ORIGINAL ARTICLE

Prevalence and Intensity of Non-Specific, Mechanical Low Back Pain in Security Guards and Traffic Wardens of Lahore

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ABSTRACT

Aim: To find out the prevalence and intensity of non-specific, mechanical low back pain (LBP) among traffic wardens and security guards.

Study design: A Cross sectional study was designed and data collection was done by convenient sampling.

Place and duration: The sample was collected from the traffic wardens and security guards from Cantt area and Johar Town, Lahore from 15th September 2021 to 10th December 2021.

Methodology: After approval of from ethical committee the data collection was started. Informed consent was taken. A sample of 200 participants including security guards (SCG) and traffic wardens (TW) meeting the inclusion and exclusion criteria after consent filled a questionnaire about the prevalence of low back pain (LBP). Visual analogue scale and MC Gill pain questionnaire were used. SPSS version 21 was used for data analysis. Data was analyzed in form of frequencies, means, standard deviation and bar charts.

Results: The mean age of participants was 32±5.64. Males were 160(80%) in number and 40(20%) were females. The prevalence of LBP was 81.5%. Majority of participants had mild to moderate levels of pain severity (49.8%). Independent sample T test showed significant difference in pain severity between both SCG and TW. (p=0.01; p<0.05).

Conclusion: There was high prevalence of Low back pain in security guards and traffic wardens. Mild to moderate intensity of pain was reported in majority of participants. There was significant difference in pain intensities in both populations.

Keywords: Low back pain, non-specific backache, musculoskeletal disorders, security guards

INTRODUCTION

Low back pain that is not caused by a specific disease such as osteoporosis, infection, Cauda equina syndrome tumor, structural deformity, fracture, radicular syndrome, or inflammatory condition is known as non-specific low back pain. Non-Specific Low back pain has become a big public health issue across the world. All age groups are impacted by low back torment. Low back pain is believed to affect up to 84% of people at some point in their lives, with chronic low back pain affecting roughly 23% of the population, and low back pain disabling 11–12% of the population. Mechanical factors have for quite some time been remembered to have a causal job in low back torment[1,2].

Low back pain (LBP) is one of the most debilitating musculoskeletal conditions in the world. More than a quarter of LBP instances do not resolve and develop into chronic pain. Nearly 80% of all chronic LBP patients will be classified as chronic nonspecific LBP[3]. Low back pain (LBP) is the most frequent ailment today, and it is a costly public health issue. According to a recent estimate, LBP was the sixth most common pathology evaluated in the global burden of illnesses, and it caused more impairment globally than any other pathology.[4] In developed cultures, low back pain is a serious public health issue that mostly affects adults. The employment is seen as a risk factor, particularly those jobs that demand physical exertion; for example, military police officers are exposed to a number of risk factors, including those who conduct administrative tasks as well as those who perform ostensive policing[5].

Work-related musculoskeletal diseases (WRMD) are frequent in a variety of occupations and cause a significant number of injuries. Repetitive, forceful, or painful motions, as well as continuous pressure, excessive usage of certain anatomical structures or regions, excessive force, posture modification or inappropriate placement, high tension, and vibrations applied to the body, are all risk factors for WRMD[6].

Musculoskeletal diseases encompass a wide spectrum of inflammatory and degenerative conditions that affect muscle, tendon, joints, peripheral nerves, and other body parts [MSD]. It affects several joints, causing long-term discomfort, exhaustion,

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and physical handicap, as well as increased occupational restrictions, absenteeism, and job transfers. Low back pain [LBP] is the second most common cause of musculoskeletal problems[7]. Pain can be mild, moderate, or severe, as well as focal/diffuse, acute, or chronic[8]. One of the most common health issues among police personnel is musculoskeletal pains[9].

Asia, Africa, and the Middle East, have seen the greatest increases in disability caused by low back pain in recent decades, owing to health and social systems that are ill-equipped to deal with this growing burden on top of other priorities like infectious diseases. Because a particular cause of low back pain is rare, the majority of low back pain is classified as non-specific. Low back pain has a variety of biophysical, psychological, and social aspects that make it difficult to function[10].

Trunk muscular endurance is essential for overall health, but it's something most people take for granted until they experience their first episode of low back pain (LBP), About half of those people will experience recurrences within a year of the first episode, potentially indicating a history of chronic low back pain (CLBP)[11]. Way of life and actual jobs increment the chance of LBP and lumbar radicular torment[12].

LBP is a frequent symptom among adults, with 7 percent to 80% of the population suffering at least one episode in their lifetime. 80% to 85% of cases are classified as nonspecific LBP[13].

