Research Article

Psychological problems faced by Navi Mumbai bus conductors

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ABSTRACT

Background: In India, many forms of public transportation are available for passengers. Among them buses play a significant role. Work related psychological disorders affect workers in many occupations including those related to operating large vehicles. There are many psychological factors that may contribute to increase physical loading in the bus conductors. In India, the working conditions of bus conductors are poor and stressful and hence the purpose of this study was to find out the extent of psychological problems faced by the bus conductors. Objectives: To identify psychological issues in Navi Mumbai bus conductors

Methods: Settings and design: A cross-sectional study carried out in Navi Mumbai among 100 bus conductors. Techniques: A questionnaire was developed to incorporate basic information on job profile, musculoskeletal issues and psychological components were evaluated using DASS 21 and work place stress scale.

Results: Stress, anxiety and depression was evident in bus conductors along with work place stress.

Conclusions: Navi Mumbai bus conductors faced psychological problems such as stress, anxiety, depression and work place stress.

Keywords: Bus conductors, Psychological issues, Stress, Anxiety, Depression

INTRODUCTION

A bus conductor is a public servant whose earnings are not very high. They work continuously for long hours each day. They begin their work in early morning and end almost at midnight.

The bus conductors perform a number of tasks when they are on duty and are on their feet the whole time. In addition to selling tickets to passengers, they are also involved in other tasks. He announces loudly, the bus stops at very frequent intervals, thereby making it easier for passengers to get off bus at their destination.¹ Assisting the driver when passing through congested roads and junctions is an additional source of stress.¹

To sum it all the conductors suffer from extreme physiological stress and work related musculoskeletal

disorders (WRMSD'S) due to prolonged working hours in hazardous standing posture conditions, excessive work pressure and minimum rest between trips. Hence, as these conductors face a number of psycho-social problems, it has led us to identify these issues in them.

METHODS

A cross-sectional study was undertaken to identify the extent of psychological problems faced by the Navi Mumbai bus conductors.

100 bus conductors from Navi Mumbai were administered with two scales which were DASS 21 and Workplace stress scale.

Navi Mumbai bus conductors aged 23-55 years were included in this study.

Bus conductors working in air conditioned buses were excluded from this study.

RESULTS

Table 1 shows mean age of bus conductors was 32.85, mean height was 162.95, mean weight was 66.23, BMI was 25.14 and mean years of experience was 14.04.

Table 2 Shows that 31% were from age group of 20-30, 31% were from age group of 31-40, 25% were from 41-50 and 14% were from 51-60.

One hundred subjects successfully completed the questionnaire. The questionnaire showed that the bus conductors worked for more than eight hours a day and rested for 10-15 minutes between each trip. The bus conductors experience ranged from 5 to 30 years.

Table 1: Physical characteristics of bus conductors.

Demographic data	Mean
Age (years)	32.85
Height (cms)	162.95
Weight (kgs)	66.23
BMI (kg/m ²)	25.14
Years of experience	14.04

Table 2: Distribution of age of bus conductors.

Age (years)	Percentage
20-30	31%
31-40	31%
41-50	25%
51-60	14%

The questionnaire study showed that almost all workers complained of discomfort in different parts of the body. According to the study 65% of workers complained of pain during their working hours, 10% during non-working hours, 22% during both working as well as non-working hours and 3% complained of no pain.

Figure 1: Percentage of distribution of pain sites.

The questionnaire study showed that 66% of bus conductors carried their ticket box on one side whereas 34% of the bus conductors wore it across.

Figure 2: DASS 21 scale.

Figure 3: Psychological components.

Figure 4: Workplace stress scale.

DISCUSSION

This research aimed to study the psychological problems faced by the bus conductors. So in order to assess these problems, we carried out this survey based research.

Of the 100 subjects in the present study, the maximum number of people working was in the age group of 20-50 and working for a minimum of eight hours per day. Majority of 23% were working for more than 15 years which suggests the chronicity of their exposure to different stress factors such as long hours of standing, exposure to pollution, bumpy rides due to potholes, and inevitable complaints from passengers and lastly extended hours of duty due to being stuck in traffic jams.

The most common musculoskeletal problems observed among the bus conductors were low back pain, shoulder pain, knee pain and pain in the feet.

Low back pain

Vibration is an important cause of low back pain. It has been shown that when the body is exposed chronically to whole body vibrations, spinal degeneration is likely to be one of the deleterious outcomes. Low back pain has been shown to be the leading major cause of industrial disability and has been linked to whole body vibration exposure encountered in some industrial settings². It is also evident from literature that the most frequently associated long term effects of Whole Body Vibration (WBV) exposure are low back and degenerative changes in the spine. Other factors like prolonged standing without adequate rest periods environmental and road conditions, less space to move in the bus are also important factors which need to be studied.

Swaying as the bus bounces over potholes with minimum support as both hands are occupied in providing tickets and accepting money brings pressure on their lower back. The only support that their body gets is when they stand with their feet apart for a good balance and sometimes lean on the back rest of the seats.

