Original Article

Comparison of KAB of Oral Hygiene Practices among Rural Versus Urban Adult Population

Shilpi Shah, Juhi Rawal, Aditya Mamlatdarna, Visva Shah, Dhvani Parikh, Aniket Pansuriya, Nishi Dave

Department of Periodontics and Oral Implantology, Ahmedabad Dental College and Hospital, Gandhinagar, Gujarat, India.

Abstract

Background and Aim: The aim of this study was to assess knowledge, attitude, and behavior regarding oral health among adult population within age range of 30–60 years residing in urban and rural area that came to Ahmedabad dental college and hospital for checkup. **Objectives:** The objective of this study is to assess oral hygiene knowledge, attitude, and behavior and its association with socioeconomic and sociodemographic among both populations and assess oral hygiene practices in rural and urban population. **Materials and Methods:** This study was a descriptive cross-sectional questionnaire-based survey on knowledge, attitude, and behavior among population residing in urban and rural areas that came to Ahmedabad dental college and hospital for checkup. The population was selected by random sampling method among age group of 30–60 years. **Results:** About 70.42% of rural population and 77.30% of urban population has good knowledge, while only 36.1% of rural population 47.16% of urban population had a positive attitude toward oral hygiene practices. About 61.27% of rural population and 64.81% of urban population showed a positive behavior. Absence of correlation was identified between Knowledge-Attitude and Attitude-Behavior. **Conclusion:** It has been found that a massive higher number of urban participants possesses a high knowledge level and attitude toward oral health or compared to rural population. No linear positive correlation was seen among knowledge, attitude, and behavior toward oral health.

Keywords: Knowledge-attitudes-behavior, Oral hygiene practices, Rural versus Urban.

Introduction

Oral health for healthy life was theme declared by the World Health Organization on World Health Day 1994. Good oral health which includes disease free teeth and supporting tissues is important for overall physical health.[1] Enforcement of good oral hygiene practices is an important step in maintaining oral hygiene/health. To adopt good preventive measures, we need to have good understanding of oral hygiene practices among population. Oral health-related condition among Indian population has been a big issue in every Indian state for past 10 years. Every basic oral health education has become unachievable to major Indian population.[2]

Good oral hygiene suggests a good body health, poor oral hygiene along with act as an initiating factor for many systemic diseases. Therefore, maintaining good oral hygiene is a must for having healthy teeth and gingiva. Various materials and methods are suggested and used for purpose of removing food particles and other deposit from surface of teeth to keep them healthy.[1] Various external factors like sociodemographic factors such as age, gender, and residential area play a major role in oral hygiene and oral condition among adults. In addition, it has been stated that low socioeconomic status of an individual also end-up in poor oral hygiene.[2] To adopt good preventive measures, we need to have a good understanding of the oral hygiene practices of a population.[3] Good oral health is an essential component to maintain and improve general health and quality of life.[4] Attitude is defined as "the way in which a person views and evaluates something or someone. Attitude determines whether people like or dislike things and, therefore, how they behave toward them."[5]

Many studies use questionnaire to assess gender differences in oral health behavior and variation between cultures. Furthermore, Cortes *et al*. showed that oral health behavior and attitude improves with educational level.[5] There are many oral health diseases that may put one at risk for one's oral health and overall health.[6] Individuals who have gained

Access this article online

Website: www.jrad.co.in

DOI: https://doi.org/10.53064/jrad.2022.14.5.379

Address for correspondence: Nishi Dave, 5 Samruddhi Bunglow Part-2 Opp Sangini Bunglow Thaltej, Shilaj Ahmedabad 380059, Gujarat, India.
Email: Nishid2301@gmail.com

Received: Jun. 02, 2023; **Accepted:** Jul. 15, 2023; **Published:** Jul. 28, 2023