It is commonly linked to smoking, sedentary jobs, socioeconomic position, stress and obesity[14,15]. Back-related impairment and population burden have grown despite the abundance of therapies and health-care resources dedicated to low back pain[16]. Security guards are an occupational category that appears to have a high incidence of back discomfort. Trauma, extended postures while on duty, and psychological variables all had a role[17]. Low back discomfort has been demonstrated to have a significant impact on a person's well-being, as well as a negative impact on his or her physical activity, employment, and social duties[18].

The study aims to find out prevalence of LBP in traffic wardens and security guards and know the intensity of the LBP. This can help us work on primary and secondary prevention of serious health conditions secondary to nonspecific low back pain. Work related low back pain in different professions is studied and this can lead to prevention of musculoskeletal rising burden on the society.

METHODOLOGY

Place of study: The sample was collected from the traffic wardens and security guards from Cantt area and Johar Town, Lahore. After approval from ethical committee data collection was started the study was conducted from 15th September 2021 to 10th December 2021. The sample size was 200 participants. Sample size was calculated by formula[19].

Inclusion criteria: The traffic wardens and Security guards of the age between 25-50, both genders, working hours 6 hours or more, work experience of at least 1 year were included in the study.

Exclusion Criteria: Traffic wardens and security guards having history of trauma, not willing to participate were excluded.

Data collection procedure: After approval of synopsis from research committee of department of physical medicine and rehabilitation and Office of research innovation and commercialization the data collection was started. Informed consent was taken and participants were asked to fill the questionnaire. Visual analogue scale and MC Gill pain questionnaire[20] were used.

Data Analysis: SPSS version 21 was used for data analysis. Data was analyzed in form of frequencies, means, standard deviation and bar charts.

RESULTS

The study revealed that out of 200 Participants, 100(50%) Traffic wardens and 100(50%) security guards participated in the study with age range of 25 to 50 years with mean age of 32±5.64. Out of those, 22(11%) Participants were in the age range of 25-35 years, 108(54%) participants were in the age range of 36-45 years and 70(35%) participants were in the age range of 46-50 years. Out of 200 participants, 160(80%) were males and 40(20%) were females with minimum work experience of 1 year. More than 90% of the guards were used to stand at their work and work in same position, are about 60%. Approximately 70% of guards used to sit in their duty time which was their work requirement.

The approximate ratios of people having LBP was of 81.5%, whereas the people with no LBP issue was of 18.5%. As far as the Pain intensity was concerned, the pain intensity of mild to moderate ratio is greater than the rest of groups. 10.1% people experience no pain to mild pain, 49.8% people experience Mild to moderate pain and 32.3% people experience moderate to severe pain. According to MGPG total score, mean value for the Traffic Warden (TW) is higher than the mean value of Security Guards (SCG), the mean value represents the ratio of pain intensity is greater in TW of 44.46±1.5 and in SCG 37.16±1.5, and it is less. Independent sample T test showed significant difference in pain severity between both populations p=0.01. (p<0.05) Traffic warden suffered from higher intensity of pain than security guards.

Table-1: Demographic data.

	Frequency	%age
Occupation		
Traffic Warden	100	50%
Security Guards	100	50%
Total	200	100%
Gender		
Male	160	80%
Females	40	20%
Total	200	100%
Age ranges		
25-35 Years	22	11%
36-45 Years	108	54%
45-50 Years	70	35%
Total	200	100%
Duty hours		
8 Hours	76	38%
10 hours	28	14%
12 Hours	96	48%
Total	200	100%

Figure 1: Frequency of pain severity by Mc. Gill pain questionnaire score
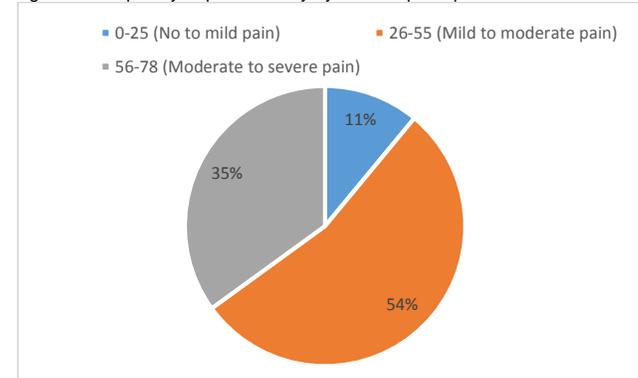
Table 2: Frequency of pain severity by Mc. Gill pain questionnaire score

	Frequency	%age
0-25 (No to mild pain)	22	11%
26-55 (Mild to moderate pain)	108	54%
56-78 (Moderate to severe pain)	70	35%
Total	200	100%

