

# Oral Health Knowledge And Attitude Of School Teachers In Rajnandgaon district, Chhattisgarh, India

<sup>1</sup>Dr Nagarathna P J, <sup>2</sup>Dr Dimple tirale

Professor, P G Student

Department of pediatric & preventive dentistry,

Chattisgarh dental college & research institute, Rajnandgaon, Chhattisgarh.

## ABSTRACT

**Purpose:** To assess the oral health knowledge and attitude among urban and rural school teachers of Rajnandgaon district, Chhattisgarh India.

**Material and methods:** A self-administered close ended questionnaire was distributed to 300 school teachers of rural and urban schools of Rajnandgaon using WHO OH Survey (1997) to assess the oral health knowledge and attitude of school teachers. Descriptive analysis was done and data was analysed using chi-square test.

**Results:** Out of 300 school teachers to whom the questionnaire were given 256 responded, yielding 85.3% response rate. Most of the urban and rural school teachers had good knowledge on personal oral hygiene of children in comparison to knowledge on dental trauma. Satisfactory attitudes of teachers was seen regarding oral health but unsatisfactory knowledge was found regarding dental trauma.

**Conclusion:** The study concluded that the urban and rural teachers had satisfactory knowledge about oral health but lacks knowledge on dental trauma. Oral health education and program on the management of dental trauma is required among these teachers.

**Keywords:** Attitude, knowledge, oral health, dental trauma, teachers.

## I INTRODUCTION

Oral disease is considered as public health problem due to its increase prevalence in recent times with significant social impact resulting into a poor quality of life. The importance of oral hygiene practice in infants & children has been recognized internationally as early as 1878. With the increase in prevalence of dental diseases, the oral hygiene practice and education for children has become a priority. So creating awareness on self-oral hygiene practices of teeth at the earliest through a proper means becomes an utmost importance. The responsibility to train the children is the most difficult task, making it a mandate to select trained personnel so as to reach every individual child. And who can be better than teachers? Yes, teachers have a tremendous influence on children as they play an important role in influencing and shaping child's life. So implementation of oral health preventive program and oral health trainings among school teachers will help to improve the oral hygiene practice in children plus teachers knowledge and ultimately child's oral health, for this teacher should have a sound knowledge regarding oral health habits.

Traumatic injuries to both the permanent & primary dentition has been one of the most important oral health problems in children. The prevalence of trauma to children teeth is high between ages 6-12 years. The main causes of injuries include falls, collision, fighting or pushing. Since, children spend considerable amount of time in school with lot of physical activity and sports they are the potential recipients to fall/trauma. Hence it is best for teachers to reach out to children during dental trauma. Also the prognosis of traumatized teeth depends of immediate & appropriate treatment especially avulsed permanent tooth. The good prognosis of avulsed tooth depends on replantation when done within 30 min after avulsion. Most of the studies conducted has demonstrated that teachers knowledge about traumatic dental injuries is inadequate. In order to contribute to establish effective strategies of educating school teachers regarding oral hygiene practices & management of dental injuries, this study was conducted.

Studies in other parts of India has been reported with positive attitudes among teachers towards school based dental health education and a willingness to be involved in oral health promotion.<sup>1</sup> Such studies help us to gather baseline data on the existing knowledge, attitude and awareness on hygiene practice, dental trauma etc., and plan appropriate health education programs for them. Although numerous training programme (NOH care programme, swachh abhiyaan) are organized by IDA for rural school teachers to achieve optimal oral health for all by the year 2020, the urban school teachers are lacking these training. However, few studies have been reported from this part of India and also no data available on the knowledge of teachers on oral health/dental trauma, our study was undertaken to assess knowledge & attitude of urban and rural school teachers towards children oral health and management of dental trauma in Rajnandgaon city with a population of 1.63 lakhs, which has 496 registered government & private schools having 5520 school teachers.

## II MATERIAL AND METHODS

### Study Design and Study Population

This was a cross-sectional questionnaire study conducted in 23 rural & urban schools of Rajnandgaon block involving 300 teachers. The schools were selected from the list obtained from local authorities using stratified cluster sampling method. All the schools were selected randomly. The teachers who were absent on the day of data collection and who refused to participate were excluded from the study. The strength of teachers in schools ranged between 10-50 in number. Taking the total sample size of 300, only 256 responded which did not have an effect on the outcome of the study. Ethical approval to conduct the study was obtained from Chhattisgarh Dental College and Research Institute, Rajnandgaon, Chhattisgarh. Needful permission was obtained from the principals of schools. Participants were assured that their responses would be kept confidential and informed consent was obtained.