How to cite this article: Shah S, Rawal J, Mamlatdarna A, Shah V, Parikh D, Pansuriya A, Dave N. Comparison of KAB of Oral Hygiene Practices among Rural Versus Urban Adult Population. J Res Adv Dent 2023;14(5):1-4.

relevant instructions on oral hygiene, consistently following it, manifest positive signs.[2] Attitude toward oral health of an individual impacts their oral self-care habits and affects ability of an individual's care toward their teeth.[2] The allocation of funds to oral health services is not adequate after spending the major amount of funds to general health which becomes a barrier to provide a better oral health service. Thus, Indian government should consider reassessing the oral health policy which is being practices now to provide better oral health service to the population of India.[7] Our study aimed to assess oral health knowledge, attitude, behavior and its association with sociodemographic and habitual factors of rural and urban population.

Materials and Methods

Study design

This questionnaire-based descriptive cross-sectional study was carried out among the adult population from Urban and Rural areas attending Ahmedabad Dental College and Hospital, examining their knowledge attitude and behavior pertaining to their oral hygiene and its practices performed for their oral hygiene. This questionnaire included 17 questions relating to oral hygiene knowledge and practices.

Sample size

A total of 204 adults took part in our study. The participants were resident of both urban and rural areas around Ahmedabad dental college and hospital and those who fulfilled the criteria were included. Individuals above the age of 30 and below 60 and those who volunteered themselves to be a part of our research were included in the study.

Data collection

The data collection was done using an online survey form, each individual was asked the question which was filled by the investigator to ensure quality. The questionnaire was validated by ten different staff members of Ahmedabad Dental College and Hospital. The completion of survey took around 10 min, 5 min for the explanation, and 5 min for the survey.[1] All the entries provided were directly stored online.

Content of questionnaire

The validated questionnaire consisted of 24 questions. From these, seven questions at the start consisted of basic general questions including demographic questions. The general questions consisted of name, age, and sex. The questionnaire comprised 17 questions for the assessment of knowledge, attitude, and behavior toward oral hygiene and oral hygiene practices among rural and urban adults.

The knowledge part of the questionnaire included six questions which were designed to test the knowledge regarding oral hygiene practices and its maintenance. The questions were all multiple choice and the participants were told to choose the option which according to them was correct. The attitude part of the questionnaire included six questions which were based on the attitude of the participant toward their oral hygiene and its maintenance practices. The behavior part of the questionnaire comprised five questions which were based on the fundamental behavior or actions of the adult to maintain their oral health.[2]

Ethical clearance

An informed consent was obtained before collecting data from the participants. Before conducting the survey, a brief explanation was given to the study procedure and confidentiality of the data that were collected.

Inclusion criteria

The adult population between the age of 30 and 60 years residing in both urban and rural areas that came to the outpatient department (OPD) of Ahmedabad Dental College and Hospital were included in the study.

Exclusion criteria

Individuals below the age of 30 years and those above 60 years were excluded from the study. Those individuals who were physically, mentally, or legally incapacitated such that an informed consent to survey cannot be obtained were excluded in our study.

Results

At the end of data collection, a total of 204 participants from Ahmedabad Dental College and Hospital OPD filled the questionnaire. The distribution of male and female participants in dental Opd were taken from which n = 105 (51.5%) were female and n = 99 (48.5%) were male. The majority of participants were from the age group of 41 to 50 years n = 78 (38.2%). From the 204 participants, there were 111 participants residing in urban areas whereas there were 93 of them from rural areas. Majority of participant's head of household n = 103 (50.5%) had job as a source of employment. Most of the participants n = 128 (62.7%) were in the income range of above 100,000.

