

STUDY OF OCCUPATIONAL HEALTH ISSUES: FACED BY BUS DRIVERS

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Abstract : Health has always been closely linked with occupation. The working conditions of bus drivers have remained virtually unchanged for over a century in Kolhapur. They exposed to certain health problems by virtue of their occupation. The present study is undertaken about occupational health related problems of bus drivers. The objectives of this cross sectional study to assess the effect of work environment on driving condition using structured interview, structured questionnaires. The most common health symptoms experienced by the bus drivers were fatigue, back pain, and cough and colds. This study underlines the need for an occupational health and safety program for bus drivers in the Kolhapur city.

Index Terms - Occupational health and safety, Bus drivers, Diseases, Ergonomy

I. INTRODUCTION

Occupational health is a multidisciplinary field concerned with the safety, health, and welfare of people at work. The goals of occupational safety and health programs include fostering a safe and healthy work environment. As defined by the World Health Organization (WHO) "occupational health deals with all aspects of health and safety in the workplace and has a strong focus on primary prevention of hazards." Health has been defined as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity. Occupational health is a multidisciplinary field of healthcare concerned with enabling an individual to undertake their occupation in the way that causes least harm to their health.

As per the Mc Kernon, S. A., on driver point of view bus drivers have more frequent absences from work and of longer duration than workers in other occupations. A large proportion of the work absences are attributable to stress-related disorders such as digestive problems and anxiety. Bus driving interferes with social support in two ways. The job itself is solitary with little chance for face-to-face contact between co-workers. The work schedule disrupts family and social life. They also suggested that how buses are designed and how work is scheduled may account for musculoskeletal problems associated with driving a bus.

McElroy et al., (1993) studied a relationship between career stages, time spent on roads and driver work-related attitudes. This research used career stage and time spent driving on the road as independent variables and bus driver attitudes as dependent variables.

Kompier, M.A.J., (1996). Occupational stress and stress prevention point of view Bus drivers work based on rotating shift which affect their sleep patterns causing fatigue, also fatigue and falling asleep while driving has been identified as one of the major causes of road accidents.

Corkle, J., J. L. Giese, et al. (2001) investigated the effect of traffic calming strategies on driver behavior, traffic flow and speed while driving. Since 1950, the International Labor Organization (ILO) and the World Health Organization (WHO) have shared a common definition of occupational health.

Harwood, D. W. (1990) in Highway research Program, Transportation Research concludes Driver's speeds on the urban streets are mainly influenced by traffic controls, street environments and the interaction of vehicles. Another significant factor that influences the speed is roadway characteristics such as road type, gradient and length of the grade.

Bigelow, P. L. (2010) Research on the health and wellness of commercial truck and bus drivers. He stated that bus drivers must have knowledge and skill of handling the bus driver, the bus route, all regulations, standard and driving procedure and scheduling systems.

Seik, F.T., (1997) suggested that knowledge on how to deal with passenger especially for those with special needs is also important to ensure bus passengers have a good experience with the service

The present work has been done by considering following objectives,

1. To study the occupational health issues of bus drivers.
2. To summaries some of the health and safety issues facing bus drivers and provide some solutions to how these risks can be reduced.

II. RESEARCH METHODOLOGY

A total of 150 respondents (All are male respondents), were randomly selected for the study of effects of work environment on municipal transportation. The present study mainly based on primary data. Primary data are collecting from the bus drivers by

taking interviews, structured questionnaires. It examines health problems on a five-point scale in the areas back, neck, shoulder, hand/arm and feet/leg/thigh. Also, it studies the systemic problems with the following: Respiratory system, cardio-vascular system, central nervous system, gastro-intestinal system, eyes, ears, nose and throat (ENT).

2.1 Data Analysis

The study is based on the primary findings. Collected data was analyzed by using Microsoft excels. All this information has been translated into the form of frequency distribution tables.

