



A Study to Evaluate the Knowledge, Attitude and Practices Regarding Oral Hygiene Practices and Barriers to Access Oral Health Care Among the Auto Rickshaw Drivers in Mysore, Karnataka

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ABSTRACT

Introduction: Oral hygiene is keeping one's mouth clean and free of diseases and other problems by regularly brushing the teeth. Most oral diseases can be prevented if proper education and awareness regarding oral hygiene are provided to all classes of society.

Aim & Objectives: The study aims to assess the knowledge, attitude, and practices regarding oral hygiene practices and barriers to accessing oral health care among auto-rickshaw drivers in Mysore City, Karnataka.

Methods: A cross-sectional study was conducted among 214 auto-rickshaw drivers of Mysore, whose ages ranged from 18 to 60 years. Face-to-face interviews were conducted using a validated questionnaire.

Results: Out of the total participants, 74.3% fall under the primary level of education. A good level of knowledge regarding oral hygiene was observed among 92.5% of the participants, while 66.8% showed a negative attitude toward oral hygiene. Good oral hygiene practices were followed by 59.8% of the participants. The study observed a significant association between age and attitude towards oral hygiene and between previous dental visits and the practice of oral hygiene. The barrier behind not visiting a dentist was said to be the high cost and uncertainty of the dentist's availability at the clinic.

Conclusion: The present study found good knowledge regarding oral hygiene, and their oral hygiene practice seemed to be satisfactory, but most participants reflected a negative attitude toward oral hygiene.

Key Words: Attitude, Barriers, Dental services, Knowledge, Practices, Mysore

INTRODUCTION

According to the World Health Organization, oral disease is one of the significant health burdens for many countries and affects people throughout their lifetime, causing them pain and discomfort. Oral disease is estimated to affect approximately 3.5 billion people.¹ Oral hygiene is keeping one's mouth clean and free of diseases and other problems by regularly brushing the teeth. Most oral diseases share common risk factors with non-communicable diseases such as cardiovascular diseases, cancer, diabetes, and respiratory diseases. These risk factors include an unhealthy diet (particularly high in added sugar), and tobacco and alcohol use.² The prevention of oral disease depends upon the involvement of the community, the professional, and the individual. Most oral diseases can be prevented if proper education and awareness

regarding oral hygiene is provided to all the classes of society. Regular home care and a yearly dental check-up are the best ways to prevent any oral diseases. Still, despite information on adequate dental care provided by dental professionals and the mass media, people fail to take these precautions. As many of the general and systematic diseases of the body are directly or indirectly related to oral health diseases, overall personal health needs an effort from both medical and dental health care professionals.³ The dental health of the general population in developed countries has improved over the past few decades, but people from developing countries continue to have high levels of dental problems.⁴ Lack of access to oral health care in the community is one of the leading causes of an increase in the prevalence of oral disease. The occupational environment has one of the prominent impacts on an individual's health. Auto-rickshaw drivers are groups of

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people who spend most of their time behind the wheels, carrying passengers to their destinations. They have odd working hours, and their working hours are frequently changed. Most of the time, auto-rickshaw drivers develop the habit of smoking and chewing gutka to relieve their stress and keep themselves alert while driving.⁵ This study will generate evidence for creating awareness among auto-rickshaw drivers to maintain their oral health. Furthermore, it will also promote the utilization of dental services and encourage them to follow good oral hygiene practices. This study can help local stakeholders enhance oral health care interventions across the city among road transport workers who spend most of their time behind the wheel.

Auto-rickshaw drivers play a vital role in commutation in day-to-day life. They have long waiting hours and often ignore their health conditions. The auto-rickshaw is a small vehicle, and drivers must be more cautious while driving. To keep themselves alert, they might take up the habit of tobacco consumption, which is not a good oral hygiene practice. The current study chose the auto-rickshaw drivers working under Snehajeevi Auto Chalakara Balaga as study participants.

MATERIALS AND METHODS

Study design and setting

The current study is cross-sectional in the Mysore district of Karnataka. Participants comprised auto-rickshaw drivers belonging to Snehajeevi Auto Chalakara Balaga. The present study's data collection and analysis method was employed only after getting 'ethical clearance' from Institutional Ethical Clearance, Manipal Academy of Higher Education (Number- IEC2 – 32). The study's objectives and protocols were explained to the study participants before they participated in the face-to-face interviews. The participants were interviewed after receiving their informed consent.

