among student nurses at the University of Benin Teaching Hospital, Benin City Edo State Nigeria, Africa. *J Nurs and Midwifery* 2002;4(1):15-9.
- Lagerstrom M, Hansson T, Hagberg M. Work related low backache problems in nursing. *Scand J Work Environ Health* 1998;6:449-64.
- Onuwe HA. Low backache (LBP) during activities of daily living (ADL) (Aetiology, prevention and physical treatment. *J Nigeria Med Rehabilitation Therapist* 2000;5(2),17-20.
- Omokhodion FO, Umar US, Ogunnowo BE. Prevalence of low backache among staff in a rural hospital in Nigeri. *Occup Med (Lond)* 2000;50(2): 107-10.
- Yip VY. New low backache in nurses: work activities, work stress and sedentary lifestyle. *J Adv Nurs* 2004;46(4):430-40.
- Feng CK, Chen ML, Mao IF. Prevalence of and risk factors for different measures of low backache among female nursing aides in Taiwanese nursing homes. *BMC Musculoskelet Disord* 2007;8:52.
- Landry MD, Raman SR, Sulway C, Golightly YM, Hamdan E. Prevalence and risk factors associated with low backache among health care providers in a Kuwait hospital. *Spine (Phila PA 1976)* 2008; 33(5):539-45.
- Karahan A, Kav S, Abbasoglu A, Dogan N. Low backache: prevalence and associated risk factors among hospital staff. *J Adv Nurs* 2009;65(3): 516-24.

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