

Work-Related Musculoskeletal Pain, Stress, and Carpal Tunnel Syndrome Among Autorickshaw Drivers: A Cross-Sectional Study

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DOI: <https://doi.org/10.52403/ijrr.20260624>

ABSTRACT

Background: Being an autorickshaw driver is one of the most physically and mentally taxing jobs, and it's frequently linked to lengthy workdays, awkward postures, and constant exposure to noise and traffic. Stress, musculoskeletal pain, and hand-related illnesses are highly prevalent among drivers as a result of these variables. Long periods of sitting, operating the steering and brakes with repetitive hand motions, and being exposed to vibrations can cause musculoskeletal strain and even disorders like carpal tunnel syndrome. The psychological stress levels of drivers are further raised by financial strain, traffic jams, and erratic job schedules. Finding out how common carpal tunnel syndrome, stress, and musculoskeletal pain were among auto rickshaw drivers was the goal of this study.

Purpose: To find the prevalence of work-related musculoskeletal pain, stress and carpal tunnel syndrome among autorickshaw drivers in Ernakulam district.

Methods: A cross-sectional survey study was used. A purposive sample method, composed of 125 autorickshaw drivers between the ages of 25 and 55 years in the Ernakulam district. The outcome measures used were the Nordic Questionnaire for assessing musculoskeletal pain, the perceived stress scale for assessing stress and

Phalen's test for assessing carpal tunnel syndrome.

Result: According to this study among 125 autorickshaw drivers, 108 people (86.4%) experienced musculoskeletal pain. 81 (65%) people experienced neck pain, 50 (40%) people experienced lower back pain, 47 (38%) people have had pain in their shoulder, 36 (29%) people have had pain in their upper back, and wrist/hand pain was felt by 21 (17%) people. The least pain was recorded in the ankle or feet (12, 10%), elbow (5, 4%), knee (4, 3%) and hip or thigh (3, 2%). Using the perceived stress scale, it was found out that 84 (67%) experienced moderate stress, 36 (28.8%) had low stress and 5 (4%) experienced high stress. Using the Phalen's test, 9 (7%) individuals have positive carpal tunnel syndrome.

Conclusion: The study concluded that auto rickshaw drivers are highly susceptible to musculoskeletal pain, stress, and carpal tunnel syndrome due to the nature of their work

Keywords: Musculoskeletal pain, stress, carpal tunnel syndrome, Nordic questionnaire, perceived stress scale, Phalen's test, autorickshaw drivers.

INTRODUCTION

Autorickshaw drivers play an important role in urban and semi-urban transportation

systems in India and many other Asian countries. An autorickshaw is a three-wheeled motor vehicle that is affordable, flexible, and convenient for short- to medium-distance travel. Despite their essential contribution, drivers face many daily challenges such as heavy traffic, rising fuel prices, long working hours, lack of fixed income, pollution, and harsh weather conditions (1). Musculoskeletal disorders (MSDs) are common among autorickshaw drivers. MSDs are painful conditions affecting muscles, bones, nerves, tendons, and other soft tissues, often caused by work-related activities (2). Jobs involving prolonged sitting, repetitive movements, and physical strain increase the risk. Due to the nature of their work, drivers are especially vulnerable to these problems (3). Carpal tunnel syndrome is one such condition. The carpal tunnel is a narrow passage in the wrist formed by the carpal bones and the transverse carpal ligament (4). Continuous strain and overuse of the wrist can increase pressure within the tunnel, affecting surrounding tissues and leading to pain, numbness, and weakness (5). Stress is another major issue. Constant exposure to traffic congestion, noise, pollution, urban violence, and unpredictable income contributes to mental strain (6). Prolonged work stress can lead to anxiety, fatigue, depression, and reduced overall health (7).

AIM: To determine the work-related musculoskeletal pain, stress and carpal

tunnel syndrome among autorickshaw drivers in Ernakulum district.

OBJECTIVES

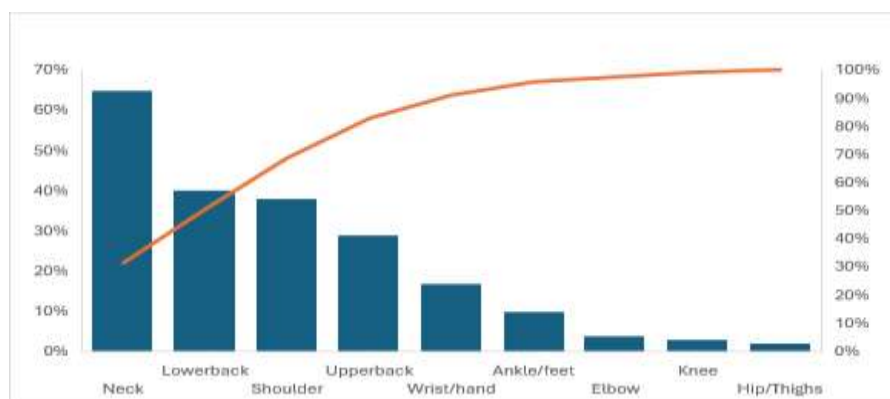
- To find out the prevalence of work-related musculoskeletal pain among autorickshaw drivers in Ernakulum district.
- To find out the prevalence of stress among autorickshaw drivers in Ernakulum district.
- To find out the prevalence of carpal tunnel syndrome among auto-rickshaw drivers in the Ernakulam district.

