

Frequency of Back Pain in Security Guards/ Work Environment Factors

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Keywords

Back Pain, Musculoskeletal Disorders, Occupational Related Disorders

Author's Contribution

¹Data analysis

²Conception, synthesis

³Synthesis

⁴Planning of research and manuscript writing

⁵Interpretation and manuscript writing

⁶Discussion

Article Info.

Received: Nov 8, 2017

Revised: Mar 28, 2018

Conflict of Interest: Nil

Funding Sources: Nil

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Cite This article as: Adnan H, Javaid M, Khan LG, Iqbal MU, Saeed F, Hussain MA. Frequency of back pain in security guards/ work environment factors. JRCRS. 2017; 5(2):66-69.

A B S T R A C T

Background: Back pain stands for one of the most ordinary and most costly work-related health problems in both developed and developing countries. Security guards represent occupational group among which there appears to be a high occurrence of back pain. The factors contributed are trauma; prolonged positions during duty and psychosocial factors.

Objective: The objective of the Study is to find out the frequency of back pain in security guards.

Methodology: This cross sectional survey was conducted in Rawalpindi and Islamabad from February 2016 to June 2016 with the sample of 400 security guards. Convenient Sampling technique was used to recruit the subjects. The security guards age ranged from 40-60 years were included and the security guards with any history of spinal fracture, congenital deformity or any other pathology were excluded. One on one interview conducted with security guards and filled questionnaire.

Results: The frequency of back pain was 48% among the guards. There were 57.7% guards who reported low back pain, 23.2% upper back pain, 8.9% mild back pain and 14.2% low back pain radiating to legs. Commonly used treatment remedies were rest 31%, medication 4%, and exercise 6%, while aggravating by prolong standing 57.7% and relieved by taking rest 76.7%. The highest relation of back pain in guards was found with occupational stress; prolong positions during duty hours and psychological factors. And there was no association with body weight and BMI.

Conclusion: It is concluded that there is huge population of security guards working in twin cities of Rawalpindi and Islamabad who are suffering from the low back pain, mostly due to prolong standing posture.

Introduction

Low back pain (LBP) is the most common problem today; it is indeed a costly health problem of the society.¹ A new estimate suggests that out of 291 pathologies studied in global burden of diseases 2010, LBP was of sixth highest burden and LBP itself caused more disability globally than any other pathology.² It is usually a transitory pain and can arise from the bones, intervertebral discs, muscles and ligaments. Risk factors for the low back pain

include environmental, psychosocial, and environmental.³ Although, unfortunately 85% of LBP cases have no clear etiology, evidence suggests that 97% are due to musculoskeletal disorders.⁴

Occupational exposures like the external loads, psychosocial work environments and organizational factors are very strong contributing factors for musculoskeletal conditions.⁵ Some of these include

physical factors as heavy loads, bending or twisting, vibrations and awkward postures are the strongest predictors of multisite musculoskeletal pain, possibly due to the direct mechanical tissue overload induced on joints.⁶ Most of the research on biomechanical etiology now days focus on the work-related musculoskeletal conditions usually on the different age groups.⁷ In this context, well-documented healthy worker bias expected to arise since the workers working with musculoskeletal conditions are more likely to retire early or to work with less demanding mechanical tasks. Furthermore, some of the changes throughout a workers work-related life lead to increasing misclassification of cumulative exposure with advancing stages of professional life. This study done as a thesis on university graduate level to check musculoskeletal problems of security guards in the area of Rawalpindi-Islamabad, which focused several factors including Back pain. This study will give an idea to the people related to this professional sector about different outcomes of this study.

Methodology

This survey investigated the frequency of back pain in private security guards in twin cities (Islamabad-Rawalpindi) along with association of back pain with prolong standing and association of back pain with prolong sitting. Total of 500 security guards were approached for data collection but 350 given answers willingly. Self-structured questionnaire was used for data collection along with Numeric pain rating scale. Non-purposive sampling technique used for data collection, those guards who were under 40-60 years of age range were approached and those who were clinically diagnosed with mechanical back pain. Duration of the study was 6months (Feb 2016-June 2016), subjects were given informed consent and were assured that their credentials will be in between the researcher and the subject according to the ethical concerns for the research. Data was analyzed using the 21 version of SPSS.

Results

After analysis researchers have found that 48% (168 out of 350) were answered yes on question (Have you ever experienced Back Pain?). Further results are described of 168 subjects, as only 168 subjects answered further questions. It is noticed that about 57.4% (96 out of

168) had the lower back pain. Pain intensity was mild to moderate on NPRS (82.1% or 138 out of 168). Most of the guards 41.1% (144 out of 168) explained nature of the pain as localized, and 51.1% (86 out of 168) described it as episodic pain rather continuous or intermittent. Standing 57.7% (97 out of 168) was the most common aggravating factor among these guards. Whereas lying 76.7% (127 out 168) reported as relieving factor for most of them. Association between prolong standing and back pain were found out by cross tabulation of question 1 (Have you ever experienced back pain) and question 5 (position during working hours) which resulted in 44.6% (75 out of 168) whereas association between prolong sitting and back pain were 33.9% (57 out of 168).

