

**OCCUPATIONAL HEALTH HAZARDS AMONG AUTO RICKSHAW DRIVERS OF
THIRUVANANTHAPURAM CITY**

A Dissertation work submitted to the

University of Kerala

in partial fulfilment of the requirements for the

Master of Arts in Human Resource Management Degree Examination

SUBMITTED BY ARUNIMA A.S

Exam Code: 58418404

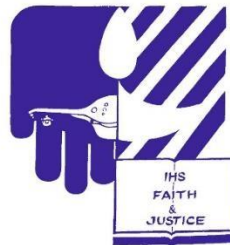
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2021-2023

CERTIFICATION OF APPROVAL

This is to certify that the dissertation entitled “**OCCUPATIONAL HEALTH HAZARDS AMONG AUTORICKSHAW DRIVERS OF THIRUVANANTHAPURAM CITY**” is a record of genuine work done by Arunima A.S, a fourth semester, Master of Human Resource Management student of this college under my supervision and guidance and that is hereby approved for submission.

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DECLARATION

I, **ARUNIMA A.S**, do hereby declare that this Dissertation titled “**OCCUPATIONAL HEALTH HAZARDS OF AUTO RICKSHAW DRIVERS OF THIRUVANANTHAPURAM CITY**” is based on the original work carried out by me and submitted to the University of Kerala during the year 2021-2023 towards partial fulfilment of the requirements for the **Master of Arts in Human Resource Management** Degree Examination. I further declare that this dissertation is based on the original study undertaken by me and has not been submitted for the award of any diploma or degree from any other University/ Institution.

Trivandrum

Arunima A S

Date: 18/08/2023

ACKNOWLEDGEMENT

I am grateful to the Almighty for the blessings and for empowering me to complete this dissertation. I would also like to express my sincere gratitude to all those who contributed for the fulfilment of this work through their advices, efforts, guidance and blessings.

I would like to thank Dr. Saji P Jacob, Principal, Loyola College of Social Science. I express my deep sense of gratitude and profound thanks to my faculty guide Dr. Aby Tellas, Assistant Professor, Department of Personnel Management, for all his timely instructions and guidance given to bring the best out of me. I extend my heartfelt gratitude to, Dr. Anitha S, Head of the department, Department of Personnel Management, Dr. Prakash Pillai R, Dr. Angelo Mathew P and Dr. Rasmy.Kiran, faculty members of the Department of Personnel Management for being generous in sparing their time for responding to my queries and providing necessary support and guidance throughout my research journey.

I would like to thank all the respondents on the outset of their valuable time and for filling the questionnaire. I express my sincere thanks to Dr. Sunil Kumar, Librarian and Mr. George Mathew, Assistant Librarian, Loyola College of Social Sciences for providing necessary reference materials, and their kind support for the successful completion of my work so far.

I would like to extend my heartfelt gratitude to my parents, who spared efforts and with whose prayers and support, I attain all my successes. I am also indebted to my dearest friends, whose help and support and encouraged me to complete this work and present it before you.

CONTENTS

Sl. No	Chapter	Page No
1	Introduction	1-8
2	Review of Literature	9-22
3	Methodology	23-27
4	Data Analysis and Interpretation	28-43
5	Findings, Suggestions and Conclusion	44-51
6	Bibliography	52-54
7	Appendix	55-59

LIST OF TABLES

Table number	Name	Page number
4.2.1	Gender wise participation of respondents	29
4.2.2	Age wise participation of respondents	30
4.2.3	Work experience wise participation of respondents	30
4.2.4	Hours of work distribution of respondents	31
4.2.5	I am a member of Kerala motor vehicle department welfare fund board.	31
4.2.6	Annual Income distribution of respondents	32
4.3.1	Sex wise analysis of variables (Factors, Morbidity and Awareness)	33,34
4.3.2	Working hours wise analysis of variables	35,36
4.3.3	Membership wise analysis in Kerala motor vehicle department welfare fund board	37,38,39
4.4.1	One Way ANOVA between Factors influencing health status, Morbidity profile, Awareness about occupational safety and health by Age.	40
4.4.2	One Way ANOVA between Factors influencing health status, Morbidity profile, Awareness about occupational safety and health by Annual income.	41
4.5	Correlation between Factors influencing health status, Morbidity profile and Awareness about occupational safety and health	43

ABSTRACT

This study investigates the occupational health hazards among auto rickshaw drivers of Thiruvananthapuram city, India. Despite their important role in urban transportation, these drivers encounter various challenges that affect their physical and mental well-being. The research aims to thoroughly understand their health issues, morbidity profile, and how well they are aware of safety measures and benefits. Through a survey involving 100 participants, the study explores factors that influence their health status, morbidity profile, and awareness of occupational safety and health.

The findings show that there are significant differences in health factors between drivers, indicating the need for actions that consider gender differences. Age consistently emerges as an important factor, influencing health, illness, and their knowledge about safety practices. Moreover, being a member of the Kerala Motor Vehicle Department Welfare Fund Board affects how well drivers are aware of occupational safety and health.

Auto rickshaw drivers face challenges such as uncomfortable seating, exposure to pollution, financial instability due to varying income, and safety concerns due to traffic. Their long hours of sitting, exposure to pollution, and irregular working schedules contribute to physical problems like muscle and bone discomfort, respiratory issues, and increased stress levels. Financial uncertainties stemming from inconsistent income add to mental stress.

To address these issues, the study suggests several approaches. Activities like health check-ups, ergonomic training, drinking water and sanitation facilities, and awareness campaigns can improve drivers' health. Having flexible work hours and better road infrastructure can help reduce physical strain and road accidents. Collaboration with the Welfare Fund Board and forming support networks can provide essential assistance. Offering comprehensive health insurance, organizing stress management workshops, and tailoring interventions based on age and income are also recommended.

In conclusion, this study highlights the pressing need to tackle the health challenges faced by auto rickshaw drivers. Given their significant role in urban transport, it's crucial to work together to enhance their well-being. By combining education, policy changes, and support networks, cities can create a safer and more supportive work environment for these essential workers. This effort will not only benefit their health but also contribute to a stronger workforce and transportation system.

CHAPTER ONE
INTRODUCTION

1.1 INTRODUCTION

Occupational health hazards refer to risks and dangers that individuals face while carrying out their work responsibilities, which can significantly impact their physical and mental well-being. These risks stem from various aspects of the work environment, the nature of job tasks, and the existing conditions, presenting serious menaces to the health and safety of workers. Factors like inadequate ventilation, ergonomic issues, exposure to harmful substances, and unsafe machinery contribute to physical discomfort and potential long-term health problems. Similarly, stress, extended work hours, and insufficient protective measures can also impact mental health negatively. It is crucial to address these hazards through thorough risk assessment, comprehensive training, and fostering a safety-oriented culture to ensure the well-being of employees and promote a secure and thriving workplace environment, benefiting individuals and organizations alike.

Auto rickshaw drivers, also known as tuk-tuk or three-wheeler drivers, hold a crucial role in urban transportation systems, particularly in countries like India. They offer a convenient, cost-effective, and adaptable mode of travel, which proves essential in congested city areas. Despite their significance, they encounter various challenges. These include exposure to occupational health risks due to extended time in traffic and environmental pollutants. Additionally, financial instability arises from fluctuating passenger demands, fuel expenses, and regulatory obstacles, undermining their economic security. Negotiating the complexities of urban traffic adds to their stress. Safety concerns are also prominent, with their open vehicles leaving them vulnerable to accidents. Furthermore, the absence of social security compounds their difficulties. Unfortunately, these drivers often remain overlooked, grappling with a range of problems and lacking adequate support from society and authorities.

Auto rickshaw drivers encounter a range of occupational health hazards that encompass both physical and mental aspects. Their job involves prolonged sitting and often in uncomfortable positions, potentially leading to musculoskeletal issues over time. In addition, the urban environment they navigate exposes them to pollutants and exhaust fumes, which can contribute to respiratory problems. The irregular and long working hours, along with extended driving periods, can lead to fatigue, heightened stress levels, and overall reduced well-being.

Moreover, the financial unpredictability inherent in their profession adds to their psychological stress. Fluctuating incomes and the absence of job security or benefits create a sense of uncertainty about their financial future. This financial instability, in turn, has the potential to cause anxiety and contribute to various mental health challenges. This combination of occupational and financial uncertainties puts them at risk of stress-related disorders, anxiety, and even depression. Given these complex challenges, addressing the overall health and well-being of auto rickshaw drivers is not only a societal responsibility but also crucial for their personal and collective welfare. It requires comprehensive efforts to improve their work conditions, provide stable financial support, and promote an environment that nurtures both their physical and mental health.

Moreover, the job of auto rickshaw drivers puts them at risk of road accidents. This happens because they drive in busy cities where roads are crowded and other drivers can be aggressive. Also, the roads may not be in good condition. These challenges mean they are more likely to have crashes or close calls. This constant danger shows how risky their job is, and it's really important for everyone to learn more about road safety, have strict traffic rules, and improve roads so that everyone using the roads, including these often forgotten drivers, can be safe.

Additionally, auto rickshaw drivers don't have benefits like health insurance or retirement plans. This makes their life even harder. If they get sick, they might not have money to pay for medicine or a doctor. They also don't have a plan for when they stop working. This makes them feel worried about their future. Not having these protections makes them feel even more stressed because their money and job are not secure. And if they have problems at work or get hurt, there are no rules to help them. This lack of support makes them feel weak and not safe. It's really important to understand their problems and work on making things better for them. We should make sure they have access to health care, save money for when they're older, and have laws to protect them at work. Doing these things will not only help them but also make our cities better places for everyone.