III. RESULTS AND DISCUSSION

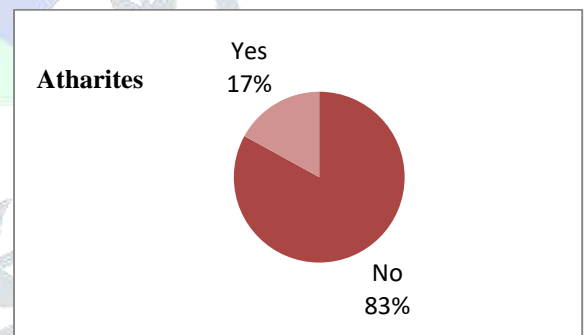
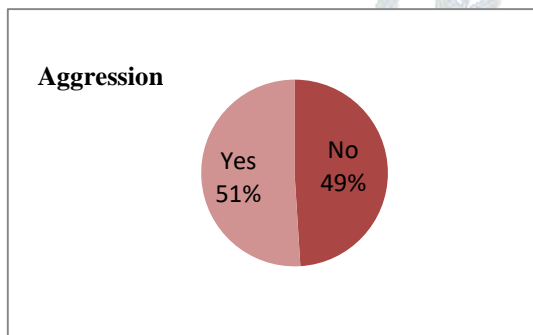
This is also an important aspect of the study as a part of their working condition demands long hours of stay away from home; food and rest are required for health. Therefore, their food as well as other habits (pan masala, smoking, tobacco consumption) and their hours for rest after their working hours were also studied.

Table 1: Health Problems and Sufferings

Health Problems	Suffering (%)
Aggression	51
Arthritis	17
Fatigue	56
Eye irritation	14
Hearing loss	23
Appetite	20
Anxiety	19
Headache	34
Back pain	72
Pain in Hands	63
Pain in lower limbs	89
Sleeping problem	78

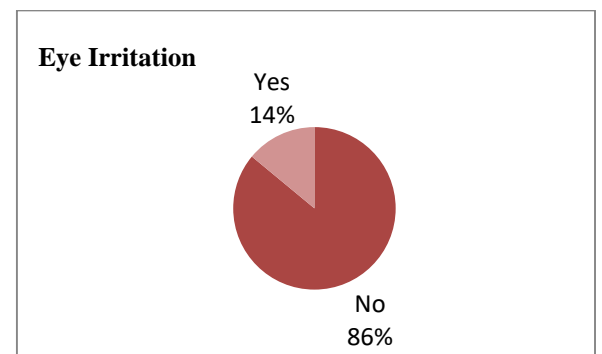
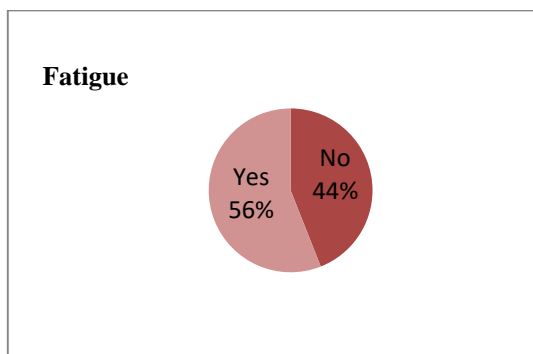
Graph 1: Aggression among respondents

