

SPECTRUM OF OCULAR MANIFESTATIONS AMONG BUS DRIVERS AND CONDUCTORS IN VILLUPURAM DISTRICT

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ABSTRACT

Background: The bus drivers had an important vital role not only for the navigating through the complex traffic patterns and contend with the environmental conditions. But also to ensure the safety of the passengers. They face unique and relentless visual challenges as their work involves constant visual scanning, sustained attention and to respond rapidly to the ever changing environment. The aim is to study the Spectrum of Ocular Manifestations among bus drivers and conductors in villupuram district. **Materials and Methods:** This is cross sectional study was conducted among 200 bus drivers and conductors. Demographic details, Ophthalmic complaints, comorbidity were collected. Visual acuity, Pinhole acuity, Subjective refraction and streak retinoscopy was assessed. Anterior segment and posterior segment were examined. The visual acuity which is best-corrected is noted. The collected details were entered in MS excel and analysis was done in SPSS 23. **Result:** The mean age of the study participants was found to be 29 ±12.41. Majority of the study participants has a driving experience >20years 20(46%). Diabetes is predominant. Presbyopia was found in majority of the study participants 55(52.3%). **Conclusion:** Presbyopia was the most common ocular morbidity followed by cataract. Periodical ocular and systemic evaluation of diseases with vision-threatening potential should be done. Drivers have to be educated.

INTRODUCTION

Annually 1.19 million deaths occurs due to Road traffic accidents. It is one of the major global health challenge now. 20-50 million people gets non fatal injury due to road traffic accidents. Thus road traffic accidents accounts to leading cause of death among age groups ranging between 5-29 years.^[1,2]

The preferred and the most common mode of commuting in our country is Bus. This is the better mode of transportation due to reasons like frequency of services is high, economical and flexible timing. It is the vital force of civic headquarters which connects the people to their destinations.^[3] By their professions it is the bus drivers who will face relentless and unique visual challenges. Beyond simply steering the vehicle from one point to another the bus drivers have extended responsibilities. The bus drivers had an important vital role not only for the navigating through the complex traffic patterns and contend with the environmental conditions. But also to ensure the safety of the passengers. They face unique and relentless visual challenges as their work involves

constant visual scanning, sustained attention and to respond rapidly to the ever changing environment. Blurred vision, eye strain, dry eyes are vision related symptoms which will reduce the driver's ability to make proper decisions.

To ensure a secure driving clear vision and visual comfort is important.^[4] It is important to check the vision regularly and correct it if necessary in order to maintain the safety standards. The vision related symptoms will get reduced by means of proper eyewear such as anti-glare glasses and corrective lenses along with the well lit driving environment. Regular treatment should be emphasized as poor compliance has been reported among with workers with long working hours.^[5] The aim is to study the Spectrum of Ocular Manifestations among bus drivers and conductors in villupuram district.

MATERIALS AND METHODS

Selection of cases: This was a cross sectional study conducted over a period of 1 years from August 2024 to July 2025 .200 bus drivers and conductors were

selected from villupuram district through convenient sampling.

Inclusion Criteria

Any age and gender

Exclusion Criteria

Conductors and bus drivers from other district were excluded

Sample Size: Based on inclusion and exclusion criteria the study participants were recruited and the final sample size obtained was 200.

Data Collection: All patients demographic details like name, age, years of experience in driving were collected. Ophthalmic complaints, comorbidity like hypertension, diabetes and any chronic illness were collected. Visual acuity was checked using Snellen's chart. If the driver using spectacles or through correction Monocular visual acuity was found. For drivers with visual acuity <20/20 Pinhole acuity was assessed. All drivers were subjected to Subjective refraction and streak retinoscopy. The visual acuity which is best-corrected is noted. Pen torch was used to examine the Anterior segment. Posterior segment was examined used by direct ophthalmoscope. Ishihara pseudo chromatic color plate was used to test Color vision. Patients with Grade 2 pterygium and cataract were advised to undergo surgery. Patients who needs medical management was treated accordingly. Patients who are newly diagnosed with refractive error were prescribed spectacles.