Addressing the occupational health hazards and challenges faced by auto rickshaw drivers requires comprehensive measures. Dealing with the health risks and challenges auto rickshaw drivers face needs a careful plan. An essential initial step is to enhance awareness and education about the potential hazards tied to their occupation, alongside promoting safe driving practices. Equipping drivers with knowledge empowers them to safeguard their well-being while

managing the challenges of their job. Making the job better for auto rickshaw drivers is also very important. This means improving ergonomic conditions by giving them good seats, back support, and controls they can adjust. These changes can really help stop them from getting sore muscles and bones because they spend a lot of time driving in uncomfortable ways. Implementing environmental controls such as promoting cleaner fuels or equipping vehicles with emission control systems can reduce exposure to pollutants. Strengthening traffic regulations, ensuring adherence to safety standards, and improving infrastructure can minimize road accidents and congestion. Introducing policies and programs to provide social security benefits and establishing support networks or associations for auto rickshaw drivers ie; making rules that give drivers things like health insurance and creating groups to support them can make their lives better and protect their rights and well-being, which shows that their role in city transportation is very important.

Recognizing and dealing with the health risks that auto rickshaw drivers face isn't just about keeping them healthy – it's also about making sure the city's transportation system works well. By addressing the occupational health hazards faced by auto rickshaw drivers is crucial for creating a safer, healthier, and more supportive working environment for these essential workers. By working together to solve these problems, we can make a work environment that values what they do and gives them the help they need to handle their job while staying physically and mentally healthy.

1.2 STATEMENT OF THE PROBLEM

The occupational health hazards among autorickshaw drivers of Thiruvananthapuram city have not received sufficient attention. This lack of focus has led to potential health problems and negative effects on their overall well-being. This study aims to examine the factors that influence the health status of autorickshaw drivers ie; it seeks to understand the factors impacting drivers' health and their health issues, to assess their morbidity profile and investigate the relationship between occupational hazards and health outcomes ie; ie; the potential connections to their job conditions. Furthermore, it aims to gauge the level of awareness among autorickshaw drivers regarding occupational safety and health ie; it aims to assess drivers' awareness of safety practices and relevant policies and programs to provide social security benefits and establishing support networks or associations for auto rickshaw drivers, which is crucial for improving their overall well-being. By addressing these knowledge

gaps, this research aims to provide valuable insights to develop interventions and policies that enhance the occupational health and well-being of autorickshaw drivers in Thiruvananthapuram city. Ultimately, the research aims to contribute to a safer and healthier work atmosphere for autorickshaw drivers.

1.3 SIGNIFICANCE OF THE STUDY

The study focusing on the occupational health hazards among autorickshaw drivers of Thiruvananthapuram city holds great significance for several reasons. Firstly, it aims to comprehend the factors that impact the health status of autorickshaw drivers, considering their unique working conditions and challenges. By gaining a deeper understanding of these factors, it becomes possible to develop effective interventions and strategies that can improve the overall well-being of the drivers. Secondly, the study seeks to evaluate the morbidity profile of autorickshaw drivers and investigate the correlation between occupational hazards and health outcomes. This examination will provide valuable insights into the specific health issues faced by the drivers, enabling early intervention and preventive measures. Additionally, the study aims to assess the awareness levels of autorickshaw drivers regarding occupational safety and health. This assessment will aid in designing targeted educational programs aimed at enhancing their knowledge of hazards and promoting safer work practices. The findings of this study can also contribute to the development and implementation of policies that ensure the protection of occupational health for autorickshaw drivers. Furthermore, these results can be extrapolated to other regions, serving as a foundation for further research in the field of occupational health. Ultimately, this study has the potential to significantly improve the lives of autorickshaw drivers, increase awareness about occupational health, and generate broader social and economic implications.

1.4 OBJECTIVES

GENERAL OBJECTIVE

- To study the occupational health hazards among autorickshaw drivers of Thiruvananthapuram city.

SPECIFIC OBJECTIVE

- To identify the various factors influencing health status of autorickshaw drivers.
- To assess the morbidity profile of the autorickshaw drivers and investigate the relationship with occupational hazards.
- To investigate the awareness of the autorickshaw drivers regarding occupational safety and health.

1.5 DEFINITION OF CONCEPTS

OCCUPATIONAL HEALTH HAZARDS

Theoretical Definition

A general term covering all workplace hazards, i.e., attributable to all forms of environmental contamination and physical, ergonomic, psychological, and social stress (*Oxford dictionary*).

Operational Definition

Occupational health hazards encompass workplace risks that cause physical or mental harm to auto rickshaw drivers, including hazardous substances, noise, poor ergonomics, and workplace stress. It is vital to prioritize risk prevention and mitigation to ensure the well-being of workers.

HEALTH STATUS

Theoretical Definition

A description and/or measurement of the health of an individual or population at a particular point in time against identifiable standards, usually by reference to health *indicators* (*WHO, 1998, p. 12*).

Operational Definition

Health status refers to an individual's overall physical, mental, and emotional well-being, including their level of functioning, absence of illness or disease, and ability to perform daily activities.

MORBIDITY PROFILE

Theoretical Definition

The fact of having a particular disease; the number of people who have a particular disease (*oxford dictionary*).

Operational Definition

A morbidity profile provides a detailed account of the types, frequency, and characteristics of illnesses or health conditions experienced by individuals or a group within a population.

OCCUPATIONAL SAFETY AND HEALTH

Theoretical Definition

Occupational safety and health identified as the discipline dealing with the prevention of work-related injuries and diseases as well as the protection and promotion of the health of workers. It aims at the improvement of working conditions and environment (*International Labour Organisation*).

Operational Definition

Occupational safety and health referred as the strategies and protocols employed to safeguard the physical and mental welfare of employees, preventing harm, accidents, injuries, and fostering a secure work environment.

1.6 CHAPTERIZATION

This dissertation is presented in five chapters as below

- Chapter 1- Introduction, describes, Statement of the problem, Significance of the study, Objectives and Chapterization.
- Chapter 2 –Review of literature, Theoretical framework of the study will be detailed in this chapter to find out research gap identified as conclusion.
- Chapter 3- Methodology includes Title of the study, Research problem, Universe & Sampling, unit, Sources of data, Tools for data collection, Data collection, Plan of Data Analysis, and Limitations of the study.

- ▶ Chapter 4- Data Analysis, discussion and interpretations will be summarised
- ▶ Chapter 5- will enlist findings, present suggestions and summarise conclusion of the study.

CHAPTER TWO
LITERATURE REVIEW

2.INTRODUCTION

A literature review is a thorough summary of earlier studies on a subject. The literature review examines scholarly books, journals, and other sources that are pertinent to a particular field of study. This prior research should be listed, described, summed up, impartially evaluated, and clarified in the review. It needs to provide a theoretical framework for the study and assist the researcher in defining its scope. By acknowledging the contributions of earlier researchers, the literature review reassures the reader that the work has been thoughtfully conceived. When a previous study in the subject is mentioned, it is assumed that the researcher has read, assessed, and incorporated that study into the current work.

The collection of literature reviews provided a comprehensive exploration of the challenges and complexities these drivers face in their profession, covering topics such as their socio-economic status, health concerns, environmental exposure, occupational risks, mental well-being, and public perceptions in various Indian cities. The literature highlights their marginalized position in society, often dealing with discrimination, unfavorable work conditions, and the stigma of being associated with corruption or illegality. Health, the relationship between auto-rickshaw drivers and the public, Substance abuse, depression, and physical discomfort was the main focus of these studies. Studies highlights the multifaceted nature of the issues faced by auto-rickshaw drivers in Indian cities. The findings stress the importance of targeted interventions and policy adjustments to enhance the working conditions, health outcomes, and overall quality of life for these essential urban workers.

REVIEW OF LITERATURE

Vaz, Rodney Preetham, et.al (2023) - The authors have conducted a study titled on *Prevalence of Chronic Obstructive Pulmonary Disease among Auto Rickshaw Drivers of East Delhi: A Cross-Sectional Study*. The rapid progress of industrialization, urbanization, and the increased utilization of vehicles running on fossil fuels have contributed to a substantial escalation in pollution levels, particularly in major urban centers. Consequently, this has led to the emergence of a range of acute and chronic diseases, including conditions such as Chronic Obstructive Pulmonary Disease (COPD), Cardiovascular Diseases, Cerebrovascular Diseases,

and others, resulting in notable impacts on rates of mortality and morbidity. Auto rickshaw drivers, who encounter regular exposure to environmental pollutants, face heightened vulnerability to the adverse consequences of these pollutants. The primary objective of the present study was to assess the prevalence of COPD among auto rickshaw drivers. Conducted in 2019 within the Kalyanpuri circle of East Delhi, this community-based cross-sectional study involved the participation of 409 auto rickshaw drivers selected via simple random sampling from ten Three-Seater Rickshaw (TSR) stands. Sequential drivers from each stand were included in the study, and data collection was performed through the administration of a questionnaire. Additionally, spirometry tests were carried out using a handheld portable spirometer, with adjustments made to values based on S K Chhabra's formula specifically developed for Indian males. Data analysis was executed employing SPSS software, utilizing chi-square tests. The findings of the study revealed that the average age of the study subjects was 39 ± 7.54 years, with participants falling within the age range of 22 to 59 years. Based on the spirometry results and in accordance with the GOLD criteria, the prevalence of COPD was determined to be 13.7%. Notably, significant associations were observed between the age of the study subjects and the number of hours spent driving. However, no substantial correlation was detected between the prevalence of COPD and smoking status. In conclusion, the study findings underscored a heightened prevalence of COPD among auto rickshaw drivers. As these drivers belong to the unorganized sector, it is crucial to develop and implement targeted policies and interventions that prioritize their health and overall well-being.

Soumi Mukherjee, K. C. Das (2022) - The authors have conducted a study titled on *Burden of occupational morbidities among migrant auto-rickshaw drivers*. A significant proportion of Mumbai's migrant population comprises individuals from disadvantaged socio-economic backgrounds who secure employment in the informal sector, characterized by precarious and low-reward jobs. Auto-rickshaw driving is a particularly perilous occupation within this sector. Over half of the auto-rickshaw drivers have encountered accidents at least once during their careers, resulting in injuries that range from minor to fatal. In addition to accident risks, these drivers confront various health issues including back pain, spondylitis, joint pains, gastric problems, and ailments associated with exposure to air and noise pollution, which contribute to occupation-specific health problems. Moreover, as migrants with limited socio-economic means, they experience heightened vulnerability and endure unstable living conditions with inadequate access to healthcare support.

