Original Article

Prevalence of upper extremity pain among traffic police, Lahore, Pakistan

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Objective: To determine the prevalence of upper extremity pain among traffic police of the Lahore, Pakistan.

Methodology: In this cross-sectional survey, data of 384 subjects was collected through a convenient sampling technique via self-structured questionnaire. Those participants were included in the study who were working more than 11 hours a day. Data was analyzed by SPSS version 21.

Results: A total of 384 subjects were in the study. Ages were between PMto 40 years (mean 33± 2.86). Out of 384, 253(66%) were right-handed.OSP (69%) had upper extremity pain and 206(54%) had radiating pain to the other regions. They showed 3-point degree pain on visual analogue scale (VAS).

Conclusion: We conclude that 69% who were aged between 30 to 40 years had upper extremity pain. (Rawal Med J 201;43:64-67).

Keywords: Upper extremity pain, pain intensity, traffic police.

INTRODUCTION

Work-related musculoskeletal disorders (WRMD) are defined as the disorders that results from a work-related event.[1] Musculoskeletal disorders particularly of the lower back, neck and shoulders are common.[2] Musculoskeletal problems in people may start due to their work place and it comprises of non-specific muscle and ligament complaints.[3] WRMD is now one of the risk factors in the development of musculoskeletal pain.[4] Complaints of arms, neck and shoulders (CANS) is characterized as the presence of musculoskeletal problems of the said region not caused by intense injury or by any underlying illness.[5] Patrol police performs a few of their daily duties in their vehicles. Studies have shown postural and stack exposures related with patrol police work.[6] The shoulder was a 4.87 times higher in police (non-commissioned) officers and a 1.78 times higher risk in individuals with chronic illnesses than those without chronic disorders.[7]

There were differences in strength, muscle actions, postures, speeds and increasing speed over keyboard, mouse and sit still exercises.[8] Physical work environment factors, for example, supported irregular posture, high speed drive and exceptionally dull developments might be related with upper extremity issues.[9] Garg et al. reported a multicenter study on quantify danger figures to distal upper limit musculoskeletal issues.[10] Patrol police had a higher rate of WMSDs, particularly low back, neck, and shoulders.[11] The aim of this study as to determine the prevalence of upper extremity pain among traffic police officers of our area.

METHODODOLGY

In this cross-sectional survey the sample size n and margin of error E were calculated according to following formula:

x	=	$Z(^{c}/_{100})^{2}r(100\text{-}r)$
n	=	$^{Nx}/_{((N\text{-}1)E^{2}+x)}$
E	=	$\mathrm{Sqrt}[^{(N-n)x}/_{n(N\text{-}1)}]$

Where N was the population size 180,000, r was the fraction of response distribution 50% that you were interested in, and Z(c/100) is the critical value for the confidence level 95% c. Non-probability convenient sampling was used. This study was conducted between 1 April 2017 and 30 July 2017.

The inclusion criteria set were as follows: male traffic wardens with age between 30 to 40 years who worked for 7 to more than 10 hours per day.

Injuries due to slips, trips, falls, or similar accidents were excluded. VAS and self-structured questionnaire (reliability= 0.55) were used for data collection. Data were analyzed using the SPSS version 21.

RESULTS

The mean age of the respondents was 32.74±2.86 years (ranges 30-40). Majority of 263(68.1%) had upper extremity pain while 121(31.5%) had no pain (Table 1). Out of 384 subjects, only 150(39.1%) had increased temperature while the rest 234(60.9%) had no change in temperature and that majority of the subjects 317(82.6%) could move their upper extremity in all directions while only 67(17.4%) could not along with 206(53.1%) who had radiating pain to other regions while 178(46.4%) had no radiating pain (Table 2).

Table 1. Age and dominant hand and upper extremity.

Mean	Std. deviation	Range
AGE		
32.74	2.86	30-40
Construct	**Frequency**	**Percentage**
DOMINANT HAND		
Right-handed	253	65.9%
Left-handed	131	34.1%
UPPER EXTREMITY PAIN		
Yes	263	68.5%
No	121	31.5%

Table 2. Increased temperature, movement in all directions and pain radiation (n=384).