Sample size

Sample size was calculated using formula $n = z^2pq/d^2$ where, $Z = 1.96$ (at 95% confidence interval, margin of error $d = 0.07$, assumed prevalence $p = 50\%$). The calculated sample size was 195, upon considering 10% of the non-response rate, the final sample size of the present study was 214. A predesigned, validated proforma comprises five domains: socio-demo-

graphic, knowledge, attitude, practices, and barriers. Convenience sampling was used to interview the auto-rickshaw drivers of the selected union in various rickshaw stands. This method was adopted as only those auto-rickshaw drivers waiting for their turn at the auto-rickshaw stand and willing to participate were interviewed.

Inclusion criteria

The inclusion criteria included auto-rickshaw drivers aged 18-60 years. The drivers who had at least one year of driving experience and worked under Snehajeevi Auto Chalakara Balaga were considered in the study.

Statistical analysis

Statistical analysis of the data was done with the help of Jamovi version 1.6.3 software. The subjects' age groups were 18-40 (years) and 41-60 (years). Descriptive statistics (frequency and percentage) were presented to evaluate the study participants' level of education, area of residence, and previous dental visits. Chi-square test was done to determine the significance of the association between the selected socio-demographic characteristics and the KAP scores. p -value was taken as ≤ 0.05 .

RESULTS

Table 1 displays the selected socio-demographic characteristics of the auto-rickshaw drivers of Mysore city. Most of the study participants belonged to the age group of 41-50 years. The majority of them had a primary level of education and resided in urban areas. More than half of the participants had previously visited the dentist. The scores of knowledge, attitude, and practices regarding oral hygiene (Table 2). Of 214 auto-rickshaw drivers, 198 had good knowledge regarding oral hygiene, 143 participants had a negative attitude towards oral hygiene, and 128 had good oral hygiene practices. Table 3 shows the association between age and the KAP score regarding oral hygiene. A statistically significant association was observed between age and attitude toward oral hygiene. Table 4 depicts a similar statistically significant association between the level of education and the previous dental visits of the study participants. It was found that the participants who had previously visited the dentist had good knowledge and followed good practice.

Table 1: Distribution of the study participants based on socio-demographic characteristics

Characteristics	n	%
Age		
18-40	91	42.5
41-50	123	57.5
Level of education		

Table 1: (Continued)

	n	%
Illiterate	4	1.9
Primary	159	74.3
Secondary	51	23.8
Residential area		
Urban	171	79.9
Semiurban	43	20.1
A previous visit to the dentist		
Yes	143	66.8
No	71	33.2

Table 2: Scores of Knowledge, attitude, and practices of oral hygiene

Variable	n	%
Knowledge regarding oral hygiene Good (≥ 5)	198	92.5
Bad (< 5)	16	7.5
Attitude regarding oral hygiene		
Positive	71	33.2
Negative	143	66.8
Oral hygiene practices Good (≥ 4)	128	59.8
Bad (< 4)	86	40.2

Table 3: Association of age with KAP scores

		Age in years		Total	Chi-square value	p-value
		18-40	41-60			
Knowledge	Poor	9 (4.2%)	7 (3.2%)	16 (7.47%)	1.33	0.248
	Good	82 (38.3%)	116 (54.2%)	198 (92.53%)		
Attitude	Negative	53 (24.7%)	90 (42%)	143 (66.8%)	5.26	0.022*
	Positive	38 (17.7%)	33 (15.4%)	71 (33.2%)		
Practice	Bad	31 (14.5%)	55 (25.7%)	86 (40.2%)	2.47	0.116
	Good	60 (28.1%)	68 (31.7%)	128 (59.8%)		

*Significant at $p < 0.05$ **Table 4: Association of previous dental visits to KAP score**

		Previous Dental visit		total	Chi square value	p-value
		Yes	No			
Knowledge	Poor	08 (3.73%)	08 (3.73%)	16 (7.47%)	2.21	0.137
	Good	135 (63.08%)	63 (29.43%)	198 (92.53%)		
Attitude	Negative	96 (44.85%)	47 (21.96%)	143 (66.82%)	0.0187	0.891
	Positive	47 (21.96%)	24 (11.21%)	71 (33.18%)		
Practice	Bad	51 (23.83%)	35 (16.35%)	86 (40.18%)	3.67	0.05*
	Good	92 (42.99%)	36 (16.82%)	128 (59.82%)		

