

## Prevalence of musculoskeletal pain in traffic police wardens of Lahore, Pakistan

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**Objective:** To find out the musculoskeletal (MSK) pain in traffic police wardens of Lahore, Pakistan.

**Methodology:** This Questionnaire based study included 204 traffic police wardens of Lahore. Data were analyzed using SPSS version 21.0

**Results:** The prevalence of MSK pain was 65.7%. Regarding different body areas, prevalence of MSK pain were 38.8% (n=52) in leg, 38.1% (n=51) in lower back, 33.6% (n=45) in shoulder, 11.2% (n=15) in knees, 9.0% (n=12) in arm/hand, 6.7% (n=9) in foot, 6.7% (n=9) in neck and 4.5% (n=6) in

upper back.

**Conclusion:** The prevalence of musculoskeletal pain in traffic police wardens of Lahore was 65.7%. Leg pain prevalence was highest (38.8%) and upper back pain as lowest (4.5%). Health education may reduce MSK pain prevalence among traffic police wardens. (Rawal Med J 201;43:61-63).

**Keywords:** Musculoskeletal pain, police warden, occupational pain.

## INTRODUCTION

Musculoskeletal (MSK) pain is a due to repetitive strain, and overuse activities. The pain can be mild or moderate or severe or focal/diffuse or acute/chronic.<sup>1</sup> MSK pain was divided into different body areas which are as following; shoulder, arm/hand, neck, lower back, leg, knees and foot. The most common biomechanical factors includes heavy lifting, awkward posture and excessive repletion.<sup>2</sup> Factors may be financial burden for work, productivity decreased, society or social disadvantage.<sup>3</sup>

Traffic police wardens (TPW) are trained through different training programs related to management of stress, interpersonal and personal development of skills, and knowledge about different areas.<sup>4</sup>

MSK pain is work related and common in TPW. A cross-sectional study was conducted among 270 traffic police in Mumbai City of India using Nordic musculoskeletal questionnaire and low back pain was the most commonly pain in them.<sup>5</sup> A study on rural police in UK reported that driving participants had low back pain more than participants whose job involved sitting, lifting or standing and Motorcyclist police had more prevalence of shoulder pain than police car drivers.<sup>6</sup> A survey of police officers of Korea showed incidence of pain was 14.7% in

elbow/arm, 16.8% in finger/wrist/hand, 26.10% in foot/legs, 31.2% in neck, 41.4% in waist, and 44.2% in shoulder.<sup>7</sup> Overweight or obese participants were prone to MSK pain and related symptoms in shoulder.<sup>8</sup> There are no studies on prevalence of MSK in TPW of Lahore. This study therefore, was aimed to find prevalence of MSK pain in TPW of Lahore.

## METHODOLOGY

This cross sectional study was conducted after the ethical approval. Non probability convenient sampling was used and data were collected from university institute of physical therapy, university of Lahore. Total of 204 TPW were included in the study. The sample size was calculated at 95% level of confidence and was adjusted for 10% dropped rate. Inclusion criteria were work related MSK pain, male, road traffic wardens, age 25-50 years and Lahore city. Exclusion criteria were infection, tumor, trauma, recent fracture, female, male (Computer user wardens/Office worker wardens).

After taking informed consent, Information was collected by modification of Standardised Nordic Musculoskeletal Questionnaire. Participants filled the questionnaire whether they have pain or not pain. Pain was divided into different body areas

which are as following; shoulder, arm/hand, neck, lower back, leg, knees and foot. Data were analyzed by SPSS version 20.

## RESULTS

Out of 204 wardens, only 134 (65.7%) claimed to have MSK pain and 70 (34.3%) had no pain (Table 1). Commonly affected body areas was 38.8% (n=52) in leg, 38.1% (n=51) in lower back, 33.6% (n=45) in shoulder, 11.2% (n=15) in knees, 9.0% (n=12) in arm/hand, 6.7% (n=9) in foot, 6.7% (n=9) in neck,

4.5% (n=6) in upper back. Hence highest pain in leg (38.8%) and lowest pain in upper back (4.5%) (Table 2).