Most of the urban participants were aware of the importance of the oral hygiene n = 92 (82.9%) and from the rural participants n = 70 (75.3%) were aware of importance of oral hygiene. It also shows that all participants of urban population brushed their teeth and n = 91 (97.9%) participants of rural population also brush their teeth which suggest that there is a better knowledge regarding oral hygiene practices among the urban population as compared to that of the rural residents. It shows that majority of a rural population n = 86 (92.5%) and urban population n = 109 (98.19%) used toothbrush for brushing and also states that almost half of the population of the rural n = 50 (53.76%) and urban n = 57 (51.35%) participants used tongue cleaner as other aids. Graph shows that half of the rural participants n = 51 (54.8%) knew that there is a relationship between oral hygiene and the general health and majority of the urban population n = 81 (72.9%) knew that there is a relationship between oral health and general health as per Figure 1. From the total participants, n = 204 over 58% of the urban population knew

about there being a relation between substance abuse and oral hygiene problems compared to 48.3% of the rural population. Majority of the participants among both rural *n* = 87 (93.5%) and urban *n* = 89 (80.2%) areas brush their teeth once daily. Graph shows a slight negative attitude of participants of both rural *n* = 55 (59.1) and urban *n* = 53 (56.7) population toward the visit of dental clinic as almost half of the population visited the dental clinic only once a year as per Figure 2. Shows a slight positive attitude of participants of both rural and urban population as they believe that the dental visit is important. Among both population majority of urban participants *n* = 88 (79.2) thought that the dental visit is important and rural participants *n* = 72 (77.4) had a similar view. Most of rural and urban participants will approach a dentist if they have a toothache. Among both *n* = 107 (96.3%) of urban population and *n* = 87 (93.5%) of rural population will go to a dentist. It illustrates that 89.2% of rural population feels that their appearance is moderate whereas 86.5% of urban participants feels the same about their oral appearance.

More than half of the rural *n* = 54 (58%) and urban population *n* = 48 (51.6%) has TV as the main source to receive the information regarding oral hygiene illustrates that majority of urban participants *n* = 85 (76.57%) thought that they should get information on a regular basis from all local dentist for improvement of their oral healthcare. A fair population of rural participants *n* = 66 (71%) thought that they should get information on a regular basis from all local dentist for improvement of their oral healthcare. A very good proportion of both urban *n* = 83 (74.7%) and rural *n* = 65 (69.9%) participants showed positive behavior in visiting a dentist right after the survey.

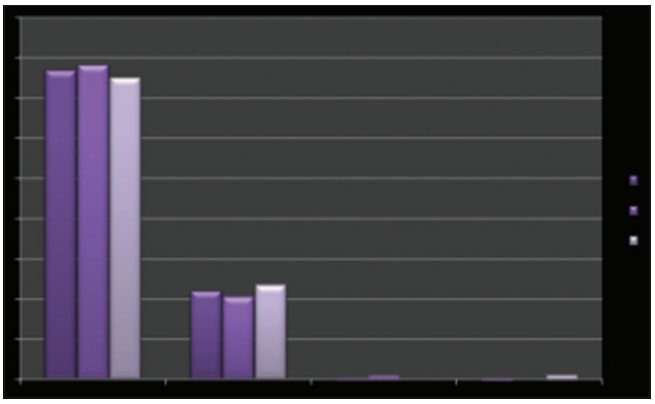

Figure 1: Percentage distribution of participants on basis of duration of brushing

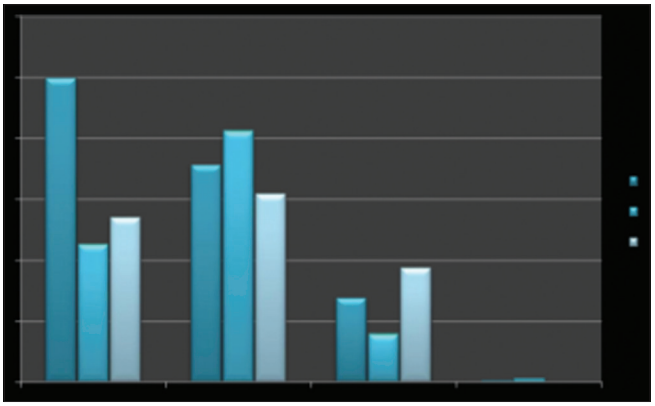

Figure 2: Percentage distribution of participants on the basis of methods of brushing

Discussion

The purpose of our study was to compare between urban and rural population regarding oral health related knowledge, attitude, and behavior.