### Survey Instrument

A self administered, pre-tested close ended questionnaire consisting of 25 items was distributed among the rural and urban school teachers of Rajnandgaon (n=256). The questionnaire was prepared in the local language "Hindi" as well as English. The questionnaires were distributed among the teachers who were present at the day of survey and collected on the same day.

The questionnaire collected sociodemographic information and the educational qualification of the school teachers. Questions were framed to assess the knowledge (n=17), and attitude (n=8) of the school teachers regarding oral health. The questions were based on the dental trauma, dietary habits, oral hygiene measures, practices and awareness of school teachers and their approach towards child's oral health.

### Data Management and Processing

The first 9 questions assessed the level of knowledge of the school teachers on oral hygiene practices in school children. Knowledge score for each individual was calculated by assigning a score of 1 for each correct answer. Mean knowledge score was calculated by dividing the total knowledge scores of all individuals by the number of individuals.

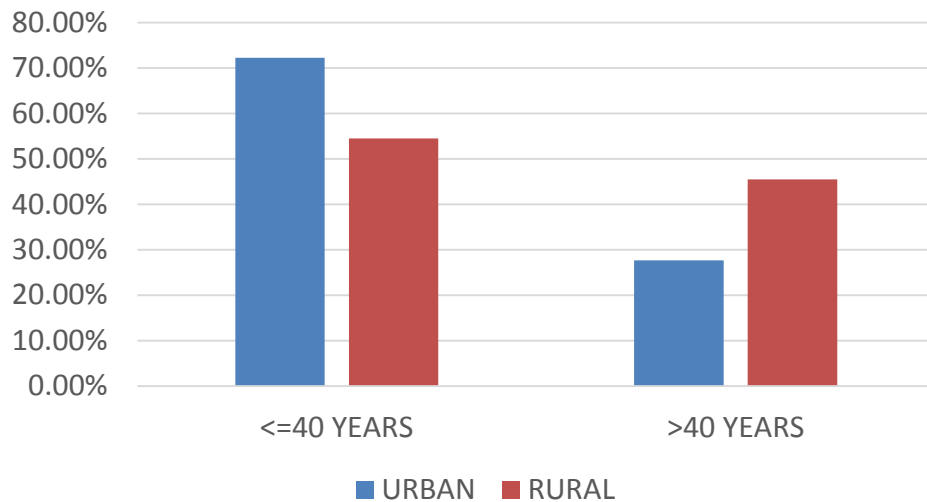
## III RESULTS

The demographic characteristic of all 256 teachers who participated are presented in Table I. Out of 256 teachers, 56% were from rural & 44% from urban. Most of the teachers were females (68.8%) and 72.3% were aged <40 years in urban schools. All the teachers had an experience of minimum of 10 or more years.

**Table I summarizes the sociodemographic characteristics of the study participants**

		URBAN /RURAL			
		URBAN		RURAL	
		Count	Column N %	Count	Column N %
<b>AGE</b>	<=40 YEARS	81	72.3%	78	54.5%
	>40 YEARS	31	27.7%	65	45.5%
<b>GENDER (M/F)</b>	F	77	68.8%	91	63.6%
	M	35	31.2%	52	36.4%
<b>TEACHING EXPERIENCE (IN YEARS)</b>	<=10 YEARS	60	53.6%	64	44.8%
	11-20 YEARS	33	29.5%	29	20.3%
	>20 YEARS	19	17.0%	50	35.0%