Suresh Jain, Vaishnavi Barthwal (2022) - The authors have conducted a study titled on *Health impact assessment of auto rickshaw and cab drivers due to exposure to vehicular pollution in Delhi: an integrated approach*. Vehicle emissions significantly contribute to urban air pollution, affecting the health of both commuters and drivers. This study conducted in Delhi aims to evaluate the health effects of air pollution exposure specifically on auto rickshaw and cab drivers. Employing a triangular approach consisting of a health perception survey, lung function tests, and in-vehicle monitoring of particulate matter (PM) concentration, the study examined the impact of air pollution on drivers. A total of 150 respondents (75 from each occupation) were surveyed, and spirometry tests were conducted for 40 participants. The findings indicate that auto rickshaw drivers experience notably higher PM concentrations within their vehicles during summers and winters, increasing their susceptibility to respiratory, ophthalmic, and dermatological symptoms. Furthermore, obstructive and restrictive lung impairments were more prevalent among auto rickshaw drivers compared to cab drivers, highlighting their heightened vulnerability to respiratory issues. Age was identified as a contributing factor to lung function impairment. The study observed that neither auto rickshaw drivers nor cab drivers adopted formal protective measures, primarily due to lack of awareness or financial constraints. Consequently, the study underscores the importance of raising awareness, establishing protective guidelines, and implementing specific policies to safeguard outdoor workers, particularly auto rickshaw drivers, with the aim of addressing their health concerns and promoting their well-being.

Roshani Dhanvijay, Savita Pohekar (2021) - The authors have conducted a study titled on *Assessment of Auto-rickshaw Drivers Knowledge Regarding the Effects of Air Pollution on Health and Its Prevention*. Air pollution, caused by various gases, dust particles, and small molecules, is a significant environmental issue. Auto-rickshaw drivers face numerous challenges and hazards related to their occupation, such as exposure to air pollution, adverse weather and road conditions, dust, infected droplets, job insecurity, noise pollution, vibration, business demands, vehicle damage, and schedule-related pressure. In addition to these challenges, auto-rickshaw drivers have the responsibility of ensuring the safety of their passengers, pedestrians, and other vehicles on the road. The objective of this study is to assess the knowledge of auto-rickshaw drivers regarding the health effects of air pollution and its prevention. The research followed an observational approach with a cross-sectional design,

using probability purposive sampling to gather data. Structured questionnaires were used to collect information, and the data was analyzed in terms of frequency and percentage. Additionally, the study employed the Chi-square test to explore any correlations between knowledge levels and specified demographic variables.

Tigari Harish, Santhosh H.B(2020) – The authors have conducted a study titled on *Socio-Economic Background of Auto-Rickshaw Drivers*. Auto rickshaws have gained popularity as a convenient means of transportation in urban areas, earning the trust of numerous individuals for their daily commuting needs. Within the informal service sector, the drivers play a vital role in delivering this service. They enter this profession with the aspiration of earning a sufficient income to support their livelihoods. Some drivers also pursue additional interests alongside their driving duties. Despite lacking extensive formal education, they lead respectable lives within their communities. Nevertheless, auto drivers encounter various challenges in their work environment, such as health issues, insufficient infrastructure facilities, and adherence to traffic regulations. Their earnings are adversely affected by fierce competition, particularly from city buses and two-wheelers. Nonetheless, auto drivers demonstrate unwavering dedication by providing their services around the clock. This study seeks to investigate the present socio-economic circumstances of auto drivers, focusing on their earnings and working conditions.

M. Yesurajan, Dr. T. Indra (2019) - The authors have conducted a study titled on *Correlation Between Bad Habbits And Health Status: A Study Of Auto Rickshaw Drivers In Madurai North, Tamil Nadu*. According to the estimation by the World Health Organization, occupational health risks are a significant contributor to both illness and death. Many drivers spend a majority of their daily lives on the road, which offers them the opportunity to explore different places and pursue a fulfilling career. However, this also means that they spend a considerable amount of time in a seated position with limited movement, making it challenging to maintain good health. The profession of an auto driver involves high levels of stress, which can lead to various diseases. They have to contend with other reckless drivers on the road, and the task of navigating through traffic congestion and road accidents can be highly stressful. Auto drivers are required to safely operate their vehicles through the busiest streets during peak hours. It is worth noting that drivers commonly experience sinus problems, back pain, migraine headaches, and hypertension. They often neglect these symptoms or resort to self-medication

while working, and more than 40% of them express dissatisfaction with the healthcare services available to them while they are on duty.

Chakreshwari A B (2019) - The author conducted a study titled on *Auto drivers Of Mangalore City*. Auto-rickshaw drivers, who play a crucial role in urban transportation in India, confront various health challenges directly associated with their driving position. The demanding nature of their job, combined with long and hectic schedules, often results in the neglect of their personal well-being. Furthermore, their dietary habits, which typically involve high consumption of fatty and carbohydrate-rich foods while lacking essential nutrients from fresh produce, salads, and fiber, contribute to their overall poor health. The driving posture itself presents issues for their digestive system, and the prevalence of smoking and alcohol consumption among certain drivers further worsens their health conditions. Consequently, the aim of this study is to comprehensively comprehend the socio-economic status and occupational health concerns confronted by auto-rickshaw drivers in the specific study region.

Shaurya Kaul, Anish Kumar Gupta, et.al (2019) - The authors have conducted a study titled on *Substance abuse and depression among auto-rickshaw drivers: A study from the national capital region of Delhi, India*. Auto-rickshaw drivers face various occupational risks, including stressful working conditions, environmental pollution, and substance abuse. This study aims to determine the prevalence of substance abuse and depression among auto-rickshaw drivers and compare it with non-auto-rickshaw drivers. A total of 120 participants, 60 each from auto-rickshaw drivers and non-auto-rickshaw drivers, were randomly enrolled in the study. Beck's Depression Inventory, Hamilton Anxiety Rating Scale, and alcohol, smoking, and substance involvement screening tests were used to assess the participants. A predesigned questionnaire collected information on general health status, habits, addictions, and work experience. Statistical analysis, including the calculation of the Pearson correlation coefficient, was performed to establish relationships between variables. The results showed a significantly higher prevalence of tobacco and alcohol use among auto-rickshaw drivers compared to non-auto-rickshaw drivers. The prevalence of depression among auto-rickshaw drivers was also significantly higher, along with a higher incidence of mild-to-moderate anxiety. Factors such as driving experience, age, and substance abuse showed a significant association with depression. These findings underscore the need to address mental health issues, substance abuse, and provide appropriate support for auto-rickshaw drivers in promoting their well-being.

Sunil Kumar Gupta, Suresh Pandian Elumalai (2019) -The authors have conducted a study titled on *Exposure to traffic-related particulate matter and deposition dose to auto rickshaw driver in Dhanbad, India*. The objective of this study was to evaluate the level of particulate matter (PM) exposure among auto-rickshaw drivers in different environments, including inside the vehicle, outdoors, and indoors. The findings indicated that PM concentrations inside auto-rickshaws were 3.3 times higher than the surrounding ambient levels, with the highest concentrations observed during congested periods. A survey revealed that 80% of drivers perceived themselves to be more exposed than non-drivers, and over half of them believed that alternative fuels like CNG could mitigate air pollution. Auto-rickshaw drivers commonly reported experiencing body pain, eye irritation, and headaches. The estimated respiratory deposition doses of PM fractions were significantly higher for auto-rickshaw drivers compared to the ambient levels. This study highlights the heightened risk of exposure to fine particulate matter for auto-rickshaw drivers in Dhanbad city, emphasizing the importance of raising awareness and implementing measures to minimize their exposure. Future research should focus on interventions aimed at reducing exposure and enhancing driver awareness of air pollution associated with traffic.

Shubhankar Adhikari, Animesh Gupta (2019) - The authors have conducted a study titled on *Respiratory symptoms among auto rickshaw drivers of Mangaluru*. Auto rickshaw drivers are exposed to a polluted, hazardous, and noisy environment, which poses various health risks. The harmful pollutant gases they encounter, such as carbon monoxide and sulfur dioxide, can contribute to the development of respiratory conditions including chronic obstructive pulmonary disease, asthma, breathlessness, and chest pain. Thus, the aim of this study was to evaluate respiratory symptoms and measure peak expiratory flow rate (PEFR) among auto rickshaw drivers. A descriptive cross-sectional study was conducted among drivers in Mangaluru, collecting data on their sociodemographic profiles, dietary habits, addictions, and working hours. Respiratory examinations and PEFR measurements were also performed. The majority of participants fell within the age group of 41-50 years, with a significant proportion (56.4%) working for over 10 hours per day. The most commonly reported respiratory symptoms were breathlessness (28.7%) and cough (19.7%). Out of the 188 participants, 61 (32.4%) had a low PEFR. These findings highlight the notable prevalence of respiratory

symptoms among auto rickshaw drivers, underscoring the importance of raising awareness and implementing preventive measures to safeguard them from occupational diseases.

