Peertechz

CLINICAL GROUP

INTERNATIONAL JOURNAL OF
Oral and Craniofacial Science
OPEN ACCESS JOURNAL

ISSN: 2455-4634 DOI: https://dx.doi.org/10.17352/ijocs

Research Article

Assessment of knowledge and awareness of oral health in rural and urban school teachers in Bareilly city: A cross-sectional study

Nandita Gautam[1]*, Shivalingesh KK[2], Mhao P Jungio[3] and Puru Abbey[3]

[1]Department of Public Health Dentistry, Institute of Dental Sciences, Bareilly, India

[2]Professor & Head, Department of Public Health Dentistry Institute of Dental Sciences, Bareilly, India

[3]Department of Periodontology, Institute of Dental Sciences, Bareilly, India

Received: 28 February, 2022
Accepted: 26 March, 2022
Published: 28 March, 2022

***Corresponding author:** Nandita Gautam, Department of Public Health Dentistry, Institute of Dental Sciences, Bareilly, India, E-mail: nanditagautam63552@gmail.com

Keywords: Knowledge; Oral health; Rural and urban school; Teacher

https://www.peertechzpublications.com

Check for updates

Abstract

Background: To assess the oral health knowledge and awareness among urban and rural school teachers in and around Bareilly.

Materials and methods: A cross-sectional study was conducted on 279 school teachers of rural and urban, Bareilly using a questionnaire to assess the knowledge, and awareness regarding oral health. Descriptive analysis was done and data were analyzed using chi-square and ANOVA test.

Results: The age of the teachers ranged from 19-50 years with a mean age of 36.73±10.5 years. Among them, 17.20%(48) were males and 82.7% (231) females, among which 75% of the population brushed their teeth twice daily. Most of the teachers (40.38%) used a brush and paste and 57% of teachers changed their brushes every 3mnths, 10% in every 6 months while 27% were those who changes their brush when their bristles get frayed up.

Conclusion: From the results of the study, it is evident that school teachers in both urban and rural areas, with more emphasis on the rural area, need to be provided with adequate training on effective oral hygiene practices.

Introduction

Teachers help to build the nation's future and prepare young people for life. As a result, they should continue to serve as role models for the youngsters. Teachers cannot help pupils become well-informed if they are themselves misguided [1]. According to the World Health Organization's Global Data Bank (WHO 1995), more than 15% of the world's nations had an average of 4.5 decayings, missing, or filled teeth per child under the age of twelve [2]. Teachers with good oral health expertise can help execute a variety of school-based oral health education and prevention programs targeted at enhancing the oral health behavior and condition of the juvenile population [3].

In Nepal, the 2004 National Pathfinder Survey shows that 58% of 5-6-year-old school children suffer from dental caries. With the caries prevalence of 58%, dental caries is more prevalent than malnutrition which affects 49% of the child population [4]. The benefits of using teachers include the capacity to reach all children, increased stability, improved communication, lower activity costs, and, most importantly, the fact that the teacher is one of the primary leaders during the early stages of personality development.

The education of school-age children in oral health is crucial because healthy oral habits occur at a young age. The importance of teaching children (infants, preschoolers, or schoolchildren) about oral hygiene was recognized as early

Citation: Gautam N, Shivalingesh KK, Jungio MP, Abbey P (2022) Assessment of knowledge and awareness of oral health in rural and urban school teachers in Bareilly city: A cross-sectional study. Int J Oral Craniofac Sci 8(1): 010-014. DOI: https://dx.doi.org/10.17352/2455-4634.000052

as 1878 [5]. Schools are an optimal location for providing oral health education, as these services can be given similarly and widely to all children, especially those who do not have access to other health resources and cannot receive professional dental care.

One of the critical issues in oral health is the treatment of dental injuries. Children participate in sports activities at school, and in cases of close contact or physical activity, injuries may occur due to reasons such as falls or accidents. In these trauma cases, successful management of the process from the moment of the event to the visit to the dentist significantly increases the chances of successful post-trauma treatments [6]. The good management of this process depends on the teacher's level of knowledge. Correct guidance of the child and their parents can give the dentist a chance for early intervention. A teacher needs to know what to do in an emergency regarding primary and permanent teeth. Many studies have shown that getting support from teachers is successful in improving the oral health of school children [7].

The purpose of this study is to determine how urban and rural schoolteachers handle their personal oral health. Because there are so few studies in the literature, notably in developing nations like India. This study was conducted with the aim to assess the oral health knowledge and awareness of oral health among urban and rural school teachers in and around Bareilly City.