Graph 2: Atharites among respondents

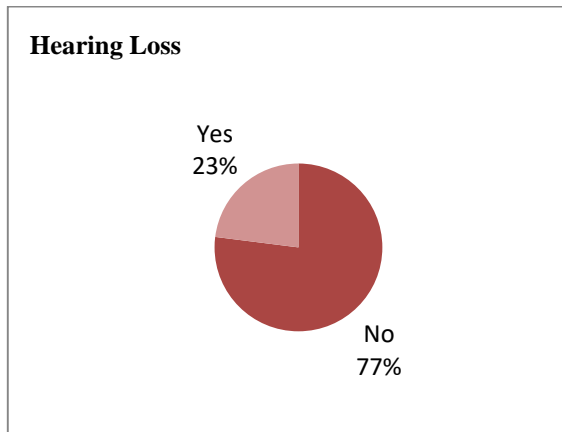


Graph 3: Fatigue among respondents

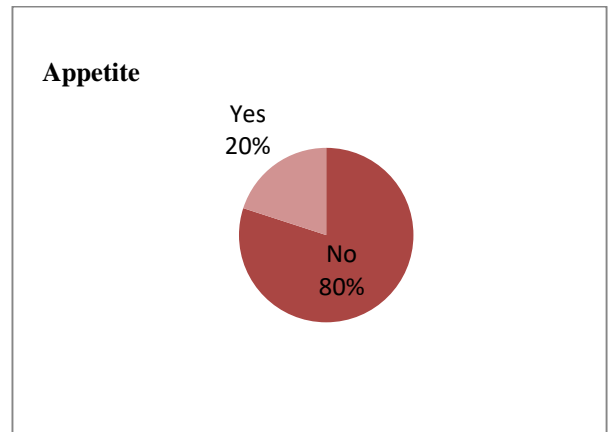
Graph 4: Eye Irritation among respondents



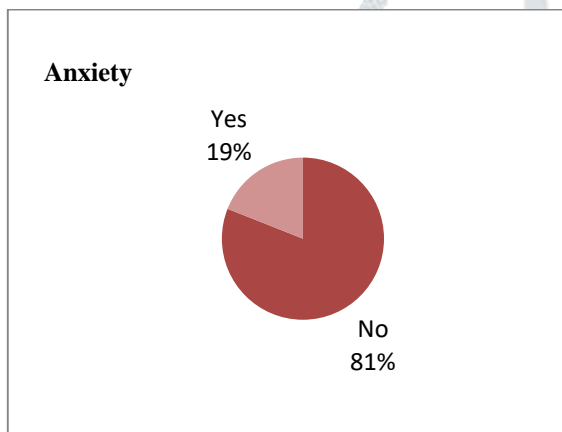
Graph 5: Hearing Loss Irritation among respondents