Peter Stephen, Thulasingham, Mahalakshmy, et.al (2018) - The authors have conducted a study titled on *High Prevalence of Chronic Respiratory Symptoms among Autorickshaw Drivers of Urban Puducherry, South India*. Auto-rickshaw drivers, who are continuously exposed to air pollution from traffic, are known to experience a decline in lung function. However, there is limited research on the occurrence of chronic respiratory symptoms and chronic obstructive pulmonary disease (COPD) specifically among these drivers. The objective of this cross-sectional study was to determine the prevalence of chronic respiratory symptoms and COPD among auto-rickshaw drivers in urban Puducherry, India. Through cluster sampling, a total of 297 drivers were randomly selected to participate. The participants underwent interviews using the Indian Study on Epidemiology of Asthma, Respiratory Symptoms, and Chronic Bronchitis (INSEARCH) questionnaire, and their peak expiratory flow rate (PEFR) was measured using Wright's peak flow meter. Additionally, their exposure to tobacco smoke was assessed. The results revealed that all participants were male, with 75% falling within the age range of 31 to 50 years. The majority of their time was spent on the roadside, either driving or waiting at the auto-stand. A significant proportion of auto-rickshaw drivers (76%) reported experiencing nonspecific chronic respiratory symptoms, including breathlessness on exertion (68%), cough at night and phlegm in the morning (22%), and wheezing (18%) in the past year. Approximately 28% of the drivers had a PEFR value below 80%. Moreover, a substantial number of drivers (64%) were tobacco smokers, and all drivers reported exposure to tobacco smoke in their workplace. In conclusion, the study identified a high prevalence of nonspecific chronic respiratory symptoms among auto-rickshaw drivers compared to the general population in India. The authors recommend that these drivers should utilize personal protective equipment and undergo regular screening and treatment to address respiratory impairments.

Veena Melwani, Angelin Priya, et.al (2018) – The authors have conducted a study titled on the *Study to assess the socio-demographic profile, health status and working conditions of auto-rickshaw drivers in Bhopal*. Auto-rickshaw drivers in India face numerous health

challenges due to their occupation. They are exposed to harmful environmental factors like pollutant gases, constant noise, and whole-body vibrations. Unhealthy lifestyle habits, such as irregular eating patterns and poor posture while driving, further contribute to their health issues. To understand the socio-demographic profile, health status, and working conditions of these drivers, a study was conducted at 15 auto-rickshaw stands in Bhopal. Questionnaires were administered to 20 drivers from each stand, and the collected data was analyzed using Epi info 7. The results revealed that the average age of participants was 39.17 ± 10.38 years, with a quarter having completed education up to the 10th standard and 22% being illiterate. Around 40.33% belonged to the lower middle socio-economic status. On average, drivers served seven customers per day, worked 12 hours, and earned an average income of Rs. 420 on busy days and Rs. 101 on slower days. The study also found that 6.67% had hypertension, 3.67% had diabetes, and 1% had both conditions. Additionally, 12% experienced lacrimation while driving during the day. This study emphasizes the need to address the working conditions and health status of auto-rickshaw drivers. It highlights the importance of raising awareness about health promotion and regular medical check-ups while recognizing the prevalence of addiction issues among the drivers.

Yesurajan M, Dr. Indra T (2017) – The authors have conducted study titled on *An analysis of environmental pollution related health hazards among auto rickshaw drivers*. Pollution poses a widespread problem with various manifestations, including chemical substances and different forms of energy such as noise, heat, and light. The pollutants, which make up the elements of pollution, can stem from both external sources and naturally occurring contaminants. In India, the issue of air and noise pollution has escalated to a critical level, presenting significant challenges. The main contributors to this situation are the burning of fuel wood and biomass, fuel adulteration, vehicle emissions, excessive honking, and traffic congestion. Auto drivers, as well as share-auto and taxi drivers, are particularly susceptible to the detrimental impacts of these pollutants due to spending a considerable amount of their working time on roads or at bus stands. Taxi drivers frequently station their vehicles at taxi/bus stands or stops while waiting for passengers. Consequently, these drivers face heightened risks of exposure to both traffic noise and contaminated air. Regrettably, many drivers lack awareness regarding the potential health consequences associated with prolonged exposure to such environmental hazards. As a result, the occurrence of occupational hazards among auto drivers and others has become a pressing concern. This paper aims to illuminate the

environmental pollution and health risks that auto drivers encounter, with the goal of raising awareness and enhancing comprehension of these issues.

Debasish Debbarma, Saptarshi Mitra (2017) - The authors have conducted a study titled on *Occupational health problems of the auto rickshaws service providers in Agartala city: a case study of Nagerjala motor stand*. The health of vehicle drivers holds immense importance in their daily lives, and the prolonged hours spent on the road contribute to occupational health risks. This study aims to determine the health issues faced by auto rickshaw service providers based on their age and the amount of time they spend driving these vehicles. Conducted at the Nagerjala Motor Stand in Agartala City, Tripura, the study involved interviews with auto rickshaw drivers and utilized statistical tools to analyze the collected data. The findings revealed that musculoskeletal problems were the most prevalent and frequently experienced health concerns among auto rickshaw service providers across all age groups. Consequently, recommendations for relevant preventive measures have been proposed to improve the drivers' overall health condition.

Girish H. O, Priya Senan, et.al (2016) - The authors have conducted a study titled on *Risk factors of cardiovascular diseases among auto-rickshaw drivers of Kannur, North Kerala: a cross-sectional study*. Cardiovascular diseases (CVDs) are a leading cause of death in developed countries, and it is predicted that they will become the primary cause of morbidity and mortality by 2020. The primary aim of this study was to assess the prevalence of cardiovascular risk factors among auto-rickshaw drivers. A descriptive cross-sectional study was conducted, involving 330 male auto-rickshaw drivers in Kannur city, Kerala. Data collection involved the use of a pre-designed and pre-tested questionnaire, as well as anthropometric measurements. The findings indicated that all participants in the study were male auto-rickshaw drivers. Among this group, various cardiovascular risk factors were identified. These encompassed a high percentage of current smokers (35.45%), individuals currently consuming alcohol (43.6%), individuals who were overweight or obese (40.6%), individuals with central obesity (32.1%), and individuals with hypertension (21.8%). The results shed light on the significant prevalence of cardiovascular risk factors among auto-rickshaw drivers, placing them at an increased risk of developing CVDs. To mitigate these risks, it is crucial to implement early precautionary measures, conduct regular medical check-ups, and promptly intervene to manage these risk factors. By implementing appropriate

interventions, it is possible to reduce the burden of CVDs and enhance the cardiovascular health of auto-rickshaw drivers.

Simon E. Harding, Madhav G. Badami, et.al (2016) - The authors have conducted a study titled on *Auto-rickshaws in Indian cities: Public perceptions and operational realities*. Auto-rickshaws play a significant role in urban transportation in India, yet they often face substantial criticism from the public, media, and policymakers. The public debate surrounding auto-rickshaws and their drivers is contentious, with various perceived faults and proposed policies to address these issues in Indian cities. Our objective is to bring balance and nuance to this debate by considering the perspectives of not only the drivers but also the auto-rickshaw users and the wider traveling public, with the aim of influencing policy-making effectively. In order to achieve this, we critically analyze the criticism and underlying perceptions, emphasize the unique and essential role of auto-rickshaws in urban transport, and investigate the practical aspects and economics of owning and operating auto-rickshaws. The actual impact of auto-rickshaws on congestion, safety, and air pollution differs significantly from the criticisms and perceptions of the public, media, and policymakers. The operational realities of auto-rickshaws are extremely challenging, often making it difficult for drivers and their families to rise above the poverty line. These circumstances may drive certain actions, such as not adhering to the metered fare system. Lastly, we conduct a thorough evaluation of policy recommendations aimed at addressing the issues associated with auto-rickshaws and their drivers. Furthermore, we present our own suggestions, including the implementation of open permit systems, improved access to formal sector credit, the establishment of a timetable for regular fare revisions, and the gradual phasing out of auto-rickshaws equipped with two-stroke engines.

MK Manglam, VK Sinha, et.al (2013) - The authors have conducted a study titled on, *Personality Correlates of Accident-Proneness in Auto-Rickshaw Drivers in India*. This study aimed to investigate the relationship between personality traits and accident-proneness among auto-rickshaw drivers in Ranchi, India. In a cross-sectional study, 50 male drivers aged 18-50 years were randomly selected from licensed drivers in the city. Participants completed a Hindi version of Cattell's 16 Personality Factors (16-PF) Questionnaire. The results indicated that accident-prone drivers had a significantly higher tendency to break rules, exceed speed limits, and engage in substance use. There was also a trend of carrying more passengers than

recommended. Furthermore, a negative correlation was found between accident-proneness and personality factors like reasoning, rule consciousness, apprehension, and emotional stability. These findings suggest that auto-rickshaw drivers with lower scores in these personality traits are more prone to accidents. The study highlights the significance of considering personality characteristics when implementing accident prevention strategies and promoting road safety among commercial auto-rickshaw drivers.

Shailendra Chaudhary, M M Nagargoje, et.al (2011) - The authors have conducted a study titled on, *Prevalence Of Cardio-Vascular Disease (Cvd) Risk Factors Among Auto-Rickshaw Drivers*. This study investigated cardiovascular disease (CVD) risk factors among auto-rickshaw drivers in Nagpur, India. The cross-sectional research involved 296 participants out of 6,000 drivers. The findings revealed high prevalence rates, including tobacco chewing (40.20%), smoking (35.14%), alcohol consumption (34.12%), and low rates of physical exercise (16.89%). Drivers experienced moderate to severe stress (27.36%) and had a mean body mass index (BMI) of 21.95 ± 3.48 kg/m². Pre-hypertension (37.16%) and hypertension (35.14%) were also prevalent, with 4.73% reporting a family history of hypertension. In conclusion, this study underscores the substantial prevalence of diverse CVD risk factors among auto-rickshaw drivers in Nagpur, necessitating urgent attention to regular health check-ups and the implementation of suitable preventive and promotive interventions to address their health concerns.

