

“A Study of Health Status of Bus Drivers and Conductors of Public Transport System At A Bus Depot From Central India”

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Abstract-

Background- *The State Transportation Sector manpower, mainly bus drivers and conductors are subjected to the consequences of acquiring musculoskeletal defects in addition to other morbidities like ocular, gastric, and psychological diseases. They undergo incompatible and unpredictable working scenarios, pressure of maintaining daily schedules, bad eating habits, and lack of proper sleep and rest due to multi-variable shifts. The resultant morbidities noticed may compromise their health, thus affecting the overall professional outcome.*

Objectives- *The current study is laid out with a motive for the assessment of health status of bus drivers and conductors providing their services at a Bus Depot from Central India. It is more focused on identifying the factors that have a major effect on their performance and health, which would ultimately pave way for appropriate measures to be undertaken to benefit these workers, so that they can lead a mentally, socially and economically productive life.*

Methodology- *This Cross- Sectional Study is going to be held at Wardha City Bus Depot, Maharashtra. A total of 304 participants, out of which 152 bus drivers and conductors each are meant to be enrolled for the same. A questionnaire comprising of Sociodemographic details and Occupational-related morbidities will be distributed amongst the candidates for data accumulation. The assimilated information will be analyzed via means of SPSS Software including calculation of Descriptive Statistics, frequencies and percentages.*

Expected Result- *The analysis of data and appropriate statistical tests will contemplate its results.*

Conclusion- *The conclusion will be drawn after completion of the proposed study.*

Key Words- *Musculoskeletal defects, bus drivers, conductors, health status.*

INTRODUCTION

A job like that of bus driving, is considered an excellent example of one of the moderate to extremely strenuous occupations, with high possibilities of both physical and mental defenselessness, resulting in absenteeism; and causes decreased productivity of employees and enterprises. The drivers undoubtedly have to respond to multiple unpredictable circumstances over which they fail to have a proper grasp. The main tasks of a bus driver are secure on- road mobilization, whilst maintaining the daily schedule. [1]

It is widely understood that specific stressors lead to certain physical (cardiovascular diseases, gastrointestinal disorders, musculoskeletal problems, fatigue), psychological (depression, anxiety, post-traumatic stress disorder) and behavioral disorders (e.g., substance abuse). [1]

The age factor manages to have a significant effect on the performance of a driver. Accident rates are considerably high among the young and low among the middle-aged and above; although visual abilities are keenest among the young and start deteriorating after 40 years of age. [1]

In this complicated and competitive environment, stress levels climb up gradually both in the bus drivers and conductors and this is not good for operating public transport system. Stress plunges efficiency, productivity and profitability to a great extent. It can be physical, mental, social, economic and thereby may lead to circumstances that terrorize, confuse and irritate any individual. Sound health in relation to career of a person and his employment is the most crucial part of his/her life who works and to the society as a whole. Occupational stress among employees encompasses a wide spectrum of health problems ranging from asthma, hypertension, Coronary Artery Disease, heart attacks and other psychological disorders, with many more to the list. In nutshell, occupational stress is a vital aspect that manages to seek major attention at the individual, group and community levels. A modest amount of occupational stress among drivers and conductors in state transport system could be motivative and impelling, but the situation becomes out of hands when it is beyond control with no/ minimal rectifiable options. [2]

Road Traffic Accidents associated with high mortality rate are capable of producing critical issues, especially on the highways. OSA (Obstructive Sleep Apnea) is linked to a high risk for traffic accidents as a result of prolonged daytime sleepiness even in in-city bus drivers. [3]

Working Staff appointed by the Public Transport System always remain within a substantial zone of facing harsh behaviour because they encounter different passengers on a daily basis; especially drunkards and drug addicts. However, issues like running behind travelling schedules; lack of data following them; type of environmental surroundings; and inability to fulfil passengers' needs are most probable in inducing annoyance among the people; which may aggravate the occurrence of impatience and agitation.[4]

Occupational factors that facilitate development of stress in bus drivers are work shift timings, improper dietary patterns and poor nutrition, traffic congestion, excessive duration of driving, consistent visual and mental alertness and driving during odd hours in the presence of unfavorable climatic situations. Social support helps to protect the individual from experiencing stress. Bus driving interrupts with social support in two ways. The job in itself is solitary with minor possibilities for person-to-person contact between fellow co-workers

and the work schedule disrupts both family and social life. The make-up of the driver's cabin and how the work is organized accounts for moderate to extreme musculoskeletal agony related to bus driving. [5]