Figure 1- Distribution of teachers according to age

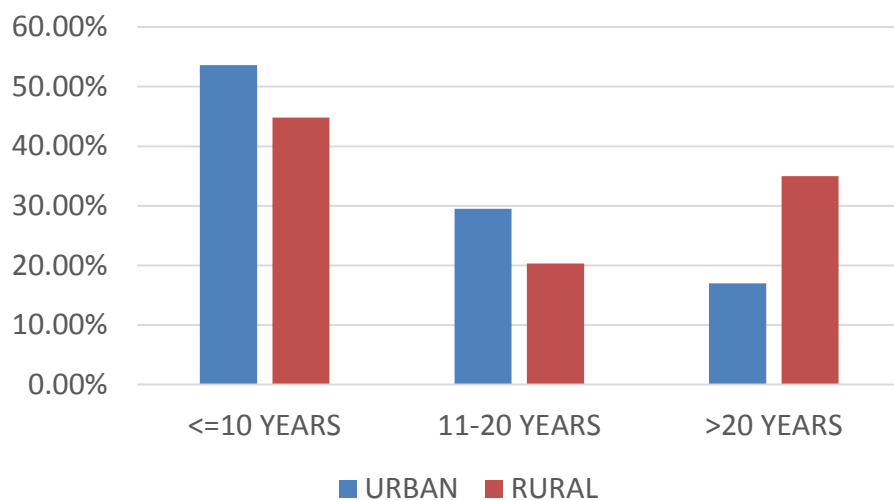


Most of the participants had the knowledge on child's oral hygiene practices like, brush twice daily(89.8%),force applied while brushing(89%),use of soft small bristle brush(94.9%) and use of fluoridated toothpaste(56.9%). While many teachers(89%) mention that brushing technique(86.3%) is important( $p<0.001$ ) than the force applied on teeth while brushing.69.4% of teachers knew that inadequate tooth brushing and excess sugar consumption causes tooth decay. whereas 67%( $P=0.001$ ) teachers suggested to rinse their mouth after snacking to prevent tooth decay.(Table II)

QUESTIONS	OPTIONS	NO. OF TEACHERS ANSWERED (N)	NO. OF TEACHERS ANSWERED (%)	P value
Number of times a child should brush	Once/day	25	9.8%	0.527
	Twice/day	229	89.8%	
	No need of brushing	1	0.4%	
Are you aware of brushing technique in children	Yes	220	86.3%	0.551
	No	35	13.7%	
Tooth cleaning motion used for children	Horizontal	67	26.3%	0.205
	Circular	152	59.6%	
	Vertical	31	12.2%	
	Other	5	2.0%	
Should children rinse their mouth after snacking	Yes	171	67.1%	0.001*
	No	84	32.9%	
Why does tooth decay occur?	Inadequate tooth brushing	59	23.1%	0.209
	Excess sugar consumption	19	7.5%	
	The above options are correct	177	69.4%	
	Do not know	0	0.0%	
How should be the tooth brush used by the child?	Large with soft bristles	11	4.3%	0.755
	Small with soft bristles	242	94.9%	

	Do not know	2	0.8%	
Which is the most important in tooth brushing?	Force applied on teeth	28	11.0%	0.001*
	Technique used	227	89.0%	
What time student should brush their teeth?	Morning	107	42.0%	0.797
	After each meals	148	58.0%	
	Has no fixed schedule	0	0.0%	
Are you aware of fluoridated tooth paste?	Yes	145	56.9%	0.348
	No	110	43.1%	

Figure 2- Distribution of teachers according to teaching experience



The attitude of teachers towards the oral health education is satisfactory as shown in Table III where 88.2% teachers were aware that oral health affects the general health( $p=0.023$ ) and 62.7% had an opinion that school oral health education is important( $p<0.001$ ). Whereas teachers responded inconsistently towards the involvement of dentist, parents and teachers for the task of prevention of dental diseases(43.1%)( $p=0.001$ ). Around 82.4% teachers advised parents to seek dental treatment to their children ( $p=0.039$ ) (Table III) About 52.2% teachers suggested that the oral hygiene practice begins after first emerges in the oral cavity and 27.5% suggested at birth.62.7% teachers supported for oral health education as a team work of dentist, teachers and parents.(Table III)

QUESTIONS	OPTIONS	NO. OF TEACHERS ANSWERED (N)	NO. OF TEACHERS ANSWERED (%)	P value
Does oral health affect general health	Yes	225	88.2%	0.023*
	No	30	11.8%	
Do you have any oral health training	Yes	90	35.3%	0.504
	No	165	64.7%	
When do you think should pay attention to the health of the child’s mouth?	Since birth	70	27.5%	0.543
	Few days after birth	46	18.0%	
	After first teeth emerge	133	52.2%	
	If any complain is there	6	2.4%	
Guidance on preventing dental caries in school phase is a task of	The dentist	33	12.9%	0.001*
	Teachers	111	43.5%	
	Others	1	0.4%	
	All of the above	110	43.1%	
Have you advised	Yes	210	82.4%	0.039

parents to seek dental treatment to their children?	No	45	17.6%	
Do you think it is important to be educated at school about oral health?	Yes, provided it is done by the dentist	41	16.1%	0.001*
	Yes, provided it is done by properly trained teachers	54	21.2%	
	Yes provided it is done in partnership among faculty, staff, family and dentist	160	62.7%	