D Mohan, D Roy (2003) - The authors have conducted a study titled on, *Operating on Three Wheels: Auto-Rickshaw Drivers of Delhi*. This study shows that, the poor are increasingly marginalized and pushed to the fringes of society, often becoming invisible and treated as illegal entities. This is starkly evident in the plight of auto-rickshaw drivers in Delhi, who face a concerted attack from both the authorities and the media, accusing them of corruption. A study was undertaken to gain a comprehensive understanding of the perspectives of both commuters and auto-rickshaw drivers, with the goal of formulating policies that can benefit both parties. The aim of this study was to bridge the gap between the two groups and develop solutions that address the concerns and interests of both commuters and auto-rickshaw drivers, fostering a more equitable and mutually beneficial environment.

2.1 CONCLUSION

The collection of studies provides a comprehensive overview of the difficulties and health issues that auto-rickshaw drivers in India encounter. These research works show that these drivers face a variety of health risks due to factors like air and noise pollution, extended work hours, irregular eating habits, substance misuse, and stress. Many of them suffer from different health problems, including respiratory ailments, musculoskeletal disorders, heart conditions, and mental health issues. These studies underscore the immediate need for targeted strategies and policies to enhance the health and overall well-being of auto-rickshaw drivers. These measures could involve regular health check-ups, raising awareness about the health hazards related to their job, offering protection from pollution, and providing support for mental health challenges. In addition to this, addressing socio-economic factors like working conditions, income stability, and access to healthcare is crucial to tackling the health issues faced by these drivers. All in all, these studies highlight the importance of recognizing the vulnerability of auto-rickshaw drivers as a workforce and emphasize the need for comprehensive approaches to protect their health, improve their work environment, and enhance their overall quality of life.

2.2 RESEARCH GAP

In India, extensive research has been conducted to investigate the occupational health hazards faced by workers in various occupations. However, there is a noticeable gap in research when it comes to a specific group of workers: auto-rickshaw drivers in Thiruvananthapuram city. Unlike other professions that have been extensively studied, there is limited information available about the health status, the types of health problems they face, how much they know about staying safe at work and no more studies conducted related to checking their level of awareness regarding their occupational health and safety as well as their knowledge regarding relevant social security measures.

This gap in research is significant because it leaves a vacant space in our understanding of the unique challenges that auto-rickshaw drivers in Thiruvananthapuram city encounter on a daily basis. Unlike many other jobs, driving an auto-rickshaw involves exposure to multiple stressors

such as traffic congestion, air pollution, long working hours, and the constant pressure to meet income targets.

By addressing this research gap, we can gain insights into the specific health issues that auto-rickshaw drivers in Thiruvananthapuram face. This includes understanding if they experience more respiratory problems due to pollution, if they have musculoskeletal issues from sitting for long hours, or if they face other health concerns. Additionally, studying their level of awareness about occupational safety and health is crucial, as this can impact the preventive measures they take to protect themselves.

This research is not only important for the well-being of auto-rickshaw drivers but also for informing policy decisions that can improve their working conditions. By understanding their health challenges, policymakers can develop targeted interventions that address their specific needs, provide them with better support, and ultimately enhance their overall quality of life. Therefore, conducting research on occupational health hazards auto-rickshaw drivers in Thiruvananthapuram city is a vital step towards creating a safer and healthier working environment for this often-overlooked group of workers.

CHAPTER THREE
METHODOLOGY

3.1 INTRODUCTION TO METHODOLOGY

Research is the process of gathering, organising, and analysing data to provide information and deepen our understanding of a subject or problem. Research often follows three steps: 1. Start with a query. 2. Gather information to address the query. 3. Provide a response to the query. Because different research methodologies can be used in a variety of contexts, it is crucial to understand which technique is most appropriate for usage with a certain hypothesis or topic. In fact, using the wrong study methodology could make the findings meaningless. Different research methodologies have various goals and degrees of validity. This is one metric that shows how accurate a research method's findings are. This chapter makes an effort to demonstrate the research's validity in terms of methodological choice and application to demonstrate whether or not the study captures the intended outcomes.

3.2 TITLE OF THE STUDY

Occupational Health Hazards Among Autorickshaw Drivers of Thiruvananthapuram City.

3.3 RESEARCH APPROACH

The study follows a quantitative research methodology. Quantitative approaches place an emphasis on objective measurements and statistical, mathematical, or numerical analysis of data gathered by questionnaires and surveys. Quantitative analysis is concerned with collecting numerical data and generalising it across groups of people or explaining a specific phenomenon. This study focuses on the analyses of occupational health hazards among autorickshaw drivers of Thiruvananthapuram city. The research design followed here is,

3.4 UNIVERSE AND UNIT

3.4.1 Universe of the study

Auto rickshaw drivers

3.4.2 Unit of the study

An auto rickshaw driver

3.5 SAMPLING DESIGN

Sampling design is an established strategy for drawing a sample from a certain population is known as a sample design. For the particular study, the researcher used the technique of Incidental sampling. Incidental sampling is a nonprobability sampling method where individuals or items are selected based on their convenient availability or accessibility. It lacks random selection, making it prone to bias and limited generalizability.

3.5.1. Sample Size

Sample size refers to size of data collected i.e.; the number of data collected through the researcher's data collection tool for the study. For this study the researcher was able to collect data from 100 autorickshaw drivers in Thiruvananthapuram city.

3.6. RESEARCH DATA

3.6.1. Primary Data

Primary data refers to the first-hand data collected by the researcher themselves. The researcher collected the data using self-administered questionnaire designed by the researcher himself or herself.

3.7. TOOLS FOR DATA COLLECTION

Tool refers to the instruments or tools in which the researcher chose to collect data from respondents. For this study, the researcher chose to make use of questionnaire to collect the data from the respondents. A questionnaire is a type of research tool used to gather data from respondents and consists of a series of questions or other prompts. For this study, the researchers designed a questionnaire themselves, which contained total number of 29 questions, where the questionnaire were categorized into four parts based on data needed.

- The first category, which consist of 6 questions discusses about the demographic details of the respondent.
- The second category, which consist of questions 6 discusses about the factors influencing health status of auto rickshaw drivers.

- The third category, which consist of 7 questions discusses about the morbidity profile of the autorickshaw drivers and investigate the relationship with occupational hazards.
- The fourth category, which consist of 10 questions discusses to investigate the awareness of the autorickshaw drivers regarding occupational safety and health.

3.8. SOURCES OF DATA

3.8.1 Primary Data

Primary data was collected using a self-administered questionnaire designed by the researcher.

3.8.2 Secondary Data

The researcher has collected secondary data from journal articles, internet sources and newspapers and magazines.

3.9 DATA COLLECTION

The researcher used the Malayalam questionnaire and administered it in the form of Google Forms to collect the primary data from the respondents.

3.10 TOOLS FOR DATA COLLECTION

The researcher used the Statistical Package for Social Sciences (SPSS), a software package for statistical analysis for doing the data analysis. The Statistical Package for Social Sciences (SPSS), a statistical analysis software programme, was utilised by the researcher to analyse the data. The analysis made use of both descriptive and inferential statistics. The descriptive statistics were used for the analysis.

3.11 PILOT-STUDY

A pilot study was carried out for assessing the feasibility of the study among the respondents. 15 respondents were selected randomly, and data was collected. After analysis of the data, necessary corrections and modifications were made in the questionnaire.

3.11 LIMITATIONS OF THE STUDY

The study is subjected to the following limitations

1. As the data was collected using google forms, the researcher could not be directly involved in the data collection.
2. Responses may be skewed since there is a chance that respondents will fill out the responses quickly without going through the questions due to their tight work schedule.

CHAPTER FOUR
DATA ANALYSIS AND INTERPRETATION

4.1 Introduction

The statistical package for social sciences SPSS.22 and Microsoft Excel were used to analyse data for this research. The information used for analysis were gathered from auto rickshaw driver in Thiruvananthapuram city. Data were collected using google form. The original questionnaire was translated to Malayalam language for the easy convenience of respondents. The questionnaire was created with the intention to find out the occupational health hazards among auto rickshaw drivers of Thiruvananthapuram city.

4.2 Analysis of Demographic variables

Demographic data represents the information of a specified group based on particular identified factors. For this research, the demographic factors considered are age, gender, working hours, working experience and annual income.

4.2.1 Gender wise participation of respondents

Table No.4.2.1 **Gender**

Gender	Frequency	Percent
Male	89	89.0
Female	11	11.0
Total	100	100.0

From this table, we can observe that, out of 89 participants i.e 89% of the sample were of male gender and 11% i.e 11 participants are female out of 100 participants who attended the questionnaire.

4.2.2 Age wise participation of respondents

Table. No. 4.2.2 Age

	Frequency	Percent
18-24	8	8.0
25-34	18	18.0
35-44	18	18.0
45-54	23	23.0
55-64	23	23.0
65 and above	10	10.0
Total	100	100.0

Considering the age wise participation in the sample, among the total 100 respondents, 8 participants that is 8% of the participants are from age category represents 18 to 24. The age groups of 25-34 and 35-44 each represent 18% of the autorickshaw drivers, indicating a somewhat similar distribution within this range. The majority of autorickshaw drivers fall into the age range of 45-54 and 55-64, each accounting for 23% of the sample. 10 participants that is 10% of the participants are from age category represents 65 above.

4.2.3 Work experience wise participation of respondents

Table NO.4.2.3 Work Experience

	Frequency	Percent
0-5	22	22.0
5-10	15	15.0
10-15	9	9.0
15 and above	54	54.0
Total	100	100.0

The table represents the distribution of autorickshaw drivers in Thiruvananthapuram city based on their work experience. The table shows that, the majority of autorickshaw drivers in Thiruvananthapuram city i.e.; 54 participants have 15 years of experience or more, accounting

for 54% of the sample. 22 participants with 0-5 years of experience make up the second largest group, comprising 22% of the sample. 15 participants with 5-10 years and 9 participants with 10-15 years of experience represent 15% and 9% of the sample respectively.