The present study distributes patients in age groups between 30 and 60 and maximum patients found in our study were between 41 and 50 years 78 (38.2%). Maximum participants seen were of females (51.5%) as compared to males. From all the participants, the majority's (50.5%) head of household had job as the main source of income. Most of the patients (62.7%) fall in group of income above 100,000. The basic aim of our study was comparison between urban and rural population, the number of urban population that filled survey were 111 (54.4%) and the rural population that filled the survey were 93 (45.6%).

Individuals oral health concern depend on their awareness and strongly influence the effect on oral health status[2] and from our study that it is reported that majority of participants were aware regarding the importance of oral hygiene. From these, 82.9% were of urban population and 75.3% were of rural population. This shows that urban population had better knowledge regarding the importance of oral hygiene. About 100% of urban population brushed their teeth as compared to 97.9% of the rural participants.

Indian medicine, Ayurveda advocated Datun to be chewed on one end so that it resembles a brush and then to be used to brush teeth.[1]

From our survey, it was found that none of the urban participant used datun but 4.3% of rural participants used that for brushing. About 98.19% of urban participants used toothbrush in comparison to 92.5% of rural participants. In our study, it was shown that 99% of urban participants and 100% of rural participants reported that they never used dental floss and such high numbers clearly indicate that most participants are unaware of importance of flossing. These findings were similar to previous study in which they found that only 11% of population used dental floss daily.[3] When asked question about relationship between oral health and general health, 72.9% of urban participants were aware of it, there is only 54. About 8% of rural participants were aware. This shows a better general awareness among urban population and compared to rural. Factors contributing to the steady rise in prevalence of periodontal disease include poor oral health awareness.[8]

The second set of questions in the survey includes those based on the participants attitude toward oral hygiene. Adequate oral hygiene of an individual helps enhance the self-esteem of an individual, leading to better quality of

life.[2] The attitude of the population helps to determine the extent of oral hygiene.

When asked about brushing habits, a very low percentage of population brushed twice daily that is 19.8% of urban population as compared to only 5.3% of rural participants. While 93.5% of rural and 80.2% of urban participants brushed once daily. It was also found from the study that most of the participants visited dental clinic only once a year, it included $n = 53$ (56.7%) urban population and $n = 55$ (59.1) of rural population. Only 5.4% of rural participants visited dental clinic every 6 months as compared to 19.8% of urban population. This clearly suggests a lack of positive attitude toward dental clinic in both participants, but with rural being much worse. Moreover, on the contrary when asked if regular dental visit was important 79.2% of urban and 77.4% of rural participants agreed. This shows people knowing about oral hygiene importance but not having a positive attitude toward it. Continuing with brushing habits 82.7% of rural participant and 62.1% of urban participants brushed in horizontal motion, while 16.1% of rural population and 37.8% of urban population brushed in circular motion. A majority of participants brush to 1–3 min $n = 70$ (75.2%) rural population and $n = 87$ (78.3%) of urban population.