Both of these two professionals remain exposed to strenuous heat, specifically at the time of summer season when it becomes warm and moist in the bus. Besides this, the fumes from the exhaust comprise of Diesel Particulate Matter (DPM), Volatile Organic Compounds (VOCs), and many more, to what these people are subjected. [6]

Appropriate suggestive entities focused upon the health and working conditions of the bus drivers and conductors seem to be of prime concern, as the public transport is led by persons with biopsychosocial-cultural aspects that bound to have special attention. [7]

Transport Sector employees are considered a quite significantly prone for HIV and/ or AIDS infection as they are mostly on move; more commonly participate in unprotected sexual intercourse to alleviate the isolation. Acquired Immune Deficiency Syndrome (AIDS) was internationally recognized for the first time in 1981. The relation of movement and illness with the Human Immunodeficiency Virus (HIV) is being reported almost from the time of beginning of the AIDS epidemic. [8]

There is a tendency among drivers to use tobacco in abundance when driving to alleviate exhaustion and sleepiness and the work culture informally encourages the use of tobacco. The time to first use tobacco after getting up in this community, which shows the degree of dependency, implies that driver addiction is at a higher level and it is believed that it improves experience in this career. In this category, it would also be beneficial to have sustained preventive interventions that focus more on new hires. [9]

Lack of exercise and obesity is correlated with HMV and long-haul drivers. Association between driving and obesity is already known in many studies. This is mainly due to lack of timely lifestyle and on-road eating habits which make it difficult to follow a regular and timely exercise pattern. Without good motivation and lack of peer support, it is difficult to stick to such lives. [9]

Post Traumatic Stress Disorder (PTSD) is known to be a severe psychological problem for traumatized people. It may have a negative effect on the operation of jobs, for example, absence from regular work, and occupation- associated injury, even when not knowing if it is absolute or partial type. The propensity to overly search for emerging hazards is often followed by misinterpretation and negative evaluation of non-threatening environmental signals among PTSD patients. This dysfunctional PTSD response may prove really troublesome for the drivers when it comes to handling uncooperative travellers. Bus drivers can develop a misunderstanding in reference to non-threatening prompting as hazardous, therefore responding impatiently or violently (as in exaggerated startled reactions). [10]

Reduced work-related concentrations caused by PTSD symptoms may also contribute to misinterpretation of non-threatening effects in the setting. This self-provoking hypervigilant reaction with the influence of PTSD manifestations can seriously impair the professional skills and abilities of bus drivers. In lieu of disseminating a preferably horrifying incident, unstartle reactions resulting from symptoms of PTSD can increase the risk of a dangerous event when dealing with difficult passengers. Hence, it is important for conducting a proper evaluation of the self-perceived trust of bus drivers in dealing with supposedly hostile customers as an occupational aftermath of PTSD. [10]

Smoking is also attributed to calming feelings of tension. Particularly, it is well-known that excessive smoking is followed by heightened degree of occupational pressure, mainly during monotonous working conditions. In addition, the hindrance to smoking and the attempt to quit smoking has been associated with high strain in airline pilots due to plasma nicotine depletion in the blood associated with decreased performance. [11]

Another method of keeping up correlates to the application of medications, whether unprescribed, prescribed or illegal. Drivers with complaints of back pain can resort to relief through the use of medicines. The effect of shift-work tends to encourage such attitudes, with the habit of usage of stimulants at night time to stay active at work, and the use of sleeping pills while trying to sleep during the day. [11]

RATIONALE

Occupational health problems are common in both the bus drivers and conductors. These occur due to constant exposure to stressful working schedules. Their daily job is strenuous and hazardous. The city traffic routes are mostly congested and at peak hours, usually overcrowded. The case is even worse at the time of seasonal extremes and adverse climatic conditions. Huge quantities of passengers aboard the buses all day long and over saturation is attained during the peak hours. Increasing differences from passengers, split shifts, constant exposure to noise levels have compounded the situation for bus drivers and conductors. These factors may pose a major threat to their health, thereby affecting their working capacity in the long run. In addition, there have not been much studies conducted regarding these issues in Wardha District of Maharashtra, and this is the reason the study is planned to be conducted.

AIM:

Study of the health status of drivers and conductors of Public Transport System at Wardha City Bus Depot.

OBJECTIVES:

1. To study the health status of bus drivers and conductors working at Wardha City Bus Depot.
2. To study the determinants influencing health status of bus drivers and conductors working at Wardha City Bus Depot.
3. To recommend appropriate suggestive measures for improving health and morbidity status based on the study findings.

