Original Article

Cross sectional survey of prevalence of low back pain in forward bend sitting posture

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Objective: To determine the frequency of low back pain in forward bend sitting posture, association between the forward bend sitting posture and low back pain.

Methodology: A sample of 173 patients was taken through purposive sampling from October 1, 2011 to March 15, 2012. The history of posture during job & work was taken through structured questionnaire. The duration of exposure and working hours in sitting posture was noted. The localized mechanical chronic low back patients were included. Data were analyzed using SPSS v 17.

Results: The age group from 31-40 was found to have chronic low back pain about 50% more than other age group. Forward bending posture in sitting was the major factor for chronic low back pain. 122 out of 173 (70.5%) patients belonged to forward bending posture. The working hour during office was noted that 4-6 hour was the major risk factor in 78 (45%) patients out of 173.

Conclusion: Forward bending posture for prolonged period was the major risk factor for chronic low back pain. The prevalence of forward posture was more in male as compared to female. The middle aged population was main population at risk and the working hours were critical. It is recommended that posture awareness program and workshops should be conducted in community centers. (Rawal Med J 2013;38: 253-255).

Key words: Forward bend sitting posture, LBP, low back pain.

INTRODUCTION

It is reported that 80% to 90% of western population experience low back pain once in life time and most is related to the physical and mechanical factors.[1] This makes the low backache more complex and complicated condition which directly affects the quality of life.[2] Low back pain cost annually almost $16 billion.[3] The chronic low back pain may be due to the different diseases, injuries to tissues, stresses to different structures of the spine.[4] Sometimes the pain exist even after the healing or recovery of the sensitized pathways of pain.[5] The repetitive or constant postural activities can increase its incidence.[6]

The sustained working posture for prolong period of time is also a causative factor for the development of pain.[7] The most important factor of all these is physical posture which is actually responsible for such type of pain.[8] The posture during the working hours makes the difference in the status of low back pain.[9] The straight sitting posture and the forward bend posture play a key role in balance of muscles. An unbiased survey was conducted and reveled the importance of working place.[10] The low back pain can result from poor postural control and less stability.[11] The purpose of this study was to find out the frequency of forward bent posture and straight posture in the prevalence of low back pain and to determine the working hour and the exposure duration relationship for the development of low back pain.

METHODOLOGY

A cross sectional survey was done. Participants of the study were of both gender and any age having established diagnosis of chronic low back pain. Samples of 173 patients were recruited. The sample was collected through non probability purposive sampling technique. History was taken and a questionnaire Performa was filled. The inclusion criteria were localized mechanical chronic low back pain and the exclusion criteria included inflammatory, infectious, malignancy and congenital spinal problems. The data was collected from Lahore and Sargodha. Data is analyzed through SPSS v 17. The chi square test was used to

determine the significance; the $p<0.05$ was considered significant.

RESULTS

Out of 173 patients, 99 (57.2%) were male and 74 (42.8%) were females. 18.5% were in 20-30 year age group, 50.3% in 31-40 year age group and 31.2% were belonged to 41-50 year age group. 70.5% belonged to the forward bent sitting posture group and 29.5% of them were in group of straight sitting posture. 18.5% were in1-3 working hours group, 45.1% in 4-6 working hours group, 25.4% were in 7-9 working hours group and 11% belonged to 10 and above working hours group. 10.4% were in 1-5 year exposure duration group, 23.7% in 6-10 year exposure duration group, 34.7% were from 11-15 year exposure duration group, 20.8% from 16-20 year exposure duration group and 10.4% belonged to 21 and above year exposure duration group.

DISCUSSION

There are several reports related to role of postures, the role of workplace, life style modification and postural activities are related to each other.[12] The static load conditions like standing or sitting for prolonged period of time can be the important source of low back pain. It has been concluded that heavy physical work can increase the stress on low back region and later on patients are prone to develop pain[13,14]

A study stated that the absenteeism from job is due to the existence of back pain from working hours.[15] Another study showed that the low back pain is one of crucial pain in the workers during their stay at job place.[16] In one study on nurses reported that this profession is at risk for low back pain.[17] The hospital staff was at high risk for the development of the low back pain due to the nature of work place and job activities and posture.[18] The physical work and the posture is one if the essential factors in the occurrence of low back pain.[19]

In one of cohort study, the main cause of absence from the job was physical work and posture.[20] In commercial travelers, the prevalence of low back pain is more common and the risk factors are seat comfort and the sitting for prolonged period of time, the females are at high risk as compare to males.[21] There is a direct relationship between the occurrence of low back pain and the work place and the different posture adopted.[22]

CONCLUSIONS

The forward bend posture for prolonged period is the major risk factor for chronic low back pain. The forward bend posture is more in male as compared to female. The middle aged population is the main concern population for this risk factor & the working hours are almost critical in case of low back pain.

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