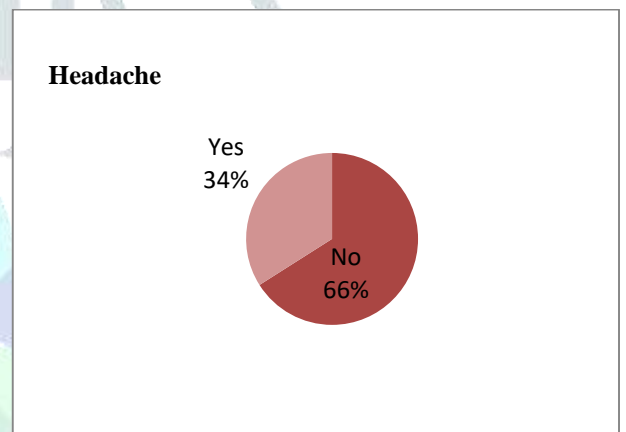
Graph 6: Appetite among respondents



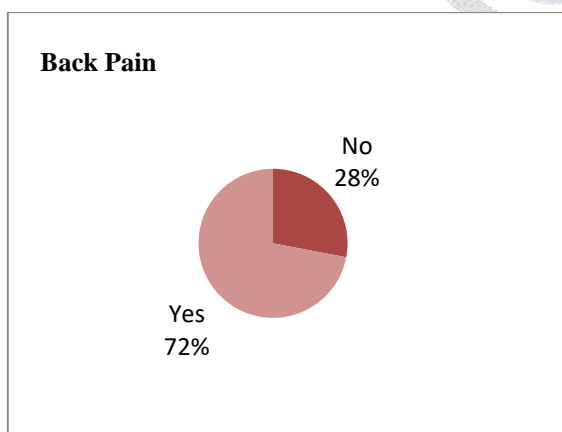
Graph 7: Anxiety among respondents



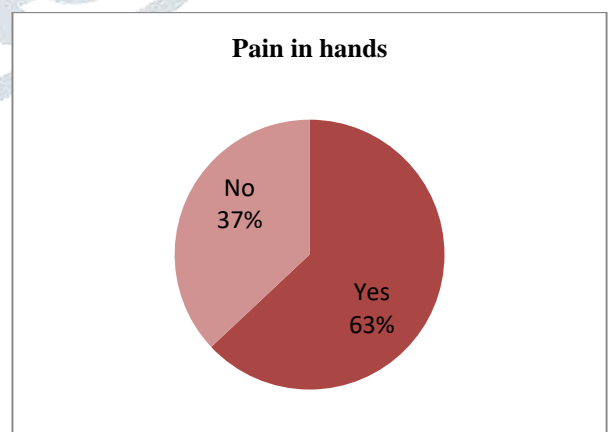
Graph 8: Headache among respondents



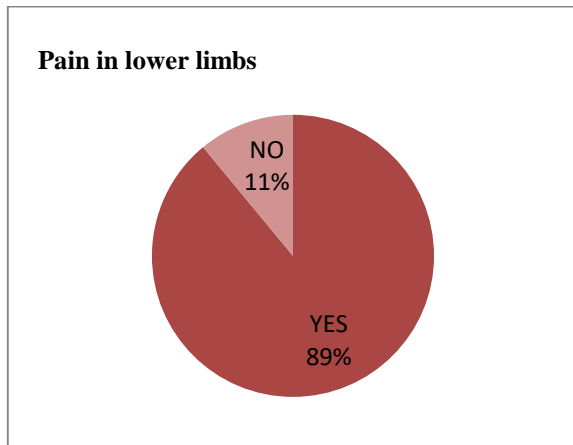
Graph 9: Back Pain among respondents



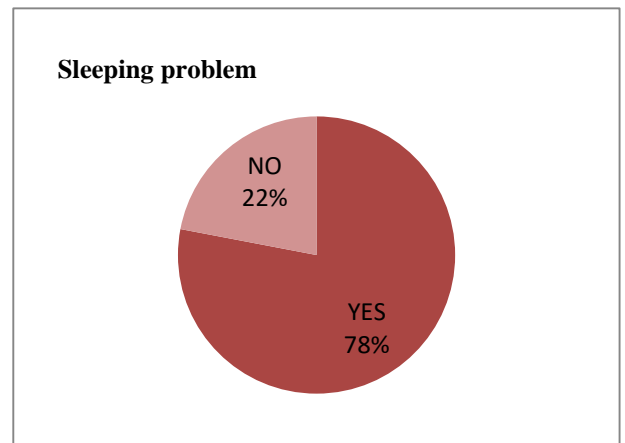
Graph 10: Pain in Hand among respondents



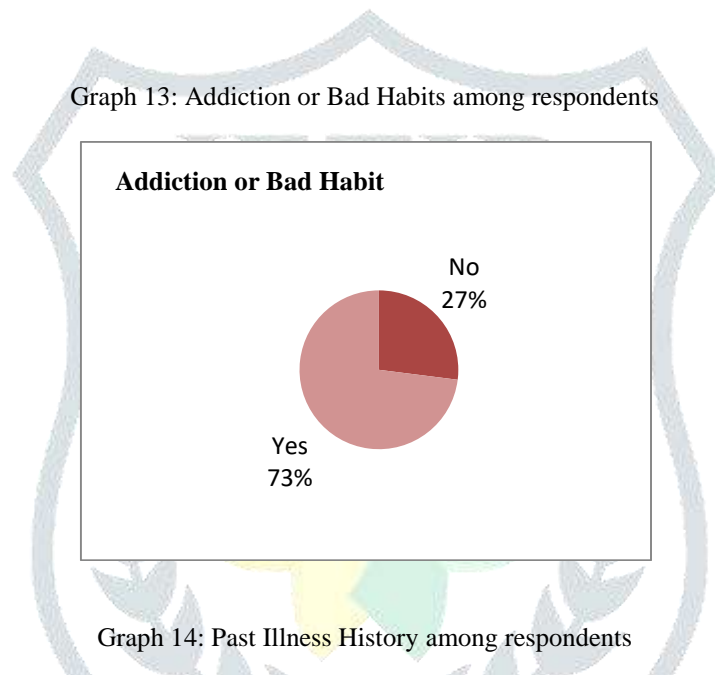
Graph 11: Pain in Lower Limbs among respondents