Shoulder pain

The conductors continuously have to wear around their neck a ticket box and a satchel for the money. Adding to this the conductors one hand is frequently stretched above to ring the bell. This repetitive movement brings pressure on the shoulder. Such continual posture leads to muscle shortening, which in turn leads to pain in their shoulder. Also the conductors shoulder is in elevation to prevent the satchel as well as the ticket box from slipping down. This continuous elevated posture of the shoulder leads to spasm of the trapezius muscle, tightness of upper trapezius and levator scapulae which in turn leads to pain in the shoulder/neck. Neck pain is caused by prolonged standing and bearing loads on the neck and shoulder muscles with repetitive movements. Bus conductors stand

for a longer duration - almost seven hours a day for several years - with the neck held in a flexed position while issuing tickets to passengers, and they move around the bus. As the neck is prone to flexion most of the time, there are chances of pain and discomfort in the neck due to the strenuous workload.

Knee and foot pain

Knee pain arises due to their long and continuous hours of standing. Also while standing, the conductors assume an incorrect posture.¹ Because of continuous bouncing of the bus, the weight is not evenly distributed. A prolonged standing posture can also lead to fatigue of muscles leading to discomfort and then pain.

Also the weight of the upper body is a contributing factor to pain in the knee as from the study carried out it was found out that the average body mass index of conductors is 25.14 which signifies that most of the conductors fall in the overweight category (According to the table of demographic data).

A shoe with hard insoles leads to discomfort. This impaired cushioning combined with prolonged standing can lead to pain.

Psychological problems: NIOSH (1997) describes 5 psychological factors potentially related to WRMSD'S. 1) Job satisfaction 2) Intensified workload 3) Monotonous work 4) Job control 5. Social support. According to this study 43% of bus conductors were suffering from mild stress, 36% from moderate anxiety and 48% from mild depression. This could be attributed to the highly stressful job conditions of a bus conductor in the metropolitan Navi Mumbai city.

The classic stress situation for bus conductors is seen in the conflict between serving the public in a courteous manner while enduring traffic jams. Our weather and pollution also plays a heavy hand in the stress caused to the conductors attributing to dryness of throat and excessive sweating leading to dehydration. Standing for long also leads to discomfort and pain causing irritation in their behaviour towards the public.

The DASS-21 is a well-established instrument for measuring depression, anxiety, and stress with good reliability and validity.³ Thus in our study we administered this instrument. The findings were,

Most common factors affecting the bus conductors were, getting upset by trivial things (67%), finding it difficult to relax (36%), losing patience if delayed in any work (42%), over reacting in situations (27%), nothing to look forward to (33%), sad and depressed (21%).

Most surprisingly severe depression was noticed in the age group of 41-50 (11%), mild stress was mostly noted

in the age group of 20-30 (16%) and moderate anxiety was highest in the 31-40 (11%) age group.

The main factors attributed to these are: The long hours of work reflected by very minimal wages. No incentives were offered apart from certificates of appreciation. Rotations of shifts were primarily the cause of disruptive timings of relaxation and sleep. Monotonous working conditions also added to their "nothing to look forward to" factor. Bus conductors have a very under stimulated work day because of their repetitive task elements. Inadequate rest periods, analysing the length of rest breaks showed that in some depots the break was just long enough to attend to physical needs.

Factors attributing to the bus conductors fluctuating stress and anxiety levels are: Threats of assault and violence at workplace.⁴ Conductor carrying large sums of money. Passengers wanting change. No recognition for good work. Poor treatment by passengers. Difficulties with family because of long working hours. Lack of job security. Adjusting lifestyle to shift work. In a study on bus drivers it has found that they were prone to fatigue, tension and mental overload.⁵

In a study by Couto et al suggested that the causes of work place violence lie in problems regarding money, behaviour, environment, organization and crime. Suggestions for prevention include education, control to avoid critical situations, and a judicial system to assess malpractices⁶

A study by Deborah et al on bus drivers concluded that work-related ergonomic and psychosocial factors showed a significant association with LBP in Israeli professional urban bus drivers. Prevention of work-related stress, organizational changes targeted to reduce stressful situations, improvement in seat comfort, and encouraging regular sports activity need to be evaluated as prevention strategies for LBP in professional bus drivers. These strategies can be implemented in practice.⁷

There is a need to improve overall well-being of bus drivers and conductors as this can increase efficiency of this transport and benefit the passengers' alike.⁸

Back injury prevention

Prolong standing on hard surface: Antifatigue mats, viscoelastic cushioned shoe inserts, shoe with leather uppers, cushioned soles and heels to design for work, also reduce strain on legs and back.

Prolong standing in a static position for prolonged periods: When the work requires intense concentration or does not allow movement, the back becomes fatigue or tense. It is important to provide some movement to relieve the stress that occurs. Variations between sitting and standing are less likely to be related to pain or injury

because they facilitate normal joint and muscle movement.

Treatment from psychological perspective: Stress prevention:

1. Eliminate or modify the stress-producing situation or remove the individual from it.
2. Adapt work organization and the workstation to fit individual characteristics of the employee.
3. Strengthen the person's resilience to stress, for example, through physical exercise, meditation or relaxation techniques and social support.

Other strategies like Psychological orientation, health club programs, chronic pain programs, work hardening programs.

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