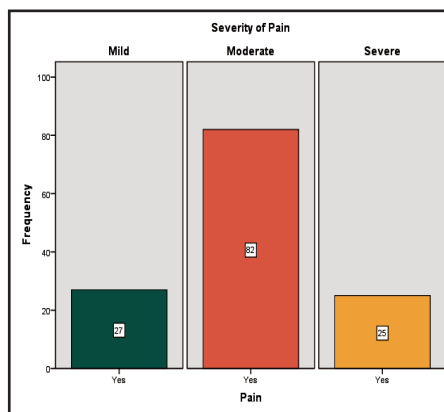
**Table 1. Frequency of Traffic Police wardens with and without MSK Pain.**

Pain	Frequency	Percent
No	70.0	34.30
Yes	134.0	65.70
Total	204.0	100.0

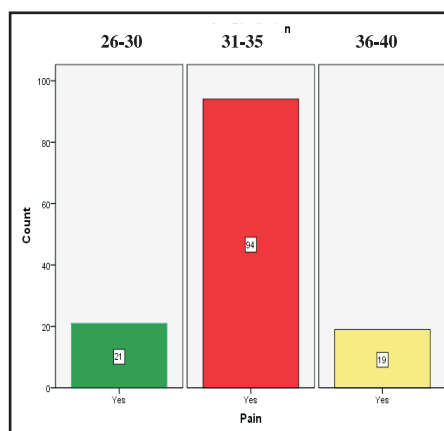
**Table 2. Frequency and Percentages of different body areas with pain.**

Pain in different Body areas: n (%)							
Shoulder	Arm/Hand	Neck	Lower Back	Upper Back	Leg	Knees	Foot
45 (33.6%)	12 (9.0%)	9 (6.7%)	51 (38.1%)	6 (4.5%)	52 (38.8%)	15 (11.2%)	9 (6.7%)

**Fig. 1. Pain Severity among traffic police wardens.**



**Fig. 2. Pain among traffic police wardens with age distribution.**



Most participants had moderate pain 61.2% (n=82), 20.1% (n=27) have mild pain and only 18.7% (n=25) have severe pain (Fig. 1). Maximum

participants had pain during 31-35 years of age (Fig. 2).

## DISCUSSION

This survey study documented work related MSK pain in TPW of Lahore. Most of the TPW of Lahore experienced leg pain instead of low back pain, which was most common in another similar study in Mumbai City traffic Police.<sup>5</sup> Reasons may be working posture of TPW. During standing, the center of gravity is usually in the waist and hip area, so standing hip carries most weight of the body. Prolong standing cause muscles fatigue around the hip resulting into low back pain and also leg pain. In addition, excessive bike riding causes whole body vibration so low back pain also occurs.

Other commonly affected region was shoulder, reasons for that repetitive isometric contraction of shoulder girdle muscles mostly in traffic wardens which leads to tightness of the trapezium upper fiber and levator scapula and tightness of the pectoralis minor and major, weakness of cervical flexors and weakness of middle lower trapezium. This pattern of imbalance creates a joints dysfunction in glenohumeral joint. This is referred as upper cross syndrome.

A cross-sectional study design from Mumbai area among 270 traffic police concluded that MSK pain was mostly common during 41-50 years of age.<sup>5</sup> In

our study which included 204 TPW from Lahore, MSK pain mostly occurred during 31-35 years of age.

According to Official Statistics of Sweden, MSK disorders constitute about 74% of occupational diseases.<sup>9</sup> In this study, highest pain area was leg and lowest pain area is upper back. One study suggests that MSK pain is highly prevalent among drivers of Ibadan and the most common MSK pain area is low back,<sup>10</sup> which is similar to study in Mumbai City of India.<sup>5</sup>

## CONCLUSION

The prevalence of MSK pain in Traffic Police Wardens of Lahore was 65.7%. Region wise prevalence was as follows; 38.8% (n=52) in leg, 38.1% (n=51) in lower back, 33.6% (n=45) in shoulder, 11.2% (n=15) in knees, 9.0% (n=12) in arm/hand, 6.7% (n=9) in foot, 6.7% (n=9) in neck, 4.5% (n=6) in upper back. Hence maximum pain in leg (38.8%) and minimum pain in upper back (4.5%). Health education may reduce MSK pain prevalence among traffic Police wardens.

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