Statistical Methods: The collected data was entered in MS excel spreadsheet and was checked for any error. The cleaned coded data sheet was then analysed. Descriptive statistics were done using percentages for categorical data and mean $\pm$ SD for continuous data. P value <0.05 is found to statistically significant.

RESULTS

The mean age of the study participants was found to be 29 ± 12.41 . The most common age group among the study participants was found to be ≤ 30 years 74(37%). Majority of the study participants has a driving experience >20 years 20(46%).

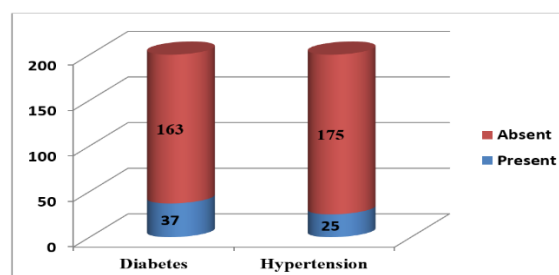


Figure 1: Distribution of Comorbidity.

Table 1: Demographic variables(N=200)

Variables	Number(N)	Percentage(%)
Age		
≤30 years	74	37
31-35 years	24	12
36-40 years	34	17
41-45 years	12	6
46-50 years	12	6
>50 years	44	22
Driving experience		
<5	18	9
6-10	30	15
11-15	20	10
16-20	40	20
>20	92	46

Table 2: Ocular manifestations(N=105)

Ocular Manifestation	Frequency (Number)	Percentages (%)
Myopic	7	6.7
Presbyopic	55	52.3
Cataract	19	18
Pterygium	5	5
Allergic eye disease	11	10.5
Squint	4	3.8
Color blindness	4	3.8

Presbyopia was found in majority of the study participants 55(52.3%). The second common manifestation was Cataract 19(18%). Allergic eye disease was found in 11(10.5%) of the study participants.

DISCUSSION

The mean age of the study participants was found to be 29 ± 12.41 . In Kohli et al,^[6] study the mean age of the study participants 47.0 ± 5.7 years. In Shivam Tayal et al,^[7] the mean age of the study participants was found to be 38.7 ± 8.9 .

The most common age group among the study participants was found to be ≤ 30 years 74(37%).

Dhage VS et al,^[8] in his study found that the most common age group was found to be 30(40%).

In our study males are 200(100%).In contrast to our results in Dhage VS et al,^[8] males were predominant 61(81.3%). In Shivam Tayal et al,^[7] study males were predominant (98.9%). Majority of the study participants has a driving experience >20years 20(46%).

Dhage VS et al,^[8] study majority of the study participants 16-25 years of age (38%). Diabetes was present in 37(18.5%) and Hypertension in 25(12.5%) among the study participants. In Dhage VS et al,^[8] study Diabetes was common comorbidity 3(4%). In Kholi et al,^[6] study the 20% found to be diabetic. Many studies have shown incidence of Diabetes ranging from 7-33%.^[9-11]

Presbyopia was found in majority of the study participants 79(88%).The second common manifestation was Cataract 24 (53%).Allergic eye disease was found in 11(24%) of the study participants. In Dhage VS et al⁸ study cataract is most commonly observed (52.9%) followed by Allergic eye disease (23.5%). In Kholi et al,^[6] study the most common ocular morbidity was refractive error (45%). In Shivam Tayal et al,^[7] study 71(2.79%) of the study participants have cataract.

CONCLUSION

In conclusion in our study majority of the study participants has a driving experience >20years .Diabetes is the most common comorbidity. Most of the study participants have presbyopia followed by cataract. Periodical ocular and systemic evaluation of diseases with vision-threatening potential should be done. Drivers have to be educated.

Limitations: The sample size was small. Study was done in a single center so the results cannot be generalized.

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