4.2.4 Hours of work distribution of respondents

Table. No. 4.2.4 Hours of work

	Frequency	Percent
1-4	22	22.0
4-8	78	78.0
Total	100	100.0

The table represents the distribution of autorickshaw drivers in Thiruvananthapuram city based on their working hours. Considering the working hours, the majority of autorickshaw drivers in Thiruvananthapuram city ie; 78% work for 4-8 hours per day, accounting for 78% of the sample. 22 participants who work for 1-4 hours per day make up the smaller group, accounting for 22% of the sample.

4.2.5 I am a member of Kerala motor vehicle department welfare fund board.

Table. No. 4.2.5- I am a member of Kerala Motor Vehicle Department Welfare Fund Board.

	Frequency	Percent
No	60	60.0
Yes	40	40.0
Total	100	100.0

The table represents the distribution of autorickshaw drivers in Thiruvananthapuram city based on their membership in the Kerala Motor Vehicle Department Welfare Fund Board. The table shows that, the majority of autorickshaw drivers in Thiruvananthapuram city, ie; 60 participants accounting for 60% of the sample, are not members of the Kerala Motor Vehicle Department

Welfare Fund Board and 40 participants accounting for 40% of sample are members of the Welfare Fund Board.

4.2.6 Annual Income distribution of respondents

Table. No. 4.2.6 Annual Income

	Frequency	Percent
1000-10000	73	73.0
10000-20000	15	15.0
above 20000	12	12.0
Total	100	100.0

The table represents the distribution of autorickshaw drivers in Thiruvananthapuram city based on their annual income. The table shows that, the majority of autorickshaw drivers in Thiruvananthapuram city ie;73 participants, accounting for 73% of the sample, have an annual income between 1000 and 10000. A smaller proportion of drivers ie; 15 participants, comprising 15% of the sample, fall within the income range of 10000-20000 and 12 participants comprising 12% of the sample fall within an annual income above 20000.

4.3 T TEST WITH SEX AND VARIABLES

Levene's T test, also known as Levene's test for equality of variances, is a statistical test used to determine if the variances of two or more groups or populations are equal. It is an important tool in data analysis and hypothesis testing, particularly when comparing means or conducting analysis of variance (ANOVA) tests. Levine's T test is a parametric test that compares the variances of different groups by examining the ratio of the largest group variance to the smallest group variance. The test is based on the F distribution and involves calculating the test statistic, which follows an F distribution under the null hypothesis of equal variances.

4.3.1 Sex wise analysis of variables (Factors, Morbidity and Awareness)

Table. No: 4.3.1 Sex wise analysis of variables

Group Statistics					
Sex		N	Mean	Std. Deviation	Std. Error Mean
Factors influencing health status	Male	89	4.4326	.48166	.05106
	Female	11	4.1364	.11201	.03377
Morbidity profile	Male	89	4.3247	.33618	.03564
	Female	11	4.5364	.19117	.05764
Awareness about occupational safety and health	Male	89	3.9258	.50913	.05397
	Female	11	4.0000	.45826	.13817

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Factors influencing health status	Equal variances assumed	10.211	.002	2.024	98	.046	.29622	.14632	.00585	.58659
	Equal variances not assumed			4.839	67.739	.000	.29622	.06121	.17406	.41838
Morbidity profile	Equal variances	1.594	.210	-2.042	98	.044	-.21164	.10367	-.41737	-.00592

	assumed									
	Equal variances not assumed			-3.123	18.793	.006	-.21164	.06777	-.35359	-.06970
Awareness about occupational safety and health	Equal variances assumed	.232	.631	-.460	98	.646	-.07416	.16113	-.39392	.24561
	Equal variances not assumed			-.500	13.249	.625	-.07416	.14834	-.39401	.24569

The provided output is the result of conducting independent samples t-tests and Levene's test for equality of variances on three different groups, specifically for the factors influencing health status, morbidity profile, and awareness about occupational safety and health variables, separately for males and females. In this case, the test is performed assuming equal variances. For the factors influencing health status variable, the Levene's test yields an F statistic of 10.211 with a significance level of .002, indicating a significant difference in variances between the male and female groups. Similarly, for the morbidity profile variable, the F statistic is 1.594 with a significance level of .210, suggesting no significant difference in variances between the male and female groups. Finally, for the awareness about occupational safety and health variable, the F statistic is .232 with a significance level of .631, indicating no significant difference in variances between the male and female groups.

For the factors influencing health status variable, assuming equal variances, the t-test results in a t statistic of 2.024 with 98 degrees of freedom and a significance level of .046. This indicates a significant difference in means between males and females. The mean difference is .29622, suggesting that, on average, males score higher than females. For the morbidity profile variable, assuming equal variances, the t-test results in a t statistic of -2.042 with 98 degrees of freedom and a significance level of .044. This indicates a significant difference in means between males and females. The mean difference is -.21164, indicating that, on average, females score higher than males. For the awareness about occupational safety and health variable, assuming equal variances, the t-test results in a t statistic of -.460 with 98 degrees of freedom and a significance

level of .646. This indicates no significant difference in means between males and females. The mean difference is -.07416, suggesting that, on average, females score slightly lower than males, but the difference is not statistically significant.

In summary, based on the results of the t-tests, there is evidence of significant differences in means between males and females for the factors influencing health status and morbidity profile variables. However, no significant difference in means is found for the awareness about occupational safety and health variable. The results of the Levene's test indicate that the assumption of equal variances is violated for the factors influencing health status variable, suggesting caution in interpreting the t-test results for that variable.

4.3.2 Working hours wise analysis of variables

Table. No: 4.3.2 Working hours wise analysis of variables

Group Statistics					
Working Hours		N	Mean	Std. Deviation	Std. Error Mean
Factors influencing health status	1-4	22	4.0864	.34544	.07365
	4-8	78	4.4885	.45754	.05181
Morbidity profile	1-4	22	4.2909	.37785	.08056
	4-8	78	4.3641	.31539	.03571
Awareness about occupational safety and health	1-4	22	3.9136	.56340	.12012
	4-8	78	3.9397	.48733	.05518

Independent Samples Test								
	Levene's Test for Equality of Variances		t-test for Equality of Means					
	F	Sig.	t	Df	Sig. (2-	Mean Difference	Std. Error	95% Confidence Interval of

						tailed)		Difference	the Difference	
									Lower	Upper
Factors influencing health status	Equal variances assumed	2.731	.102	-3.821	98	.000	-.40210	.10524	-.61094	-.19325
	Equal variances not assumed			-4.466	43.987	.000	-.40210	.09004	-.58357	-.22062
Morbidity profile	Equal variances assumed	.542	.463	-.919	98	.360	-.07319	.07961	-.23117	.08479
	Equal variances not assumed			-.831	29.751	.413	-.07319	.08812	-.25322	.10683
Awareness about occupational safety and health	Equal variances assumed	1.043	.310	-.214	98	.831	-.02611	.12181	-.26784	.21562
	Equal variances not assumed			-.198	30.429	.845	-.02611	.13219	-.29591	.24369

The provided statistics pertain to three factors: Factors influencing health status, Morbidity profile, and Awareness about occupational safety and health. In the Factors influencing health status, participants were divided into two groups based on their working hours, 1-4 hours and 4-8 hours. The group with 1-4 hours had a mean working hours of 4.0864, a standard deviation of 0.34544, and a standard error mean of 0.07365. The group with 4-8 hours had a higher mean of 4.4885, a slightly higher standard deviation of 0.45754, and a lower standard error mean of 0.05181.

For the Morbidity profile, participants were again divided into two groups based on morbidity levels, 1-4 and 4-8. The group with 1-4 morbidity levels had a mean of 4.2909, a standard

deviation of 0.37785, and a standard error mean of 0.08056. The group with 4-8 morbidity levels had a slightly lower mean of 4.3641, a lower standard deviation of 0.31539, and a lower standard error mean of 0.03571. Lastly, in the Awareness about occupational safety and health, participants were divided into two groups based on their awareness levels, 1-4 and 4-8. The group with 1-4 awareness levels had a mean of 3.9136, a higher standard deviation of 0.56340, and a higher standard error mean of 0.12012. The group with 4-8 awareness levels had a slightly higher mean of 3.9397, a lower standard deviation of 0.48733, and a lower standard error mean of 0.05518. In the Morbidity profile and Awareness about occupational safety and health, there were no significant differences in means between the groups, regardless of whether equal variances were assumed or not.

In summary, the analysis indicates that within the factors influencing health status factor, there is a significant difference in means between the two working hour groups. However, in both the Morbidity Profile and Awareness about occupational safety and health factors, there are no significant differences in means between the groups. The assumption of equal variances holds for all three factors.

4.3.3 I am a member of Kerala motor vehicle department welfare fund board

Table. No: 4.3.3 I am a member of Kerala motor vehicle department welfare fund board

Group Statistics					
I am a member of Kerala Motor Vehicle Department Welfare Fund Board.		N	Mean	Std. Deviation	Std. Error Mean
Factors	No	60	4.4633	.43607	.05630
	Yes	40	4.3050	.49560	.07836
Morbidity1	No	60	4.3600	.28296	.03653
	Yes	40	4.3300	.39236	.06204
Awareness2	No	60	3.8283	.42230	.05452
	Yes	40	4.0925	.57217	.09047

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Factors	Equal variances assumed	.155	.695	1.684	98	.095	.15833	.09404	-.02828	.34495
	Equal variances not assumed			1.641	76.226	.105	.15833	.09649	-.03383	.35049
Morbidity1	Equal variances assumed	2.675	.105	.444	98	.658	.03000	.06754	-.10402	.16402
	Equal variances not			.417	65.526	.678	.03000	.07199	-.11376	.17376

	assumed									
Awareness2	Equal variances assumed	2.430	.122	-2.655	98	.009	-.26417	.09951	-.46164	-.06669
	Equal variances not assumed			-2.501	66.659	.015	-.26417	.10563	-.47502	-.05332

The provided statistics pertain to the Kerala Motor Vehicle Department Welfare Fund Board and focus on three factors: Factors influencing health status, Morbidity profile, and Awareness about occupational safety and health. For each factor, there are two categories: No and Yes. The group statistics reveal that in the Factors influencing health status, there is a slight difference in the mean score between the No group (4.4633) and the Yes group (4.3050), although the difference is not statistically significant ($t = 1.684$, $df = 98$, $p = 0.095$). Similarly, in the Morbidity profile, there is a small difference in the mean score between the No group (4.3600) and the Yes group (4.3300), but it is not statistically significant ($t = 0.444$, $df = 98$, $p = 0.658$). However, in the Awareness about occupational safety and health, there is a significant difference in the mean score between the No group (3.8283) and the Yes group (4.0925) ($t = -2.655$, $df = 98$, $p = 0.009$). This indicates that awareness levels differ significantly based on the membership status. Overall, these findings suggest that membership status in the Kerala Motor Vehicle Department Welfare Fund Board has an impact on awareness about occupational safety and health but does not significantly influence factors influencing health status or morbidity profile.