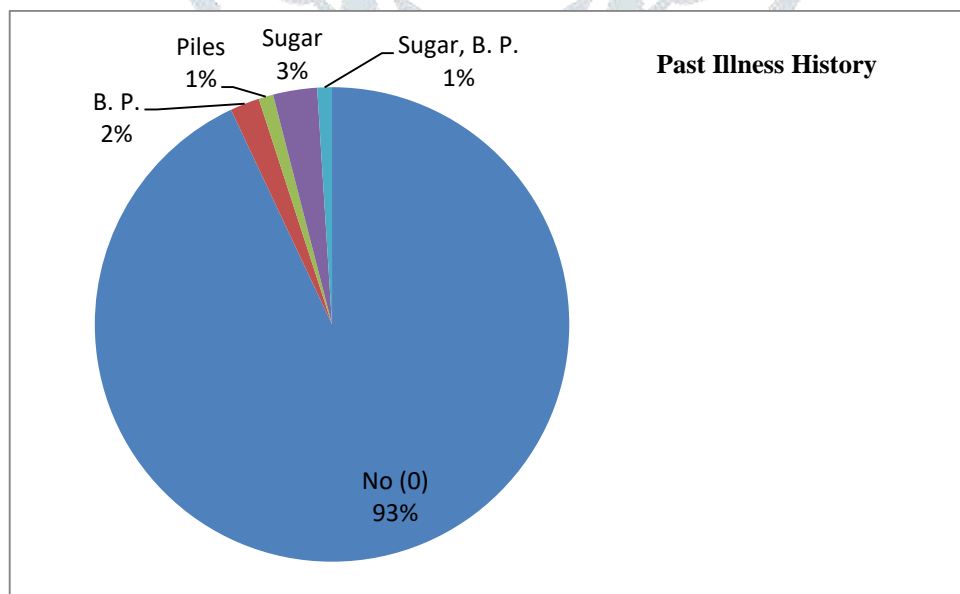
Graph 12: Sleeping problems among respondents



Graph 13: Addiction or Bad Habits among respondents



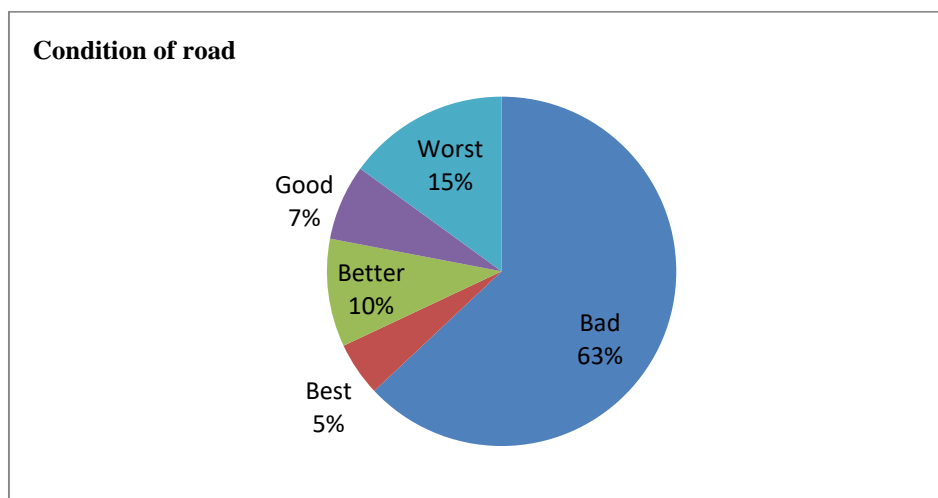
Graph 14: Past Illness History among respondents



Above graphical representation shows the variations between passed histories of illnesses. There are 2% people have Blood Pressure while about 1% people have Piles that indicates the physical internal problem. 3% people have high Sugar problem.

Very less nearby 1% people have Sugar as well as Blood Pressure. Remaining 93% people don't have any kind of physical problem.

Graph 15: Condition of roads according to respondents



According to only 5% respondents, the conditions of roads are best while an about 10% respondent implies roads are in better condition. Nearby 7% respondents said the roads are in good condition. 15% respondents replies the roads are in worst conditions. Maximum (63%) respondents said the roads are very bad for travelling.

3.1 Another Health Problems among the Respondents:

In the view of Mc Kernon, work-related health problems for bus drivers are typically stress-related psychological disorders and associated physical symptoms (especially elevated blood pressure), musculoskeletal problems, cardiovascular disease, stomach and related gastrointestinal problems, and chronic fatigue or burnout.