Table I: General Description of the Result	
Questions	Response
Do you have back pain	Yes=168 (48%) No=182 (52%)
Area of Back involved	Lower back pain=96 out of 168 (57.4%) Upper Back=39 out of 168(23.2%) Mid Back=15 out of 168 (8.9%)
Intensity of Pain	Mild to moderate=138 out of 168 (82.14%) Moderate to Severe=30 out of 168 (17.8%)
Nature of Pain	Localized=144 out of 168 (41.1%) Radiating=24 out of 168 (14.2%)
Characteristics of Pain	Episodic=86 out of 168 (51.1%) Continuous=22 out of 168 (13.09%) Intermittent=60 out of 168 (35.71%)
Aggravating Factor	Standing=97 out of 168 (57.7%) Sitting=63 out of 168 (37.5%) Walking= 4 out of 168 (2.3%) Other= 4 out of 168 (2.3%)
Relieving Factor	Lying=127 out of 168 (76.7%) Sitting=17 out of 168 (10.1%) Other=22 out of 168 (13.09%)

Discussion

48% of security guards in this study are suffering from back pain in Islamabad-Rawalpindi. Professional guards are undergoing very painful and stressing situation. Back pain is frequently present in security guards and its occurrence is considerably linked with age and high level physical activities but not associated with gender.⁸ The prevalence of back pain among security

guards was a major problem in adult age it has major influence on their physical activities.⁹ The study supported the present study that back pain effect patient's quality of life.

High level of physical activities and prolong standing is the big challenge for one's Musculoskeletal system. It disturbs the normal nature of spine and more prone to develop pain. As the curvature is disturbing it affects the strength, mobility and flexibility of spinal musculature. Low back pain is the most common problem in adults and the study supports the low back pain complaint among the security guards. Spinal problems has an effect on different regions of spine with multiple causes lumbosacral and cervical regions are most involved in pain as most movement presents here. Excess of physical activity is the major cause of back pain.¹⁰ Current studies shows the similar results that back pain and physical activity has major impact on each other. Bad posture is subject of wide discussion around globe. Prolong sitting leads to disorder of spine and condition is known as postural effect and back pain syndrome respectively.¹¹ There is relation seen between body mass index and back pain of security guard in the present study. 58% of adults had complaint of spinal pain; some have back pain while other has neck pain complaint.¹²

Occupational standing has relation with low back pain development. Increased hip and trunk muscle i.e. Gluteus medius and trunk muscle co-activation appears to be a predisposing rather than adaptive factor in low back pain development during standing. A combination of a positive active hip abduction test and presence of muscle co-activation during standing may be useful for early identification of at-risk individuals.¹³ This study supports the present study that guards develop low back pain during duty hours. In work categories which demonstrated high back pain frequency, low social support and low job satisfaction were related to back pain despite low physical loads.¹⁴ Some studies correlated the back pain with mechanical work which tends to produce strain during work and same is applied on the security guards because they also remain busy all the time using muscle in the strain. Different studies done and explained that low back pain and cervical pain was common in adults, one study how that thoracic pain was greatest seen in adults. A study illustrated that low back pain was most common in

adult population. A study conducted in adults and found that back pain with radiating to the lower extremities was also most common.¹² The mechanical work is associated with back pain was also confirmed from a study conducted by Nourbakksh titled "relationship between mechanical factors and incidence of low back pain". Through this study, it appears that muscle endurance and weakness are associated with back pain.¹⁵

The mechanical work and use of muscle irregularly was also proved by another study conducted on low back pain among Iranian industrial workers and came to a conclusion that back pain is a common problem in the working population. Age and certain work related physical and psychosocial factors influenced the prevalence of back pain but the difference between different categories of workers are small,¹⁶ these are indicate that the back pain is totally linked with occupation of an individual as indicated by the research that an estimated the global burden of back pain attributable to combined occupational exposures and give a result that worldwide, 37% of low back pain was attributed to occupation.¹⁷ The proportions attributable were higher in men than women, because of higher participation in the labor force and in occupations with heavy lifting, whole body vibration and prolong standing. Most of the security guards were reluctant to give answers on the questionnaire due to undefined factors. It is recommended to conduct this sort of study on a larger scale or area wise all over the Pakistan to check the prevalence of Back pain in security guards.

Conclusion

It is concluded that there is huge population of security guards working in twin cities of Rawalpindi and Islamabad who are suffering from the low back pain, mostly due to prolong standing posture.

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