Materials and methods

From November to December 2021, a cross-sectional study was done on school teachers in rural and urban Bareilly City using a self-administered questionnaire (SAQ) of multiple-choice items in order to evaluate the oral health knowledge and awareness of school teachers. The items of the self-administered questionnaire used in this study were adopted from previous studies with relevant purposes, including the assessment of schoolteachers' oral health knowledge and awareness. The SAQ had 12 multiple-choice questions. The instrument's content validity was evaluated by a panel of experts in dental public health who reviewed the proposed items in terms of clarity and relevance.

Ethical approval from the institutional ethical committee was obtained. A total of 279 teachers were included in this study. For urban and rural areas, Bareilly City was divided into five zones: east, west, north, south, and center. Stratified Random Sampling was done to select the schools.

The necessary approval was obtained from government officials and school principals. The study covered all teachers who worked at the chosen schools. Teachers who were not present on the survey's scheduled day were not included in the study. Before the start of the investigation, the school teachers gave their written informed consent to be assessed. Statistical analysis was done using S.P.S.S version 21.0 software. The level of significance was chosen at $p< 0.05$. Chi-Square test and ANOVA test were employed to analyze the data.

Results

Tables 1,2

Table 1: Mean of Age and gender among Study Group.

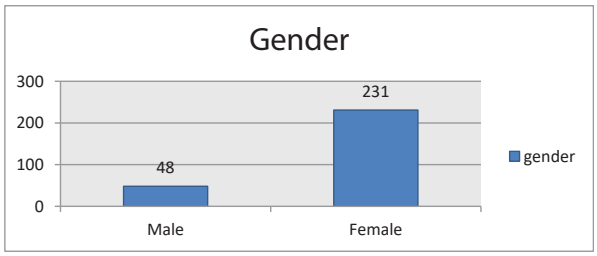
Gender	N	Mean	S.D
Males	48	38.98	8.647
Females	231	36.91	8.431
Total	279	36.73	8.854

Table 2: Distribution Of Study Population AgeWise.

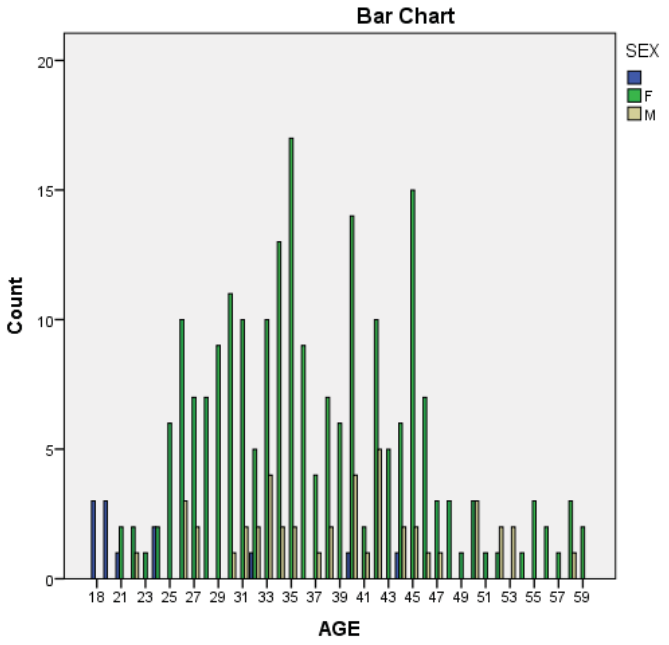
	N	Minimum	Maximum	Mean	Std. Deviation
Age	279	18	59	36.73	8.854

Graph 1 depicts the distribution of the study population according to age and gender. The age of the teachers ranged from 19-50 years with a mean age of 36.73±10.5 years. Among them, 17.20%(48) were males, and 82.7% (231) were females Graph 2.

Graph 3 depicts the distribution of schools in Bareilly city according to rural and urban areas. Around 68.8% (192) of



Graph 1: Gender wise distribution of study population.



Graph 2: Age and gender-wise distribution of study population.

Citation: Gautam N, Shivalingesh KK, Jungio MP, Abbey P (2022) Assessment of knowledge and awareness of oral health in rural and urban school teachers in Bareilly city: A cross-sectional study. Int J Oral Craniofac Sci 8(1): 010-014. DOI: https://dx.doi.org/10.17352/2455-4634.000052

teachers were from the school of rural area and 31.18%(87) were from urban located schools. The majority of teachers were from a rural areas.