Construct	Frequency	Percentage
INCREASED TEMPERATURE IN UPPER REGION		
Yes	150	39.1%
No	234	60.9%
MOVE UPPER EXTREMITY IN ALL DIRECTIONS		
Yes	317	82.6%
No	67	17.4%
PAIN RADIATING TO OTHER REGIONS		
Yes	206	53.6%
No	178	46.4%

Table 3. Degree of pain, pain felt and pain description (n=384).

Construct	Frequency	Percentage
DEGREE OF PAIN		
1-point	42	10.9%
2-point	60	15.6%
3-point	90	23.4%
4-point	70	18.2%
5-point	77	20.1%
6-point	39	10.2%
8-point	6	1.6%
PAIN FELT		
Constant	104	27.1%
Intermittent	182	47.4%
Frequent	74	19.3%
Occasional	24	6.2%
PAIN DESCRIPTION		
Sharp	30	7.8%
Throbbing	250	65.1%
Burning	40	10.4%
Electric Shock	28	7.3%
Nothing	36	9.4%

Table 4. Fatigue and duty hours (n=384).

Construct	Frequency	Percentage
FATIGUED AFTER DUTY HOURS		
Yes	254	66.1%
No	130	33.9%
DUTY HOURS		
7-8	41	10.7%
8-9	63	16.4%
9-10	29	7.6%
10-11	44	11.5%
More	207	53.9%

The majority of the subjects 90(23.4%) had 3-point pain intensity on VAS with intermittent 182(47.4%) and throbbing pain 250(65.1%) (Table 3). Majority of the subjects 254(66.1%) felt fatigued after their duty hours, which were more than 11 hours 207(53.9%) (Table 4).

DISCUSSION

This study investigated the frequency of upper extremity pain among traffic police, Lahore. There were 384 participants out of which 263(68.5%) had

upper extremity pain. This study showed that upper extremity of the participants was affected due to their working hours that were more than 11, which revealed that WRMD are common among officers. Previously, Cho et al in a study of Korean police officers reported that shoulder pain risk was 4. 87 times higher in police lieutenants compared with the individuals under those rank for corporal.[7] Sharan et al on analysis of 4,500 members reported that 22% had high risk of an unfavorable work style and 63% claimed to have pain symptoms and social reactivity, absence of breaks, and deadlines/ pressure subscales were thought to have been associated with pain and loss of efficiency.[4]

Garg and Kapellusch led an occupation physical presentation investigation strategy for WRMD to go from basic checklists to quantitative models. An outline judgment written works from claiming biomechanical, physiological, and psychophysical furthermore, epidemiological bases to work physical presentation danger figures for due WRMD may be given.[12] Spreeuwers et al did a follow-up study that was performed in a sample of consecutive cases of work-related upper extremity disorders. Perceived severity and quality of life was measured with visual analogue scale (0-100) and functional impairment with disabilities of arm, shoulders and hand and sickness absence with a questionnaire.[13] This study on dental professionals in China showed that 83.8% experienced neck pain. In the multivariate investigations, working hours every day were related with neck pain. Hopelessness to choose the proper size of dental instrument was related with shoulder and wrist/hand pain.

Regular physical exercise has been related with diminished neck pain.[14] Neck and shoulder complaints are basic among representatives in stationary occupations portrayed by serious computer use. Such musculoskeletal pain which is frequently connected with limited scope of movement and loss of muscle quality is a standout amongst the most widely recognized conditions treated by physical advisors.[15] Excruciating pain of the back, neck and upper extremity are real reasons for work inability. Most early investigations on reasons for musculoskeletal pain concentrated on physical exposures, for example, manual material dealing with, monotonous developments, cumbersome stances, and vibrations.[16] Psychosocial stressors at work have been observed to be related with danger of WMSDs, however it is hazy whether the affiliation is causal.[17]

CONCLUSION

The study concludes that prevalence of upper extremity pain among traffic police was 68.5%.

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Conception and design: Ghanea Ahmad
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