*Significant at $p < 0.05$

Table 5: Barriers to access the utilization of dental services

		n	
Variables	Category	2	%
1 The reason behind not visiting the dentist	fear of the drill		0.8%
	lack of time	53	
	high cost	69	24.8%
	previous bad experience e) have no dental problems	25	32.2%
		65	11.7%
2 Get proper treatment at the dentist?	Yes	101	30.5%
	No	48	47.21%
	NA	65	22.42%
3 Difficulty in reaching the dentist?	Yes	100	30.37%
	No	49	46.8%
	c)NA	65	22.9%
4 Is a dentist available at a govt centre?	Yes	61	30.3%
	No	10	46.8%
	Sometimes	77	22.9%
	NA	66	30.3%
5 Is a dentist available at a private clinic?	Yes	63	28.5%
	No	3	4.7%
	Sometimes	42	36.0%
			30.8%

Table 5 depicts the barriers to accessing the utilization of dental services. The high cost of the treatment is said to be the most common reason behind not visiting the dentist. Uncertainty about the availability of the dentist is also a barrier in the utilization of dental services. Around half of the participants do not visit private clinics due to high treatment costs.

DISCUSSION

The current study was conducted among the auto-rickshaw drivers in Mysore city. Out of the total of 214 study participants, 159(74.3%) had a primary level of education. A similar study conducted in Sodepur, Kolkata, found that 40% of the participants had a primary level of education and 44% had a secondary level of education.⁶ In the current study, a good level of knowledge regarding oral hygiene has been found between the age group of 41-60 years. A similar study was conducted by Anirban Dey et al., where excellent knowledge had been found among the older age group of auto drivers (>35 years)⁶. Of the study participants, 66.8% believe it is important to visit the dentist, while 70.6% believe that a regular visit to a dentist keeps the teeth healthy. Similar findings were obtained in a study conducted by Yadav Kopula et al. in Vikarabad, where they found that 89.5% of auto-rickshaw drivers think that regular dentist visits keep the teeth healthy.⁷

Of the total participants, 46.7% say that dental caries are caused by bacteria, followed by 42.5% believing that food lodgement, smoking, and bacteria in general cause dental caries. A contradictory finding was obtained in the study conducted by Ganesh A. et al. in South Chennai, where it was found that most participants believe that sugar consumption is the cause of dental caries,⁸ Out of the total participants, 95.3% were aware that tobacco consumption is bad for oral hygiene, of which 73.8% consume tobacco and 56.1% have tried quitting the habit. 49.6% had the habit of tobacco consumption in both the smoking and smokeless forms. A similar finding was observed in a study conducted by Padmaja S. et al., in 2016, where it was found that 82% of the subjects knew tobacco consumption is bad for oral hygiene and leads to cancer.^{9,10}

In the present study, it was found that 87.4% of the participants brushed once a day and 96.7% of the participants used toothbrushes and toothpaste to clean their teeth, while 3.3% used finger and toothpaste to clean their teeth. According to a study conducted in Vikarabad, 75% of the participants brushed once daily, 25% brushed twice a day, and 76% used toothbrushes and toothpaste to clean their teeth⁷. The interval of changing the toothbrush was found to be in every 3-6 months by 60.7% of the participants, while 39.3% changed their toothbrushes in 7-12 months. A similar finding was observed in a study conducted in South Chennai, where half of the study participants changed their toothbrushes in every 3 months.⁸

In the present study, a negative attitude was mainly found among participants belonging to the higher age group (41-60 years). A contradictory result was observed in a similar study conducted by Anirban Dey et al. in Sodepur where the attitude was excellent among the younger participants (<35 years) as compared to the older participants.⁶ In the present study, a statistically significant association was found between the age of the participants and their attitude toward oral hygiene, whereas a contradictory finding was noted in the study conducted in Sodepur, where no statistically significant association was observed between the age of the participants and their attitude toward oral hygiene.⁶

A significant association was found between the level of education and the knowledge among the participants in a study conducted by Dey et al., whereas no such significant association has been found in the present study.⁶

Around 66.8% of the participants in this study had previously visited to the dentist, which is in contrast with a study conducted in Vikarabad, where only 45% of the participants had previously visited to the dentist, while 55% never visited the dentist.⁷ Furthermore, the result of the current study was also in contrast with the previous study, where the reason behind not visiting the dentist was mainly stated as, high cost by 32.3% of the participants, followed by having no dental problems by 30.4% of the participants, whereas in the previous study conducted by Yadav Kopula et al. 52.7% said that one of the major reason behind not visiting the dentist is having no dental problem, followed by fear (15.4%) and lack of time (10%).⁷ In the present study, the uncertainty of the availability of dentists at the government center and the high cost of treatment at private clinics also become barriers to oral healthcare utilization.

CONCLUSION

The study concluded that 92.5% of the study participants have good knowledge regarding oral hygiene, and 33.2% show a positive attitude toward oral hygiene. Around 59.8% of the study participants follow good practices regarding oral hygiene. Not visiting the dentist was said to be high cost, followed by having no dental problems and lack of time. Around 46.8% of the participants also reported difficulty reaching the dentist, followed by 36% saying that the dentist is sometimes available at the government centre when they visit.