From the survey questionnaire, the last set of questions is regarding the participants behavior toward oral hygiene in their practices. It was found from our study that 93.5% of rural population and 96.3% of urban population would prefer visiting a dentist for toothache instead of general physician or applying homecare. A majority of participants felt that their appearance of teeth was moderate, it included 89.2% of population and 86.5% of urban population. This shows that people are not very confident regarding their oral outlook, and thus, steps should be taken to improve this. For most of the participants, TV was the major source of information regarding oral hygiene. A total of 51.6% of urban population and 58% of rural population get their information through TV while 9.6% of rural population and 14.4% of urban population used to get information through social media. These two were the major source of information regarding oral hygiene. In rural population, barriers to accessing dental health care may exacerbate oral health problems by delaying preventative and curative dental health services, leading to greater health concerns and societal costs. Multiple causes exist and simultaneously interact to influence uneven or limited access to dental health-care services. Despite of accessible dental health center, the rural population is still unable to seek dental treatment depicting their negligence, lack of knowledge, and unawareness toward their oral health.[9] The survey also provided data that 76.57% of urban population and 71% of rural population wanted to get information from the dentist on a regular basis for improvement of oral health care. At the end of the survey when asked if given a chance now would visit a dentist to which 74.7% of population agree to this as compared to 69.9% of rural population. Therefore, this study provided a good look into oral hygiene practices and the knowledge regarding it in both rural and urban population.

Conclusion

The purpose of our study is to determine the knowledge, attitude, and behavior toward oral hygiene and its practices among urban and rural population. Fédération dentaire internationale world dental Federation observes March 20th as world oral health day and has been working in collaboration with dental institutions across the country to promote the importance of oral health.[10] Our survey has indicated that participants in both rural and urban areas had adequate level of knowledge regarding oral health with urban participants being slightly better.

From results of our study, it is evident that individuals in both urban and rural areas with more emphasis on rural participants, still need to be provided with adequate training on effective oral hygiene practices. A generalized optimistic behavior was observed among both urban and rural participants with urban being slightly superior. Community efforts must be undertaken to spread awareness about good oral hygiene practices to improve oral health in society[3] A general awareness regarding the importance of oral hygiene helps develop a positive attitude toward oral hygiene practices which, in turn, can help reduce prevalence of problems.

References

1. Goryawala SN, Chavda P, Udhani S, Pathak NV, Pathak S, Ojha R. A survey on oral hygiene methods practiced by patients attending Dentistry Department at a Tertiary Care Hospital from Central Gujarat. J Int Soc Prev Community Dent 2016;6:115-9.
2. Selvaraj S, Naing NN, Wan-Arfah N, Abreu MH. Assessment on oral health knowledge, attitude, and behavior and its association with sociodemographic and habitual factors of South Indian population. Pesq Bras Odontopediatra Clın Integr 2021;21.
3. Gharpure AS, Bhange PD, Gharpure AS. Evaluation of oral hygiene practices in an urban Indian population. J Indian Dent Assoc 2016;10:10-4.
4. Zheng S, Zhao L, Ju N, Hua T, Zhang S, Liao S. Relationship between oral health-related knowledge, attitudes, practice, self-rated oral health and oral health-related quality of life among Chinese college students: A structural equation modeling approach. BMC Oral Health 2021;21:99.
5. Al-Wesabi AA, Abdelgawad F, Sasahara H, El Motayam K. Oral health knowledge, attitude and behavior of dental students in a private university. BDJ Open 2019;5:16.
6. Koubaytari MN. Student's Oral Health Knowledge, Oral Health Practices, and Their Susceptibility to Oral Health Diseases at a Midwestern University. Mankato: Minnesota State University; 2017.
7. Siddharthan S, Naing NN, Wan-Arfah N, Assiry AA, Adil AH. Oral health and services in India. Int J Pharm Res 2021;13:3786-90.
8. Jain N, Mitra D, Ashok KP, Dundappa J, Soni S, Ahmed S. Oral hygiene- awareness and practice among patients attending OPD at Vyas Dental College Hospital, Jodhpur. J Indian Soc Periodontol 2012;16:524-8.
9. Gill M, Pal K, Gambhir RS. Oral hygiene practices, attitude, and access barriers to oral health among patients visiting a rural dental college in North India. J Dent Res Rev 2014;1:114-7.
10. Bommireddy VS, Pachava S, Viswanath V, Talluri D, Ravoori S, Sanikommu S. Oral health care-seeking behaviors and influencing factors among south Indian rural adults: A cross-sectional study. J Indian Assoc Public Health Dent 2017;15:252.