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A cross sectional study on the musculoskeletal problems related to neck among the bus drivers in a smart city

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Abstract

Introduction and Objective: In India among the public transportation variable for passengers buses play a significant role. The safety of the general public both within the bus and on the road is given little priority.at times the work demands exceed the physical capacity of the worker. Musculoskeletal are a major public health problem worldwide, affect the quality of life and cause substantial morbidity and disability with consequent economic loss in terms of sickness absence and cost of treatment ·cervical pain is the commonest pain experienced by bus drivers yet neglected as it becomes a part of their life and they ignore it In view of this we decided to study the neck strain among the bus drivers in a smart city and its influence on the drivers.

Materials and Method: The study was a cross sectional study conducted in Mangalore Government Bus Depot on 117 bus available drivers in the KSRTC bus Depot Mangalore over a period of 12 months from January 2016 to December 2016 chosen by Convenient sampling method. Informed written consent was obtained from the participating bus drivers who met a pre-defined inclusion and exclusion criteria. The data was collected by interview method at the Mangalore bus depot after taking written informed consent from the subjects. A pre structured questionnaire containing details like basic demographic data (age, gender, occupation- number of hours of work, the nature of the work and his experience as a bus driver) was collected. The data so obtained was fed into Excel sheet and analyzed using SPSS software version 23.0. A 'p' value less than 0.05($p<0.05$) is considered significant.

Results and Observations: During the study period 117 drivers were evaluated. The mean age in our study was 41.18 years SD 4905 years. The maximum age in our study was 58 years and least age was 24 years, most common age group was 40-45 years. 66 % had involvement of neck in our study in some form or the other in our study. The neck pain forced the drivers to take leave in 12%.in the rest the neck pain was mild in the mid day and increased as day progressed. Other related musculoskeletal disorders among bus drivers were back 322.3%, knee pain 15.7%, shoulder 5.3%, ankle and feet 3%.

Conclusion: As long durations are the most important predisposing factors for development of musculoskeletal disorders we recommend that adequate rest breaks be provided so that the musculoskeletal system is put to rest instead of overburdening it.

Keywords: Musculoskeletal disorders, Smart city, Transport, Bus, Drivers.

Introduction

Transport or transportation is the development of individuals and products starting with one place then onto the next. The term is gotten from the Latin words Trans (over) and portare (to convey). In India, many types of open transportation are accessible for travelers. Among them, transports assume a critical part. The security of the overall population both inside the transport and out and about is given little need.(1)

Transport drivers should effectively adjust the contending requests of wellbeing, client – centered administration and friends working regulations.(2) Driving much of the time include many hazard factors, for example, delayed sitting and engine vehicle driving, tight running timetables, diminished rest breaks, turning shift designs, movement clog, the inactive idea of employment and so on.(3) These hazard factors are particularly critical when work requests surpass the physical limit of the laborer.

Musculoskeletal framework gives the body free development and autonomous capacity in the body.(4) Business related musculoskeletal issue influence specialists in numerous occupations including drivers of extensive vehicles. Urban transport drivers have been found to have high pervasiveness rates of back, neck issues in numerous countries.(5)

Musculoskeletal disarranges (MSDs) cover an extensive variety of conditions (e.g., tendonitis, tenosynovitis, epicondylitis, bursitis, carpal passage disorder, sciatica, osteoarthrosis, myalgia, low back torment, and other idiopathic agony disorders) that reason irritation and degeneration of the musculoskeletal framework and neurovascular structures.(6) They are a noteworthy general medical issue around the world, influence the personal satisfaction(7) and cause significant grimness and handicap(8) with resulting financial misfortune regarding infection nonattendance and cost of treatment.(9) Cervical agony is the commonest torment experienced by transport drivers yet dismissed as it turns into a piece of their life and they disregard it. Up until now, not very many studies in India have been directed among transport drivers. In perspective of this we chose to study about the neck strain among the transport drivers in a smart city.

Materials and Method

The study was a cross sectional study conducted in Mangalore Government Bus Depot on 117 bus available drivers in the KSRTC bus Depot Mangalore over a period of 12 months from January 2016 to December 2016 chosen by Convenient sampling method. Informed written consent was obtained from the participating bus drivers who met a pre-defined inclusion and exclusion criteria.

The following were the pre-defined inclusion and exclusion criteria.

Inclusion criteria

- Bus drivers age above 25 years with a minimum working four hours day driving.

Exclusion criteria

- Bus drivers who are not willing to participate in the study.
- Bus drivers who have the history of musculoskeletal disorders before they got into the occupation.

Study procedure: The data was collected by interview method at the Mangalore bus depot after taking written informed consent from the subjects. A pre structured questionnaire containing details like basic demographic data (age, gender, occupation- number of hours of work, the nature of the work and his experience as a bus driver) was collected. List of all bus drivers was obtained from depot manager. A time schedule was prepared, so that they could participate in the study conveniently without disturbing their duty pattern. Confidentiality of the study subjects was assured and maintained throughout the study. Before personal interview and physical examination, objective of the study was explained to participants such filled formats were collected on the same day. The data so obtained was fed into Excel sheet and analyzed using SPSS software version 23.0. A 'p' value less than 0.05($p<0.05$) is considered significant.

Results and Observations

During the study time frame 117 drivers were evaluated. The mean age in our examination was 41.18 years SD 49.05 years. The greatest age in our study was 58 years and minimum age was 24 years, most common age assemble was 40-45 years, every one of the drivers were male. 52% of the transport drivers said that some of time in their life as drivers they had to help in stack taking care of and lifting at work, regularly to help ladies, children and elderly while loading up the transport bus. Rest told that the conductor normally did these work, the BMI run 19.5-25, 66% had association of neck in our study in some shape or the other in our examination. The neck torment constrained the drivers to withdraw in 12%. In the rest the neck torment was little the early afternoon and increased as day advanced. Other related musculoskeletal issue among transport drivers were back 32.3%, knee torment 15.7%, bear 5.3%, lower leg and feet 3%. There was a positive correlation between work experience increased work duration and daily driving hours we suggest that the duration of job be altered to reduce the occurrence of musculoskeletal disorders.

Discussion

MSDs are multifactorial as far as etiology; the hazard factors incorporate unbalanced stance, manual taking care of, truly difficult work, strenuous errands, and redundant exercises, while socioeconomics, workload, and psychosocial factors are known to play parts in the pathogenesis.

Drivers are presented to various medical issues as an immediate consequence of the stance received in driving. Sitting in the driving position applies significant powers on the spine and can cause various issues with the musculoskeletal framework specifically spinal pains, neck issues, pulled muscles, and general firmness.

Absenteeism, turnover and disability among the drivers seemed, by all accounts, to be high when contrasted with some other occupation. Musculo-skeletal issues was one of the fundamental conditions prompting diminished work limit, early retirement and disablement among drivers.[9,10]

In s a study by Jung-Ho Lee et. al[11] neck was involved in 27 (33.8), Shoulder was involved in 34 (42.4), Arm / Elbow was involved in 5 (6.2), Hand / Wrist / Finger was involved in 5 (6.2), Lumbar area was involved in 27 (33.7), Leg / Foot was involved in 15 (18.8).

In a study by Sandul Yasobant et. al[12] it was concluded that neck was involved in 26%, back was involved in 24%, was involved in 20% in the upper limbs, knees were involved in 6% and ankles were involved in 4%.

In a study by Vasanth et. al[13] back was involved in 83.6%.

In a study by Onawumi A. Samuel neck was involved in 79%.[14]

In a study by Mansfield[15] back was involved in 8% Shoulder was involved in 4% and neck back was involved in 7%.

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