Furthermore, this study discovered that there is a statistically significant association between the age of the participants and their attitude toward oral hygiene. A statistically significant association was also found between the previous visit to the dentist and the practice of oral hygiene. To conclude, it can be said that the study participants had good knowledge regarding oral hygiene,

and their oral hygiene practice seemed to be satisfactory, but a negative attitude toward oral hygiene was reflected by most of the participants.

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Conflicts of interest

There are no conflicts of interest.

Authors' Contribution:

Author name	Contributions
Archika Dwivedi	Conceptualization, methodology, formal analysis, manuscript preparation
Kumar Sumit	Conceptualization, editing, manuscript preparation
Akanksha Singh	formal analysis, editing, manuscript preparation

REFERENCES

1. Oral health [Internet]. Who.int. [cited 2024 Feb 11]. Available from: <https://www.who.int/health-topics/oral-health> Fdiworld-dental.org. [cited 2024 Feb 11]. Available from: <https://www.fdiworld-dental.org/>
2. Sukumaran A, Diwakar MK, Shastry S. An assessment of oral health status and treatment needs of professional bus drivers in Chennai. *International Journal of Community Dentistry (JOHCD)* [Internet]. 2018;6(2):45. Available from: http://dx.doi.org/10.4103/ijcd.ijcd_8_18
3. Srivastava A, Sabharwal H, Kumar PN. Prevalence of Oral Mucosal Lesions among Auto drivers of Varanasi city: A Cross-Sectional Study. *Journal of Advanced Medical and Dental Science Research (JAMDSR)* 2018;6(5):68-71. Available from: <http://jamdsr.com/uploadfiles/16prevalancestudyomlVol6issue5pp68-71.20190309063831.pdf>
4. Gambhir RS, Brar P, Singh G, Sofat A, Kakar H. Utilization of dental care: An Indian outlook. *J Nat Sc Biol Med.* [Internet]. 2013;4(2):292-7. Available from: <http://dx.doi.org/10.4103/0976-9668.116972>
5. Dey A, Santanu SR, Jana D. Evaluation of oral hygiene knowledge, attitude, and behaviour among local auto-rickshaw drivers in Sodepur, Kolkata, India. *Int. J. Sci. Res.* 2020; 9(12) Available from: [https://www.worldwidejournals.com/international-journal-of-scientific-research-\(IJSR\)/fileview/evaluation-of-oral-hygiene-knowledge-attitude-and-behaviour-among-local-autorickshaw-drivers-in-sodepur-kolkata-india-December_2020_6749101610_5019137.pdf](https://www.worldwidejournals.com/international-journal-of-scientific-research-(IJSR)/fileview/evaluation-of-oral-hygiene-knowledge-attitude-and-behaviour-among-local-autorickshaw-drivers-in-sodepur-kolkata-india-December_2020_6749101610_5019137.pdf)
6. Anjum S, Kopula Y, Mocherrla M, Peddireddy P, Hameed I, Pandit M. Attitudes of auto-rickshaw drivers towards oral health care, barriers of dental service utilization in vikarabad, Telangana, India. *Journal of Oral Health and Community Dentistry (JOHCD)* [Internet]. 2018;12(3):79-84. Available from: <http://dx.doi.org/10.5005/jp-journals-10062-0031>

7. Ganesh A, Ramkumar S, Rajkumar M, Bhavyaa R, Ramkumar L, Balaji SK. Oral health-related knowledge, attitude, and practices among auto drivers in South Chennai. J. Indian Assoc. Public Health Dent. [Internet]. 2017;15(4):392. Available from: http://dx.doi.org/10.4103/jiaphd.jiaphd_97_17
8. Padmaja S, Sumalatha S, Mahesh PC, Raju R, Saheer A. Assessment of oral health-related knowledge, attitude, and practice among the auto-rickshaw drivers in Davangere city- A cross-sectional study. Asian Journal of science and Technology (AJST) [Internet].2019; 09(06):9747-9750. Available <https://www.journalajst.com/assessment-oral-health-related-knowledge-attitude-and-practice-among-autorikshaw-drivers-davangere>
9. John JR, Rajendran G, Kesavan P, Sridharan P. Evaluation of oral health status among road transport drivers in Erode district of Tamil Nadu. Journal of Oral Health and Community Dentistry (JOHCD) [Internet]. 2016;10(2):35–9. Available from: <http://dx.doi.org/10.5005/johcd-10-2-35>