4.4 ONE WAY ANOVA BETWEEN VARIABLES

One-way ANOVA, or analysis of variance, is a statistical method used to compare the means of three or more groups. It determines whether there are significant differences between the groups based on the variation observed within each group and the variation observed between the groups. By assessing the ratio of these variations, ANOVA helps to identify if there is a statistically significant effect of a single factor on the outcome variable.

4.4.1 One Way ANOVA between Factors influencing health status, Morbidity profile, Awareness about occupational safety and health by Age.

Table. No: 4.4.1- One Way ANOVA between Factors influencing health status, Morbidity profile, Awareness about occupational safety and health by Age.

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Factors	Between Groups	4.740	5	.948	5.348	.000
	Within Groups	16.660	94	.177		
	Total	21.400	99			
Morbidity profile	Between Groups	2.439	5	.488	5.518	.000
	Within Groups	8.310	94	.088		
	Total	10.750	99			
Awareness about occupational	Between Groups	4.640	5	.928	4.292	.001
	Within Groups	20.325	94	.216		
	Total	24.964	99			

The ANOVA results show the analysis of variance for three factors: Factors influencing health status, Morbidity profile, and Awareness about occupational safety and health.

For the Factors influencing health status, the between-groups sum of squares is 4.740, with 5 degrees of freedom, resulting in a mean square of 0.948. The F-value is 5.348, and the associated p-value is significant at $p < 0.001$. This indicates that there are significant differences between the groups within the Factors influencing health status factor.

Similarly, for the Morbidity profile, the between-groups sum of squares is 2.439, with 5 degrees of freedom, resulting in a mean square of 0.488. The F-value is 5.518, and the associated p-value is significant at $p < 0.001$. This indicates that there are significant differences between the groups within the Morbidity profile factor.

In the case of the Awareness about occupational safety and health, the between-groups sum of squares is 4.640, with 5 degrees of freedom, resulting in a mean square of 0.928. The F-value is 4.292, and the associated p-value is significant at $p = 0.001$. This suggests that there are significant differences between the groups within the Awareness about occupational safety and health factor.

Overall, the ANOVA results demonstrate that there are significant differences between the groups within each factor, indicating that these factors have an influence on the observed variations.

4.4.2 One Way ANOVA between Factors influencing health status, Morbidity profile, Awareness about occupational safety and health by Annual income.

Table. No: 4.4.2 One Way ANOVA between Factors influencing health status, Morbidity profile, Awareness about occupational safety and health by Annual income.

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Factors	Between Groups	3.430	2	1.715	9.259	.000
	Within Groups	17.970	97	.185		
	Total	21.400	99			
Morbidity1	Between Groups	.217	2	.108	.998	.373
	Within Groups	10.533	97	.109		
	Total	10.750	99			
Awareness2	Between Groups	.252	2	.126	.494	.612
	Within Groups	24.713	97	.255		
	Total	24.964	99			

The ANOVA results indicate the analysis of variance for three factors: Factors influencing health status, Morbidity profile, and Awareness about occupational safety and health.

For the Factors influencing health status, the between-groups sum of squares is 3.430, with 2 degrees of freedom, resulting in a mean square of 1.715. The F-value is 9.259, and the associated p-value is significant at $p < 0.001$. This suggests significant differences between the groups within the Factors influencing health status factor.

Regarding the Morbidity profile, the between-groups sum of squares is 0.217, with 2 degrees of freedom, resulting in a mean square of 0.108. The F-value is 0.998, and the associated p-value is not significant at $p = 0.373$. This indicates no significant differences between the groups within the Morbidity profile factor.

Similarly, for the Awareness about occupational safety and health, the between-groups sum of squares is 0.252, with 2 degrees of freedom, resulting in a mean square of 0.126. The F-value is 0.494, and the associated p-value is not significant at $p = 0.612$. This suggests no significant differences between the groups within the Awareness about occupational safety and health factor.

In summary, the ANOVA results reveal significant differences between the groups within the Factors influencing health status factor, while no significant differences were found within the Morbidity profile and Awareness about occupational safety and health factors.

4.5 CORRELATION

Karl Pearson's Correlation tests the linear relationship between two continuous variables. The test is runs as bivariate (one to one relation between two variables) analysis. The relationship is named as coefficient value which is valued between -1 and +1, where -1 signifies 100 per cent negative correlation and +1 shows high positive correlation. Positively correlated means if variable A increases, variable B will also increase and in negative correlation a hike in A will show a dip in B. If the value is between -1 and -0.5 or +0.5 and +1 the correlation between variables are strong and stated as variables are correlated.

Table. No: 4.5 Correlation between Factors influencing health status, Morbidity profile and Awareness about occupational safety and health

Correlations				
		Factors influencing health status	Morbidity profile	Awareness about occupational safety and health
Factors influencing health status	Pearson Correlation	1		
	Sig. (2-tailed)			
	N	100		
Morbidity profile	Pearson Correlation	.473**	1	
	Sig. (2-tailed)	.000		
	N	100	100	
Awareness about occupational safety and health	Pearson Correlation	.304**	.538**	1
	Sig. (2-tailed)	.002	.000	
	N	100	100	100
**. Correlation is significant at the 0.01 level (2-tailed).				

The correlation matrix shows the Pearson correlation coefficients between the Factors influencing health status, Morbidity profile, and Awareness about occupational safety and health variables.

The tables show high positive correlation between Morbidity profile and Awareness about occupational safety and health ($r = 0.538$, $p < 0.01$), indicating that as Morbidity profile increases, Awareness about occupational safety and health tends to increase as well.

The table indicates a relatively weak positive relationship (0.304) between "Factors influencing health status.

CHAPTER FIVE
FINDINGS, SUGGESTIONS AND CONCLUSION

5.1 INRODUCTION

The chapter begins by summarizing the main findings of the study, highlighting the key patterns, trends, and relationships that emerged from the data analysis. It provides a comprehensive overview of the research findings and their relevance to the research questions.

5.1.2 Findings of Demographic Variables

- More males than females participated in the study. Most participants identified as male, while a smaller number identified as female. This highlights the predominant male presence in the study.
- The participants came from a variety of age groups, with a significant number falling between the ages of 45-54 and 55-64. This diverse age range aimed to gather insights from different life stages, helping to understand awareness about workplace health risks comprehensively.
- Autorickshaw drivers had varying levels of experience. A considerable proportion had extensive experience, while another group had fewer years in the profession. This diverse experience range gives context to understanding their familiarity with occupational health issues.
- The work schedules of autorickshaw drivers fell mainly into two categories: 4-8 hours or 1-4 hours per day. This distinction in working hours sheds light on potential differences in exposure to workplace health risks.
- The study also looked at whether drivers were part of the Kerala Motor Vehicle Department Welfare Fund Board. A notable number of drivers were not members, while others were part of the board. This difference in membership provides insights into awareness about safety and health practices at the workplace.
- Participants reported a range of income levels. The majority fell within the 1000-10000 Rs bracket, representing a diverse economic spectrum. This varied income distribution allows for a detailed exploration of awareness about workplace health hazards across different income groups.

5.1.3 Findings of Levine's T Test:

Sex-wise Analysis:

Gender-Based Differences: The analysis using t-tests showed that there are notable differences in means when comparing males and females across variables related to factors affecting health status and morbidity profile. This suggests that gender influences how these aspects are perceived or experienced by participants. The significant differences imply that health perceptions or conditions can differ between the two genders in these specific areas.

Consistent Awareness: However, in terms of awareness about occupational safety and health, the analysis did not reveal any statistically significant differences in means between males and females. This suggests that both genders have similar levels of awareness about workplace safety and health matters, indicating a uniform understanding irrespective of gender.

Working Hours Analysis:

Impact of Work Hours on Health Factors: Within the category of factors influencing health status, the analysis indicated a significant difference in means between two distinct groups based on working hours. This suggests that the number of hours individuals work can impact their perception or experience of certain health-related factors. This difference highlights how working hours might influence participants' health perceptions or conditions.

Consistency in Morbidity and Awareness: In contrast, within the Morbidity Profile and Awareness about occupational safety and health factors, the analysis did not find significant differences in means between different working hour groups. This suggests that participants' morbidity patterns and awareness levels about occupational safety and health remain relatively consistent regardless of their working hours. This could indicate that these two aspects are less affected by variations in working hours.

Membership in Welfare Fund Board:

Effect on Awareness: The findings indicate that being a member of the Kerala Motor Vehicle Department Welfare Fund Board affects participants' awareness about occupational safety and health. This suggests that board members might possess better knowledge or understanding of workplace safety practices, possibly due to access to resources or training offered by the board.

Limited Influence on Health Factors: However, membership status in the Welfare Fund Board does not significantly influence variables related to factors affecting health status or morbidity profile. This implies that while board membership might enhance participants' awareness, it might not necessarily result in substantial changes in how they perceive their health status or their patterns of morbidity. Other factors could play a more substantial role in these aspects.

