



Research Article

**PREVALENCE OF UPPER EXTREMITY MUSCULOSKELETAL DISORDERS
IN AUTO RICKSHAW DRIVERS**

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ABSTRACT

Aim: To find the prevalence of upper extremity musculoskeletal disorders in Auto rickshaw drivers.

Objective: To find the prevalence of upper extremity musculoskeletal disorders in auto rickshaw drivers using Nordic Based questionnaire

Key words:

Musculoskeletal Disorders, Auto Rickshaw Drivers

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INTRODUCTION

Musculoskeletal disorders represent largest category of work related illness in India. Variety of internal and external factors leads to postural stress in vehicle drivers that affects the functioning of musculoskeletal system.

In India, auto-rickshaws are main mode of public transport in urban and semi urban areas. These auto-rickshaws are a cheap and easily available source of public transport in most of the cities. City is highly populated with most of the roads poorly maintained. Most of the auto-rickshaw drivers are accustomed to accommodating passenger's in front cabin due to poor surveillance in the city. They allow the passengers to sit to their left side since the construction of these auto-rickshaws does not permit them to accommodate the passengers to their right. ^[1]

In upper extremities with only the driver in the front cabin the shoulder-handle distance would be same for both upper limbs. With accommodation of passengers, the shoulder handle distance will be changed for right and left upper limb leading to mal alignment of shoulders, elbow and wrist joints.

Construction of the auto-rickshaws with a relatively smaller driver's cabin results in postural stress to maintain balance and stability. Besides, duration of work and driver's seat vibration is also contributing to the occurrence of work related musculoskeletal disorders in auto rickshaw driver's. ^[2]

MATERIAL AND METHODOLOGY

Study design

- **Type of study-** Cross Sectional study
- **Place of study-** Metropolitan city
- **Study Duration-** 1 year

Sampling design

- **Sampling technique-** Convenient sampling
- **Sampling size:-** 500

Materials

Nordic based questionnaire.

Selection Criteria

Inclusion Criteria

- Auto rickshaw drivers.
- 30-40 years of age.
- Working for atleast 8 hrs.
- Minimum 1 year of experience.

Exclusion Criteria

- Recent upper limb fracture cases at least 6months prior
- Arthritic conditions
- Co-morbid conditions (e.g. Diabetes mellitus, Hypertension)
- Uncooperative subjects

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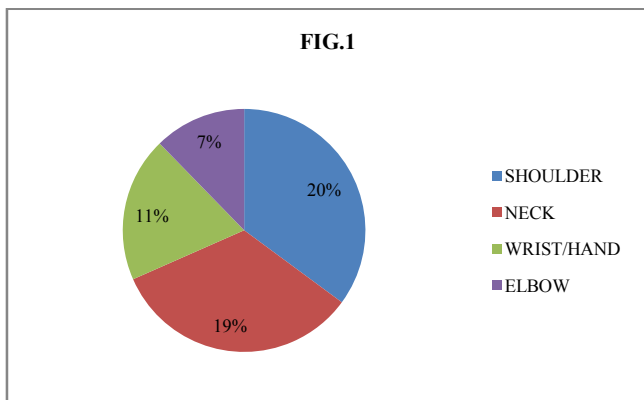
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Procedure

The study will be explained to the subjects. They will be screened as per other inclusion criteria. Subjects who are willing to participate in the survey will be taken for the study and a written consent form will be taken from them. Demographic data will be collected accordingly. Their weight and height will be noted down and body mass index will be calculated. A self administered Nordic questionnaire that includes various parameters related to musculoskeletal disorders will be given and explained on how to fill in the details. Data will be collected and analyzed.

TABLES AND RESULT

	Mean	Standard Deviation (SD)
Age (Years)	35.094	± 3.030
Working Experience (Years)	7.478	± 5.020
Working Hours	57.296	± 11.414



Pie Diagram of Upper Extremity Musculoskeletal Disorders In Autorickshaw Drivers

Interpretation: Pie diagram shows shoulder (20%) was affected followed by neck (19%), wrist/hands (11%), and elbow (7%).

DISCUSSION

This study was conducted among 500 auto rickshaw drivers for finding out upper extremity musculoskeletal disorders. The study shows that 57% of sample population has upper extremity disorder, 20% reported shoulder troubles, 19% reported neck troubles, 11% reported wrist/hands troubles and 7% reported elbow troubles.

The factors of upper extremity disorders among auto drivers may be attributed to:

Intrinsic Factor

- Muscle fatigue
- Twisting, jerky, repetitive movements
- Driving with trunk bent or twisted
- Gripping activity.

Extrinsic Factor

- Stressful occupational conditions
- Poor maintenance of road
- Continuous working hours
- Vibration.

Shoulder Pain: As auto rickshaw drivers tends to work for longer duration, shoulders muscles are always active as well as unsupported while driving and kept in fixed position for considerably longer duration, which leads to shoulder pain. Change in shoulder handle distance due to accommodation of passenger result in awkward posture of shoulder joint which contributes to shoulder pain.

Neck Pain: While driving, drivers need to be vigilant about road conditions which requires attention, focus on road, and in order to do so they tend to maintain their neck in fixed posture for prolonged period of time without any movement in neck, this static posture of neck for prolonged duration lead to neck strain resulting in neck pain.

Wrist/Hand Pain: The structure of auto rickshaw include handle bar control, instead of steering wheel, causing continuous gripping activity and repetitive movements of wrists in flexion and extension, which can lead to wrist/hand pain.

Elbow Pain: Many auto rickshaws have manual ignition which requires drivers to pull the ignition bar to start engine this sudden forceful pull results in elbow pain.

The study also shows that 43% of sample population has no upper extremity disorders. The factors attributed may be:

- Modern technology
- Self start ignition
- Frequent servicing of motor vehicles
- Frequent breaks.

CONCLUSION

The study shows that 57% of the sample population has upper extremity disorders in the form of pain whereas 43% has no upper extremity disorders. This study suggest that upper extremity disorders are prevalent in auto rickshaw drivers.

Conflict of Interest

None

Source of Finding

Self

Ethical Clearance

Obtained by community of DPO’s NETT college of physiotherapy.

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