Knowledge of teachers on management of dental trauma was unsatisfactory (Table IV) where 68.2% teachers were not aware of replantation of fallen tooth ( $p=0.002$ ). However, 45.9% teachers inconsistently responded to hold the fallen tooth from any part, 23.9% from root and 30.2% from crown ( $p<0.001$ ). Child referral to dentist was suggested by 60.8% teachers ( $p=0.007$ ), referral immediately after fallen by 64.7% ( $p=0.042$ ).

QUESTIONS	OPTIONS	NO. OF TEACHERS ANSWERED (N)	NO. OF TEACHERS ANSWERED (%)	P VALUE
What will you do if a child's tooth falls during playing?	Search for it	123	48.2%	0.618
	Leave it	132	51.8%	
How will you carry a fallen tooth?	In child's mouth	6	2.4%	0.417
	In tissue paper	182	71.4%	
	In milk	16	6.3%	
	In water	51	20.0%	
Where will you send child back immediately after a fall?	Home	81	31.8%	0.007*
	Dentist	155	60.8%	
	Dont know	19	7.5%	
Can the fallen tooth be replanted back?	Yes	43	16.9%	0.002*
	No	174	68.2%	
	Dont know	38	14.9%	
Do you choose to clean the fallen tooth?	Yes	92	36.1%	0.876
	No	163	63.9%	
What will you use to clean the fallen tooth?	Tap water	78	30.6%	0.078
	Filtered water	52	20.4%	
	Dont wash	125	49.0%	
How urgent do you feel that a dentist's opinion is needed?	Immediately	165	64.7%	0.042*
	Within 30 min	30	11.8%	
	Within few hours	39	15.3%	
	Before next day	21	8.2%	
How would you hold the fallen tooth?	From crown	77	30.2%	0.001*
	From root	61	23.9%	
	Any where	117	45.9%	

#### IV DISCUSSION

Our study focuses on school teachers because they have been considered as important part in socialization and also have great influence on school children. The data on knowledge, attitude and awareness of school teachers were collected by self-administered questionnaire with a good response of 256 teachers out of 300 from 23 schools of Rajnandgaon block, Chhattisgarh.

The success for the response was majority of teachers were young (<40yrs) with minimum 10 years of teaching experience and being highly qualified with double degree. Also female teachers were significantly higher, as they are more responsible citizens of our country.

Use of toothbrush & tooth paste has been daily tools for oral hygiene maintenance in children but the fact that right type of brush used, right brushing technique, rinsing after snacking, times of brushing and use of fluoride paste remains inadequate which will have an impact on oral health. In some communities use of Neem sticks as oral hygiene tool still persists in parts of Chhattisgarh.

Fluoride is known as double edge sword. It has several benefits as well as ill effects on tooth structure, this knowledge about fluoride should be told to teachers of Rajnandgaon, as this part of Chhattisgarh is known to be fluoride belt area. In this study 56.9% teachers are aware about fluoridated toothpaste which is in contrast to the study done among Mumbai teachers by Mota A.

Secondly the attitude of teachers (88.2%) towards oral health was positive and believed that 'oral health affects the general health'. Teachers are considered to be important in moulding children future and can take care of many number of children at one time. Guidance on prevention of dental caries is considered as the task of not only dentist, parents & teachers also play an important role whereas in our study 43% teachers considered themselves to be guiding the children regarding prevention of dental caries at the level that truly shows the responsible consideration towards the children. Parents were advised by teachers(82.4%) to seek the help of dentist for the dental problems the children suffered and also 62.7% teachers supported that the oral health education can be better provided in the school if it could be done in the partnership of school faculty, family and dentist. The attitude of the teachers towards the relationship with dentist and parents will be helpful and instrumental in arranging regular visits by the dentist to the school as a part of campus organized by dental colleges and welfare societies.