5.1.4 Findings of One Way ANOVA based on Age:

Factors Influencing Health Status:

The analysis highlighted notable differences among distinct age groups regarding factors impacting health status. This implies that age significantly contributes to the observed variations in health status. These differences, along with significant p-values, suggest that the variations are not likely due to chance. Emphasizing the need to consider age-related factors when addressing health disparities and planning interventions.

Morbidity Profile:

Similar to factors influencing health status, the analysis identified significant differences in morbidity profiles across various age groups. This underscores how age plays a role in shaping patterns of morbidity. Suggesting that different age groups might experience varying trends in morbidity due to factors such as physical changes, lifestyle choices, or specific health risks. Stressing the importance of recognizing age-related variations for tailored healthcare strategies.

Awareness about Occupational Safety and Health:

The analysis pointed out meaningful differences in awareness about occupational safety and health among different age groups. Indicating that individuals of varying ages might possess different levels of awareness about workplace safety practices. Highlighting the necessity to adapt safety training and communication strategies based on age demographics.

5.1.5 Findings of One Way ANOVA based on Annual Income:

Factors Influencing Health Status:

The analysis identified significant differences among groups categorized by income levels in relation to factors influencing health status. Signifying noteworthy variations in health outcomes among individuals with differing income levels. Underscoring the importance of targeted interventions and policies to address health disparities stemming from income inequality. Recommending customized healthcare services and wellness programs based on income categories.

Morbidity Profile:

Unlike factors influencing health status, the analysis did not find significant differences between income-based groups concerning morbidity profiles. Indicating that factors like lifestyle, genetics, and environment might exert a more pronounced influence on individuals' experiences of morbidity. Suggesting that interventions addressing morbidity might need to encompass a broader range of determinants beyond income.

Awareness about Occupational Safety and Health:

Similarly, the analysis did not reveal significant differences between income-based groups concerning awareness about occupational safety and health. Suggesting that factors like job type, education, and workplace culture could potentially have a more substantial impact on individuals' awareness of safety practices.

5.1.6 Findings on Correlation between Variables:

The correlation analysis between Morbidity profile and Awareness about occupational safety and health revealed significant insights. The analysis indicated a high positive correlation between Morbidity profile and Awareness about occupational safety and health. This correlation signifies that as the Morbidity profile increases, the Awareness about occupational safety and health tends to increase as well. The connection between these two variables

suggests that individuals with higher morbidity experiences tend to have a heightened awareness of workplace safety and health practices.

5.2 SUGGESTIONS

- We should create programs to help auto rickshaw drivers with their specific health issues. This means making campaigns to raise awareness, doing thorough health check-ups, and giving them things to improve their health while they do their job.
- It's a good idea to teach auto rickshaw drivers how to stay safe and healthy. This should include things like sitting properly, keeping clean, and learning ways to avoid getting sick because of their job.
- Because age affects health, we should have different plans for younger and older drivers. Younger ones can learn how to keep healthy from the start, while older ones might need more support to manage their health.
- People with different incomes need different kinds of help. We should make rules and systems that help drivers with lower incomes get the resources they need to stay healthy and feel good overall.
- More policies and regulations should be initiated to increase membership in Kerala Motor Vehicle Department Welfare Fund Board so as to make them more aware about occupational safety and benefits provided.
- Strengthen collaboration with the Kerala Motor Vehicle Department Welfare Fund Board to enhance the scope and effectiveness of their initiatives. This could involve expanding benefits, improving communication, and conducting periodic reviews to ensure that the needs of auto rickshaw drivers are adequately met.
- Establish local support networks or associations specifically for auto rickshaw drivers. These networks can provide a platform for drivers to share experiences, exchange tips for maintaining health, and collectively voice concerns or demands for improved working conditions.
- Recognize the psychological stressors associated with being an auto rickshaw driver and organize stress management workshops. These workshops can equip drivers with coping strategies, relaxation techniques, and resources to manage their stress levels effectively.

- Advocate for affordable and comprehensive health insurance plans tailored specifically for auto rickshaw drivers. Health insurance coverage can help alleviate financial burdens associated with medical treatments, encourage regular health check-ups, and promote a sense of security among drivers.
- More provisions regarding drinking water facilities and e-toilets should be implemented so as to reduce the health issues faced due to the lack of availability of said diseases
- Conduct longitudinal studies to evaluate the long-term impact of implemented interventions and policies. This assessment will help gauge the effectiveness of various initiatives and provide insights for continuous improvement and refinement.

5.3 CONCLUSION

The study showed that auto rickshaw drivers in Thiruvananthapuram city face significant health challenges. Most drivers are men in the 45-54 and 55-64 age groups, working about 4-8 hours a day. Many earn relatively low incomes, and membership in the welfare fund board is split evenly.

The analysis revealed important things like men and women differ in health and illness factors. Working hours affect health, sickness, and safety awareness. Age and income also impact these factors, with age being more consistent.

The study suggests important steps, offering health check-ups and teaching ergonomic practices can improve drivers' health. Flexible work hours can reduce strain. Providing health insurance and stress management help too. Strengthening ties with the welfare fund board enhances existing support. Raising awareness, creating policies, and support networks can better the situation.

These suggestions aim to address the various challenges faced by auto rickshaw drivers by combining different approaches, like policy changes and education, we can improve their working conditions. This research helps us understand their struggles and work towards making their profession safer and fairer. As the city changes, so should the efforts to protect these essential workers' well-being.

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APPENDIX

Questionnaire

Dear respondents,

This is an academic research project as a part of my academic requirements of MA HRM course under the University of Kerala. The purpose of the research is to study the occupational health hazards among the autorickshaw drivers of Thiruvananthapuram city., please choose your best preference indicating your level of agreement. Data will be kept confidential and will be used solely for academic purposes. Thank you for sparing your valuable time.

Demographic variables

Gender:

Male Female Others

Age:

Between 18-24 years Between 25-34years Between 35-44 years Between 45-54years
Between 55-64 years Above 65 years

Working experience:

Between 0-5 years Between 5-10 years Between 10-15 years Above 15 years

Working hours:

Between 1-4 hours Between 5-8 hours Above 8 hours

Income level per annum:

1000-10000rs 11000-20000rs Above 210000rs

I am a member of Kerala Motor Vehicle Department Welfare Fund Board.

Yes No

PART-1 (To identify the various factors influencing health status of autorickshaw drivers)

The following are some statements regarding various factors influencing health status of auto rickshaw drivers. Kindly give your response in the scale given from strongly agree to strongly disagree.

1. My daily working hours affect my health negatively.

Strongly Agree Agree Neutral Disagree Strongly Disagree

2. The absence of latrines in the working environment adversely affects my health.

Strongly Agree Agree Neutral Disagree Strongly Disagree

3. Driving an auto exposes me to harmful pollutants, such as exhaust fumes and particulate matter.

Strongly Agree Agree Neutral Disagree Strongly Disagree

4. Due to work responsibilities, I am unable to have food on time.

Strongly Agree Agree Neutral Disagree Strongly Disagree

5. The inability to have timely meals negatively affects my health.

Strongly Agree Agree Neutral Disagree Strongly Disagree

6. I feel vulnerable to alcoholism and smoking when I feel stressed.

Strongly Agree Agree Neutral Disagree Strongly Disagree

PART-2 (To assess the morbidity profile of the autorickshaw drivers and investigate the relationship with occupational hazards)

The following are some statements related to assess the morbidity profile of the autorickshaw drivers and investigate the relationship with occupational hazards. Kindly give your response in the scale given from strongly agree to strongly disagree.

1.I am engaged in a very risky job.

Strongly Agree Agree Neutral Disagree Strongly Disagree

2.How many times in a year do you used to visit physician?

Strongly Agree Agree Neutral Disagree Strongly Disagree

3.I frequently face wrist pain due to prolonged driving.

Strongly Agree Agree Neutral Disagree Strongly Disagree

4.Prolonged sitting affect my health negatively.

Strongly Agree Agree Neutral Disagree Strongly Disagree

5.Continuous jerking/vibration of the vehicle affects my physical health.

Strongly Agree Agree Neutral Disagree Strongly Disagree

6.I take regular medication due of auto rickshaw driving.

Strongly Agree Agree Neutral Disagree Strongly Disagree

7.I've experiencing neck pain, knee pain, and high blood pressure as a result of my job.

Strongly Agree Agree Neutral Disagree Strongly Disagree

PART-3 (To investigate the awareness of the autorickshaw drivers regarding occupational safety and health).

The following are some statements related to the anticipated outcomes expected by employees. Kindly give your response in the scale given from strongly agree to strongly disagree.

1.I have received training or education on occupational safety and health.

Strongly Agree Agree Neutral Disagree Strongly Disagree

2.I am aware of the significant benefits of the healthcare facilities provided by the Kerala Motor Vehicle Department.

Strongly Agree Agree Neutral Disagree Strongly Disagree

3.I have received medical treatment for occupational disease and injury.

Strongly Agree Agree Neutral Disagree Strongly Disagree

4.I think the government policies or practices should be improved to better protect the health and safety of Autorickshaw drivers.

Strongly Agree Agree Neutral Disagree Strongly Disagree

5.I need more health benefits and health insurance schemes for the better physical health.

Strongly Agree Agree Neutral Disagree Strongly Disagree

6.I desire air-conditioned auto to come into effect.

Strongly Agree Agree Neutral Disagree Strongly Disagree

7.I desire to have access to medical check-up facilities at government hospitals at least twice in a year to improve my health condition.

Strongly Agree Agree Neutral Disagree Strongly Disagree

8.I wish for the availability of drinking water facilities at the auto stands.

Strongly Agree Agree Neutral Disagree Strongly Disagree

9.I wish for the availability of e-toilets at auto stands.

Strongly Agree Agree Neutral Disagree Strongly Disagree

10.I have considered quitting my job due to health concerns.

Strongly Agree Agree Neutral Disagree Strongly Disagree

11.I have considered quitting my job due to health concerns.

Strongly Agree Agree Neutral Disagree Strongly Disagree