The main causes are psychosocial stressors. In particular, low control is inherent to the bus driver task, where goal achievement (e.g. arriving on time) is threatened by both competing demands and unpredictable events in the road environment. Physical stressors sleep pressure and work-home conflict also play a major part in health outcomes for the bus driver. Psychosocial, physical and sleep stressors are often present simultaneously, having confounding affects on health outcomes.

The results presented here support further investigation of the need to account for health as a potential factor in safety performance, as a precursor to longitudinal studies into the effects of work stressors on health, sleep, and safety behavior. Fatigue, stress and health have mostly been considered as separate factors in relation to both driver health and driver safety, despite the fact that these factors are strongly and dynamically interactive. Likewise, while psychosocial pressures are often cited in relation to health outcomes, sleep undoubtedly plays a role in the effects of these stressors.

It is important to prevent acute fatigue with the benefits of alert driving. It can be achieved through communications campaigns to educate drivers, build social norms and billboards/signs to remind drivers to stay alert and proactively manage fatigue.

The drivers faced main problems on/ due to:

1) On Traffic Signals:

In Kolhapur there are 22 functional signals and 30 one-way routes in city, the majority of Kolhapur's main roads seem to be witnessing heavy traffic jams in the rush hours, making it difficult for commuters to reach their destination on time.

The intensity of traffic jams increases on Mondays, with a maximum number of commuters out on the roads on the first day of the week.

Commuters and traffic policemen deployed on the roads say that the traffic jams are not just due to the heavy rush and narrow city roads, but also due to haphazard parking and people flouting traffic rules.

Traffic signals are especially common at Tararani Chowk, Dabholkar Corner Chowk, Dassara Chowk and Uma Talkies Chowk. Station Road starting from Tararani Chowk to CPR Chowk and Bhausinghji Road from Bhawani Mandap to CPR Chowk are two main arterial roads in the city that witness heavy traffic jams during the rush hour.

Bhausingji road too, always remains crowded, with parking on both sides of the road resulting in a considerable reduction of the road width. Besides auto-rickshaw stops, haphazard parking of motorcycles and four-wheelers are a major problem on this stretch, resulting in traffic congestion.

2) Bad Road Condition:

A road is a thoroughfare, route, or way on land between two places that has been paved or otherwise improved to allow travel by foot or some form of conveyance, including a motor vehicle, cart, bicycle etc.

While driver errors such as speeding and distracted driving are among the leading causes of automobile accidents in Kolhapur, dangerous road conditions are also a significant contributor. Dangerous road conditions may be the result of natural events, such as tropical rains and flooding, that make driving unsafe.

IV. CONCLUSIONS

By considering above results, present study come to the end with following conclusions with respect to occupational health issues faced by bus drivers.

The present study based on perception of the health problems as encountered by the respondents (drivers) and medical inference may be needed. But however, that the problems suffered by the bus drivers may be attributed to the nature of work they are exposed to and the associated life-style which is an outcome of their occupation.

Research supports a number of actions to reduce work hazards, which include reduction of traffic congestion, reduction of fatigue and interference with personal life (improving work schedules) improving ergonomic design of buses (seat design, steering wheel design, etc.) and a little more comfortable space for movement for the conductors inside the bus.

1. Occupational stress has an aversive affect on individuals and organizations. Stress leads to physical and mental ill-health. Bus driving is a classic example of high-strain occupation.

2. Stress in bus drivers leads to absenteeism, substance abuse, decreased productivity, and increased accident rates. Stress detection will help in taking measures for stress reduction.

3. Thus, this study was planned to assess occupational health problems in bus drivers.

4. As per the graph 1 to 12 we are conclude that, Our study provides empirical evidence on key questions in the debates around whether or not such schemes are worth investment, and their effects on outcomes such as active travel, injury rates, social inclusion and sustainability.

5. The qualitative data suggested a number of benefits from increased access to transport for young people, including increased ability to be independently mobile, increased control over their travel, and fostering.

These are difficult to quantify, but confidence, independence and a sense of belonging make an important contribution to young people's well-being.

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