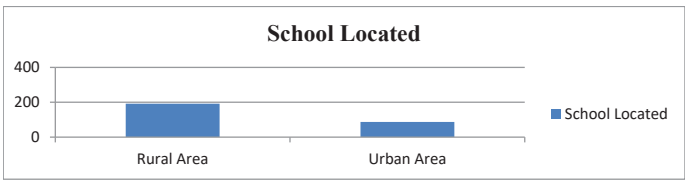
Graph 4 depicts the distribution of grades of teachers in which 40.14% (112) were PRT, 36.20%(101) were TGT, 0.35% PNC(1) and 23.29% (65) were from PGT grade Tables 3,4.

The above table shows a comparison Of Knowledge in rural and urban School Teachers using the Pearson chi-square-test was p-value less than 0.05, which shows a statistically significant difference between the two groups. Mean was found 0.97 with a standard deviation of 0.069. This shows that urban school teachers have better knowledge than rural school teachers.

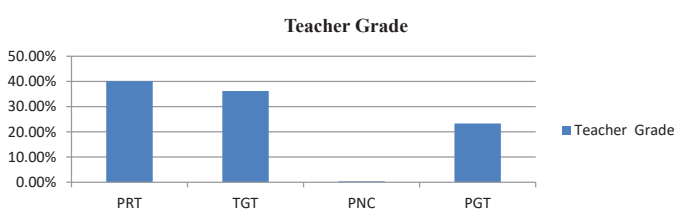
Discussion

The study had a total of 279 participants, with 17.20 percent (48) males and 82.7 percent (231) females, which was consistent with Manjunath and Kumar [7], who found a higher percentage of female teachers than male teachers in their study. Around half of the participants were aware of the causes of irregular brushing, and a similar percentage felt that regular brushing could help to lower the occurrence of gum disease. Although, this is in agreement with studies conducted by Nyandindi, et al. [8] and Khan, et al. [9] it is not in agreement with a study by Paul lang [10] in China.

In our study, about 75% of the participants brushed their teeth twice a day. Brush and paste were utilized by the majority of the teachers (40.38 percent). This is supported by a study conducted by Ling Zhu [11] In contrary to other research, where over 67 percent of the study subjects used mouthwash in conjunction with brushing and flossing, just 7 teachers reported using mouthwash in addition to brushing and flossing. However, as compared to previous studies, the percentage of teachers brushing twice daily is lower in ours. According to Vanka [12] and Kompalli, et al. [13] Investigations, 78 percent of teachers wiped their tongue and 87 percent rinsed their mouth after each meal.



Graph 3: Distribution of Study Population Region wise.



Graph 4: Distribution of Teacher Grade Wise.

Table 3: Distribution of Responses for Questions Among Study Group.

Questions	Options	Responses
1. How many times do you brush?	a) Once A Day b) After Every Meal c) Twice d) I Don't Brush	23.65% 0 75.98% 0.35%
2. How Often Do You Visit Dentists?	a) Once A Month b) Once In 6months c) Once In 3 Months d) Once In 10 Years	8.96% 48.38% 8.6% 11.47%
3. Has oral health got any role in general health?	a) Yes b) No c) Don't Know	37.6% 48.38% 14.02%
4. What does irregular tooth brushing cause?	a) Decay b) Gum Disease c) Bad Breath d) Stains on Teeth e) Nothing f) All	37.6% 40.38% 10.02% 4.00% 0% 8%
5. Why do we get dental problems?	a) Eating Sweets And Ice Creams b) Not Brushing Properly c) Not Rinsing The Mouth d) Not Regularly Visiting A Dentist	35.6% 40.38% 10.02% 3.00% 11.00%
6. How can you prevent dental problems?	a) Avoiding Sweets And Sticky Foods b) Brushing Properly c) Mouth Rinsing After Meals d) Regularly Visiting A Dentist e) All	25.60% 30.38% 20.02% 13% 11%
7. How do you clean your teeth?	a) Tooth Brush And Tooth Paste b) Tooth Brush And Tooth Powder c) Finger And Tooth Powder d) Neem Sticks	35.60% 40.38% 20.02% 4%
8. How often do you change your brush?	a) Once In 3 Months b) Once In 6 Month c) Once Yearly d) When Bristles Get Freyed Up	57% 10% 6% 27%
9. What amount of paste do you apply to your brush?	a) Full Length Of Bristle b) Half Length Of Bristles c) Pea Sized Amount	47% 42% 11%
10. Do you rinse your after meals	a) Yes b) No c) Sometimes	37% 52% 11%
11. How do you clean your tongue?	a) Tongue Cleaner b) Fingers c) Tooth Brush	27% 62% 11%
12. Do you know any other oral hygiene aid?	a) Yes b) No	12% 88%
13. Have you made an attempt to give education related to teeth and mouth to your students	a) Yes b) No	54% 46%
14. If yes what kind of oral health education have you given to your school children?	a) About The Type Of Teeth, Function, Structure, And Eruption b) About Brushing, Good Dietary Habits, Injurious Oral Habits c) Education About Tooth Decay, Gum Diseases, Irregular Teeth, Their Causes, Treatment And Prevention	24% 56% 20%
15. What is your reason for not visiting the dentist?	a) Long Waiting Hour b) Long Treatment Time c) Multi-visits d) High Cost	13% 15% 10% 62%