METHODOLOGY:

Study Settings: Wardha City Bus Depot, Maharashtra, Central India.

Research design: Present study will be a Cross- Sectional Study.

Study Participants: Bus drivers and conductors.

Study duration: September 2020 to September 2022.

Sample size: Total = 304 (152 Bus Drivers and 152 Conductors).

Sampling procedure: Universal Sampling Method will be utilized where in all the bus drivers and conductors working at the Depot and wanting to participate, will be a part of this study.

Study procedure: The study will be conducted with prior approval from the Institutional Ethics Committee, Maharashtra State Road Transport Corporation, Divisional Head Office, Sevagram, Wardha and Wardha City Bus Depot Manager, along with approval from other concerned authorities. A written informed consent will be taken from the participants and a questionnaire in Marathi language will be distributed to them.

Inclusion criteria: All of the bus drivers and conductors volunteering to participate in the study.

Exclusion Criteria- Bus drivers and conductors who cannot be contacted after three consecutive visits to the bus depot will be excluded from the study.

Analysis plan: The data will be entered in Microsoft Word Excel and analyzed by SPSS (Statistical Product and Service Solutions) Statistical Software. Descriptive statistics frequency & percentages will be calculated. Association between various risk factors will be calculated using Chi-Square Test. The data thus analyzed will be presented in the form of tables, graphs and charts.

Scope and Implications: The present study will help in assessing the current health status of the participants, along with a brief understanding and analysis of determinants that affect their overall performance, thereby allowing appropriate modalities to be advised for their benefit and future well-being.

Limitations: Being a Single Centre based Cross-Sectional study, its findings shall have limited external validity.

Ethics committee approval – The study protocol will be submitted to the Institutional Ethics Committee of DMIMS (DU) for approval.

Discussion-

Mukherjee S, et al. found that Jaundice, dermatological diseases and Malaria were most prevalent among the two groups of bus drivers because of unhealthy and unhygienic environmental conditions at workplaces. In addition, it was also concluded that most bus drivers of the two groups had multiple addictions and took them on a usual basis. They were compelled to work in different types of strenuous environments that can have a negative effect on their working capacity along with their physiological and psychological behavior.[1]

De Medeiros SE, et al. observed that bus drivers reported different symptoms according to the chronological assessment of stress, with an increasing number of psychological symptoms in the time intervals under analysis. Stress is associated with working time, excessive daily workload, lack of rest and poor sleep quality.[7]

Borle A, et al. concluded that musculoskeletal discomfort was significantly associated with age, time period of service, daily average driving (km) and duration of driving (hrs/wk). It was also found to be greater in study subjects with BMI \geq 30 kg/m². Musculoskeletal discomfort rose with increase in age, duration of service, daily average driving.[12]

Gangopadhyay S, et al. found that bus drivers are greatly stressed in their occupation because of the hazardous working conditions, which in turn can additionally affect their health and overall work performance in the long run.[13]

Lakshman A, et al. pointed out that prevalence of hypertension was high among the bus drivers. Age > 35 years, elevated BMI, supporting a large family, and dietary habits associated with the job showed a significant correlation with hypertension.[14]

Couto MT, et al. arrived at a conclusion that a majority of entrants (77.4%) declared having gone through work site quarrels during their lives, and (64.3%) during the past one year. Usage of bad language/Hostility (47.0%), unfortunate incidents (20.8%) and (20.0%) were the most frequent varieties of aggression. Approximately 17% of candidates were victims of bodily offence with substances, other than guns, stones, bottles and sticks. Commuters (51.6%), conductors (18.1%) and vehicle possessors (11.3%) were found to be the usual nuisance creators. Brutality was prevalent most commonly at bus stop (45.6%); with the vehicle in motion (22.4%); and most often during the morning (43.1%).[4]. Some of the similar studies were reviewed [15,16,17]. A number of articles on related issues were reported in Global Burden of Disease Studies[18,19,20]. Regmi et. al. assessed the health of Nepali migrants in India [21]. Khanam et. al. reported on work-related musculoskeletal morbidity and preventive activities practiced to reduce morbidity among brick field workers[22].

Key Result- The analysis of data and appropriate statistical tests will contemplate the anticipated outcomes of this study.

Conclusion- To conclude, it will help to identify and understand the factors that influence the health and overall performance of bus drivers and conductors, which would further help in curtailing the occurrence of these problems by inculcating necessary modifications in their lives.

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