DISCUSSIONS

The present study stated that out of 200 participants, 81.5% people experience LBP in the working hours and 18.5% had no issues of LBP. There are 10.1% of persons who have no pain to mild pain, 49.8% who have mild to moderate pain, and 32.3% who have moderate to severe pain. According to the MGPG total score, the mean value for Traffic Wardens is higher than the mean value for Security Guards; the mean value symbolizes the ratio of pain intensity is larger in TW of 44.46±1.5, while it is smaller in SCG 37.16±1.5. According to a previous study on frequency of back pain in workers which stated that Back pain was reported by 48% of the guards. Lower back pain was experienced by 57.4% (96 out of 168) of the participants. On the NPRS, pain severity was mild to moderate (82.1% or 138 out of 168). 41.1% (144 out of 168) of the guards said the pain was localized, and 51.1% (86 out of 168) said it was episodic pain rather than continuous or intermittent discomfort. The most prevalent aggravating factor among these guards was standing at 57.7% (97 out of 168). Whereas for the majority of them, 76.7% (127 out of 168) regarded it as a relaxing influence. which is in accordance with[4].

In 2015 Sandeep Kaur et al conducted research on the prevalence of musculoskeletal disorders in security guards which stated that out of 100 people polled, 68% said they experienced MSDs in various places, whereas 32% said they had no musculoskeletal pain. The majority of the 68 security guards with MSDs (42.6%) suffered back discomfort. MSDs are more common, and 97.1% (33/34) were identified in the 46-50-year-old age group, followed by the 41-45-year-old age group where 76.2% (16/21) of people had it. The most prevalent risk factor discovered in our analysis was opening the door gate 98.5% of the time, which might be owing to the nature of their job. While in Our study, People with LBP made up 81.5% of the population, while those without the condition made up 18.5% as shown in table 2. When it comes to pain intensity, the mild to moderate ratio has a higher pain intensity than the other categories. There are 10.1 % of persons who have no pain to mild pain, 49.8% who have mild to moderate pain, and 32.3 % who have moderate to severe pain as shown in table 3. Both the studies showed positive findings about the prevalence of low back pain in security guards[21].

In 2020 Aishwarya Bhandari et al conducted a study which stated that out of 130 security guards, Low back pain affects 29% of males out of 73% of males and 19% of females out of total 26% of females, respectively. Prevalence of LBP in Guards was 48%. Standing, walking, and travelling are the most affected components of the ODI score. Because of sacroiliac joint

dysfunction and facet joint discomfort, 48 % of guards under the age of 40 are more prone to low back pain. in accordance with their NPRS score Mild discomfort affects 30% of guards, moderate pain affects 65%, and severe pain affects 5% of guards which is in accordance with our study which stated that Out of 200 participants, 160(80%) were Males and 40(20%) were females with minimum work experience of 1 year as shown in table 1. Males' experiences more low back pain rather than females. The Prevalence of LBP was 81.5%. both the studies showed positive findings about the prevalence of LBP[7].

In 2018 M Waqas et al conducted a study on Prevalence of MSK pain in traffic wardens which stated that only 134(65.7%) of the 204 wardens reported to have MSK pain. 70(34.3%) out of 204 reported no pain. The prevalence of MSK pain was 65.7%, highest in leg being 38.8% and 38.1% in lower back. In contrast to our study which stated that Traffic wardens and Security guards experienced greater pain in lower back than any other region of the body. Moreover, the Prevalence of LBP WAS 81.5%. Both the studies do agree upon the fact that Due to long standing hours, TW and SCG experienced pain in their Backs[8].

In 2021 SS Khalid et al conducted a study which stated that Pain was reported by 9.7% of people in the previous year and 12.76% of people in the last week, with 0.44 % of people limiting their activities. In the past 12 months, there was a higher percentage of documented symptoms in the lower back area (29.7%), and 15.8% in the knee region. In hospital security officers with two or more years of experience targeting the age bracket of 50-60 years, there was a slight increase in musculoskeletal problems. Occupational stress and lengthy postures during working hours were shown to be the most common causes of back and knee discomfort among guards which is in accordance with our study that long standing hours caused Police officers and security guards to have Low Back Pain. The prevalence of LBP was 81.5% with highest percentage in Lower back pain and neck region. Both studies proved the fact that there is a higher prevalence of LBP among TW and SCG[22].

We recommend researchers to do research on associated factors like foot wear, standing posture etc. and link it with their pain prevalence and severity.

CONCLUSION

There was high prevalence of Low back pain in security guards and traffic wardens. Mild to moderate intensity of pain was reported in majority of participants. There was significant difference in pain intensities in both populations. Traffic warden had more pain severity than security guards.

Disclaimer: The abstract had not been previously presented or published in a conference, the manuscript was not part of a research, Ph.D., conference, or any other relevant information.
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