Citation: Gautam N, Shivalingesh KK, Jungio MP, Abbey P (2022) Assessment of knowledge and awareness of oral health in rural and urban school teachers in Bareilly city: A cross-sectional study. Int J Oral Craniofac Sci 8(1): 010-014. DOI: https://dx.doi.org/10.17352/2455-4634.000052

Table 4: Comparison Of Knowledge In Rural And Urban School Teachers.

Group	p-value	Mean	S.D
Rural School Teachers	0.001**	0.97	0.069
Urban School Teachers			

**Highly Statistical Significant at p<0.01 level

Around 57 percent of people in our research replaced their brushes every three months, 10% every six months, and 27% when their bristles became frayed. When compared to a study by ling zhu [11], our study suggested that more participants change their toothbrushes every three months. The number of months used by an individual, as well as the fraying of the bristles, determine when the toothbrush should be replaced. The efficacy of the toothbrush is reduced when the bristles become frayed.

In contrast to a previous study conducted by Vanka et al., only half of the teachers were aware of the link between oral health and overall health [12] It's a good indicator that the teachers were aware of the situation. It must be ensured, however, that the knowledge is passed on to the students. According to the findings, the majority of rural school teachers only go to the dentist when they have discomfort or swelling. In a developing country like India, weak public health systems, including a lack of a financial support network such as dental insurance, may explain why people only go to the dentist when they have a persistent condition.

In comparison to Lang et al study in Michigan, the disparity in knowledge and oral hygiene practices among urban and rural school teachers assessed in this study was substantially greater [14].

The private schoolteachers had slightly higher levels of perceived oral health knowledge (U = 7910; p = 0.312) and lower levels of actual knowledge (U = 8212; p = 0.544) compared to the public school teachers. Vanka et al., 2012 found that the private school teachers in Bhopal (India) had a significantly lower level of oral health knowledge (χ^2 = 15.421; p = 0.05) than the public schoolteachers [12]. However, in our sample, private school teachers (28.8%) reported more frequently that they received training in general hygiene than the public school teachers (15.6%); there was no significant difference in terms of receiving training about oral hygiene. Halo et al., 2014 found that 82.2% of private school teachers had postgraduate degrees (PGs), while 65.2% of public school teachers held PGs in Mathura (India); this significant difference was found in our sample as 30.8% of private school teachers hold PGs while only 15% of the public school teachers do [15]. Therefore, the improved oral health outcomes of private school children in some developing countries should be fairly attributed to the fact that these children come from families with higher socioeconomic capacities that enable them to cover the tuition fees of private schools [16].

Almost all the subjects (99%) knew that the mouth has to be rinsed after every meal in a study conducted by Amith HV et al17 which is in contrast to our study where only 37% of participants knew about rinsing.

Our schoolteachers' perceived oral health knowledge, was significantly associated with their experience of providing oral health education to their students. This finding highlights the importance of increasing teachers' awareness through educational interventions as a strategy to increase their likelihood of providing actual guidance and education to their students.

Conclusion

According to the findings of the study, school teachers in both urban and rural areas, with a greater emphasis on rural areas, require proper training in good oral hygiene practices. The government should make more efforts to assure that school teachers obtain proper information and training, which they may then pass on to students.