Thirdly when we checked the levels of knowledge on dental trauma and its management of school teachers, the response was inconsistent and lower awareness was reported. Since avulsion is more common in children the questionnaire were more pertaining to avulsion. In children the bone formation and mineralization is incomplete, avulsion is more common than fracture when a tooth undergoes injury. Once the tooth is out of the socket, the cells of pulp & periodontium begins to deteriorate. They lack blood supply and the functional healing will depend on time taken to reimplant the tooth. Longer the time span between avulsion and reimplantation, poor is the prognosis. Regarding the reimplantation of an avulsed tooth majority were unaware of reimplantation procedure so preferred to leave the fallen tooth. Even if recovered the fallen tooth, it was washed in tap water and carried in tissue paper to dentist immediately. The fallen tooth was held from any part of the tooth. So special health training programme and first aid training were required for the management of dental trauma.

Overall assessment shows more of a knowledge among rural teachers as compared to urban teachers because of their more teaching experience and regular government training policies for rural government school teachers.

## V CONCLUSION

The conclusion drawn from the study is that school teachers had significantly better knowledge and attitude on oral health and low knowledge regarding management of dental trauma. Thus current study has highlighted on urgent need to upgrade the teachers knowledge regarding oral hygiene practices and management of dental trauma in order to disseminate them equally among school-children thereby empowering upcoming generation to take good care of their oral hygiene so that it may have affirmative impact on their oral health status. A first aid training with dental content and information should be used to increase knowledge regarding emergency management of various dental trauma. Hence, it is recommended that we have to raise awareness among school teachers through an oral health education sessions and community out-reach programs in both public and private school settings of the country.

### Suggestions/ recommendations

- Discuss oral health of children with their parents during parent teacher meet.
- First aid training program to be included for management of dental trauma.
- Bring about awareness on dental trauma management among teachers at school level.
- Prepare and distribute a guidebook on dental trauma in English and local language.

### Why this paper is important to paediatric dentists

- In this observational study knowledge of teachers regarding oral health and preventive measures were good but attitude towards it was not appreciable.
- Survey on dental trauma was also shown to be unsatisfactory.
- These data gives a valuable evidence suggest that treatment need among trauma patient were not met, hence it need to be reorganize preventive care measurements in managing dental trauma.
- Teaching training program is best way to provide preventive care measures and include in the school curriculum

### Acknowledgements

We would like to express our gratitude for the help of the heads and teachers of schools of Rajnandgaon city, Chhattisgarh, India.

**Conflict of interest:** The authors declare no conflict of interest.

## REFERENCES

- 1) Amith HV, D'Cruz AM, Shirahatti RV. Knowledge, Attitude and Practice Regarding Oral Health Among the Rural Government Primary School Teachers of Mangalore, India  
*The Journal of Dental Hygiene* 2013; 6:363-369.
- 2) Kompalli PV, Mahalakshmi M. Knowledge, Attitude and Practices of School Children and Teachers Of Khammam towards Oral Hygiene. *Web med Central dentistry*. 2013;4(2):1-6.
- 3) Vanka A, Yadav NS, Saxena V, Sahana S, Shanti G, Shivakumar GC. Oral health acquaintance, approach and practices among school teachers in Bhopal, Central India. *J Orofac Res*. 2012;2(1):15-9.
- 4) Manjunath C, Kumar NN. Oral health knowledge, attitude and Practices among school teachers in Kurnool – Andhra Pradesh. *J oral health Comm Dent*. 2013; 7(1): 17-24.
- 5) Mota A, Oswal KC, Sajnani D, Sajnani A. Oral Health Knowledge, Attitude, and Approaches of Pre-Primary and Primary School Teachers in Mumbai, India. *Scientifica* 2016:1-8.
- 6) Vidya Sekhar et al., Knowledge, Attitude and Practice of School Teachers Towards Oral Health in Pondicherry, *Journal of Clinical and Diagnostic Research*. 2014;8(8):ZC12-ZC153.
- 7) Chandukutty D, Peedikayil FC, Premkumar CT, Narasimhan D, Jose D. awareness of dental trauma management among school teachers of Kannur, Kerala, India. *Journal of clinical and diagnostic research* 2017;11(2):ZC08-ZC12.