MATERIALS & METHODS

Ø Pen Ø Paper Ø Nordic questionnaire Ø Perceived stress scale Ø Questionnaire

The subjects were selected according to the inclusion and exclusion criteria, and consent was taken from the respondents for participation in the study. We introduced ourselves and briefly explained the purpose of study to the drivers who met the criteria for the study. The subjects were first asked to fill in the demographic questionnaire (including year of experience in driving, duration of driving per day, and age). The Nordic questionnaire was used to assess the musculoskeletal pain; the perceived stress scale was used to assess the stress, and Phalen's test was used for assessment of carpal tunnel syndrome.

RESULT



Graph 1: Distribution of study population among different age groups

This graph shows the age group we have received for the study in the demographic population.

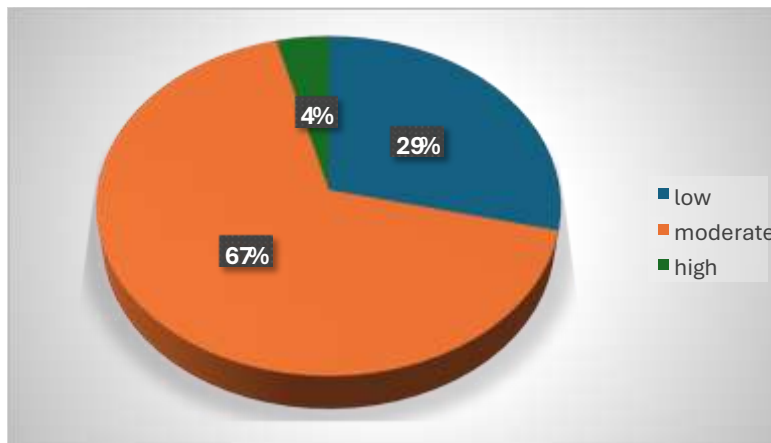


Chart 1: Percentage of distribution of stress

The above pie chart shows the graphical representation of data received during stress assessment using the perceived stress scale. 36 people (29%) were reported to have low

stress, 84 people (67%) were found to have moderate stress and 5 people (4%) reported high stress.

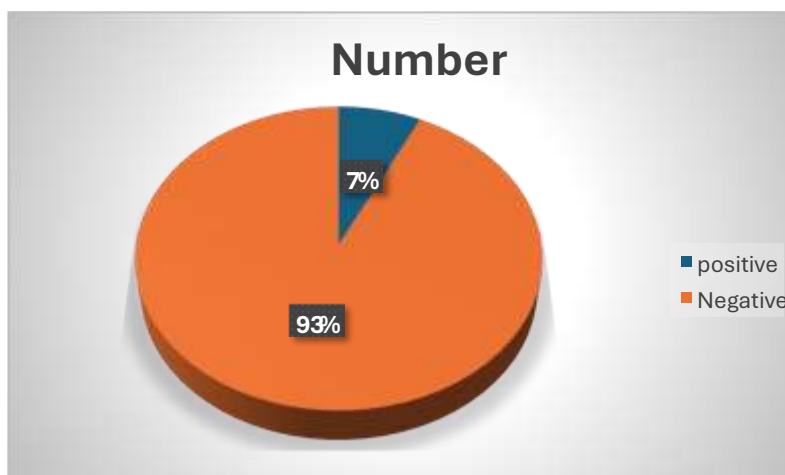


Chart 2: Percentage of distribution of carpal tunnel syndrome

The above pie chart shows a graphical representation of data received during assessment of carpal tunnel syndrome using Phalen's test. 9 people (7%) were reported positive, and 116 people (93%) reported negative

autorickshaw drivers are highly susceptible to MSP, stress, and CTS. Our finding while assessing with the modified Nordic questionnaire shows that MSP occurrence among autorickshaw drivers was 85.6% out of 125 subjects, experienced in line with the findings of some prior studies that reported a large proportion of drivers suffer from MSP, particularly neck, lower back and shoulder, due to drivers having to maintain the position for several hours in a day, which may cause MSP (Dr Mehul Tank et al. 2019) (8). In our study the findings show the neck is the most common site of pain, with 65%, and the lower back is the second most common,

DISCUSSION

The purpose of the study was to determine the prevalence of musculoskeletal pain, stress and carpal tunnel syndrome among autorickshaw drivers in the Ernakulam district. Studies about autorickshaw drivers in Kerala can be described as very few to none. In our study we found out that the

40%. Stress among the autorickshaw drivers was assessed using the Perceived Stress Scale. Through the data analysis it was found that moderate stress increased by 67.2%. Our study's findings show that low stress is the second most common at 28.8% and high stress is 4%. Carpal tunnel syndrome among autorickshaw drivers was assessed using Phalen's test, which revealed that 7% of the 125 participants tested positive.

CONCLUSION

The study concluded that auto-rickshaw drivers are highly susceptible to musculoskeletal pain, stress, and carpal tunnel syndrome due to the nature of their work. Understanding the prevalence of these conditions can help in developing preventive training programmes and ergonomic interventions aimed at reducing musculoskeletal pain, stress, and carpal tunnel syndrome, thereby improving the health and well-being of auto rickshaw drivers.

Declaration by Authors

Ethical Approval: Approved

Acknowledgement: None

Source of Funding: None

Conflict of Interest: No conflicts of interest declared.

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How to cite this article: Susan Annie George, Adithya P R, Fathima Rukhsana M S, Sivani S. Work-Related musculoskeletal pain, stress, and carpal tunnel syndrome among autorickshaw drivers: a cross-sectional study. *International Journal of Research and Review.* 2026; 13(6): 243-247. DOI: [10.52403/ijrr.20260624](https://doi.org/10.52403/ijrr.20260624)