References

1. George B, John J, Saravanan S, Arumugham IM (2010) Oral health knowledge, attitude and practices of school teachers in Chennai. JIAPHD 15: 85-90. **Link:** https://bit.ly/3JNPKpo
2. Pai V, Sequeria PS, Rao A, Kundabala M (2006) Dental awareness among Kannada and English medium primary school teachers in Mangalore city. JIAPHD 7: 7-12. **Link:** https://bit.ly/3qJO1d5
3. Petersen PE (2004) Continuous improvement of oral health in the 21 century- the approach of the WHO Global Oral Health Program Geneva. **Link:** https://bit.ly/35hamXX
4. Prasai Dixit L, Shakya A, Shrestha M, Shrestha A (2013) Dental caries prevalence, oral health knowledge and practice among indigenous Chepang school children of Nepal. BMC Oral Health 13: 20. **Link:** https://bit.ly/3NtpnHm
5. Hewitt CN (1878) The Work of Hygiene in the Education of Children in the Common Schools, and in the Families and Society in which they Live. Public Health Pap Rep 4: 81-87. **Link:** https://bit.ly/3DetkuS
6. Azami-Aghdash S, Ebadifard Azar F, Pournaghi Azar F, Rezapour A, Moradi-Joo M, et al. (2015) Prevalence, Etiology, and Types of Dental Trauma in Children and Adolescents: Systematic Review and Meta-Analysis. Med J Islam Repub Iran 29: 591-596. **Link:** https://bit.ly/36RHJkL
7. Manjunath G, Kumar N (2013) Oral health knowledge, attitude and practices among school teachers in kurnool-Andhra Pradesh. J Oral Health Community Dent 7: 17–23. **Link:** https://bit.ly/3wIKa3L
8. Nyandindi U, Palin-Palokas T, Milen A, Robison V, Kombe N, et al. (1994) Participation, willingness and abilities of school teacher in oral health education in Tanzania. Community Dent Health 11: 101–104. **Link:** https://bit.ly/3IKue3i
9. Khan NB, Al-Shaafi M, Al-Garawi Z (2000) Dental caries, fluorosis and knowledge of school teachers of Riyadh, Saudi Arabia. Pak Oral Dent J 20: 52-62. **Link:** https://bit.ly/3wESt0r
10. Lang P, Woolfolk MW, Faja BW (1989) Oral Health Knowledge and Attitudes of Elementary School teachers in Michigan. J Public Health Dent 49: 44-50. **Link:** https://bit.ly/3NCqSmS
11. Zhu L, Petersen PE, Wang HY, Bian JY, Zhang BX (2005) Oral health knowledge, attitudes and behaviour of adults in China. Int Dent J 55: 231-241. **Link:** https://bit.ly/3IKu4sV
12. Vanka A, Yadav NS, Saxena V, Sahana S, Shanti G, et al. (2012) Oral health acquaintance, approach and practices among schoolteachers in Bhopal, central India. J Orofac Res 2: 15-19. **Link:** https://bit.ly/3tJP4f2

Citation: Gautam N, Shivalingesh KK, Jungio MP, Abbey P (2022) Assessment of knowledge and awareness of oral health in rural and urban school teachers in Bareilly city: A cross-sectional study. Int J Oral Craniofac Sci 8(1): 010-014. DOI: https://dx.doi.org/10.17352/2455-4634.000052

13. Kompalli PV, Mahalakshmi M (2013) Knowledge, Attitude and Practices of School Children and Teachers Of Khammam towards Oral Hygiene. Web med Central Dentistry 4: WMC004021. **Link:** https://bit.ly/36x6iU8

14. Lang P, Woolfolk MW, Faja BW (1989) Oral health knowledge and attitudes of elementary schoolteachers in Michigan. J Public Health Dent 49: 44-50. **Link:** https://bit.ly/3qIy5I5

15. Haloi R, Anand Ingle N, Kaur N, Gupta R (2014) Comparing the Oral Health Promoting Role and Knowledge of Government and Private Primary School Teachers in Mathura City. Int J Sci Study 5: 9-14. **Link:** https://bit.ly/3DjEDIK

16. Lawal F, Taiwo J (2014) An audit of school oral health education program in a developing country. J Int Soc Prev Community Dent 4: S49–S55. **Link:** https://bit.ly/3iYlzjD

17. Amith HV, D'Cruz AM, Shirahatti RV (2013) Knowledge, Attitude and Practice Regarding Oral Health Among the Rural Government Primary School Teachers of Mangalore, India. J Dent Hyg 87: 362-369. **Link:** https://bit.ly/3qCMA00

Citation: Gautam N, Shivalingesh KK, Jungio MP, Abbey P (2022) Assessment of knowledge and awareness of oral health in rural and urban school teachers in Bareilly city: A cross-sectional study. Int J Oral Craniofac Sci 8(1): 010-014. DOI: https://dx.doi.org/10.17352/2455-4634.000052