

## Evaluation of Knowledge and Practices Towards Dental Health Among School Students in Rajasthan: A Community-Based Study

Arvind Kumar Nain<sup>1</sup>, Shatrughan Pareek<sup>2</sup>

### Abstract

*Introduction:* The school age child has multitude of problems among them, one of the most existing problem is related to dental health. Oral health is an inseparable part of general health. India as developing country faces many challenges in rendering oral health needs. The majority of Indian population resides in rural communities. The prevalence of dental caries among school going children is 60% to 90% in Asia. *Methodology:* Pre-experimental approach was considered to be appropriate to assess the dental health problem among school children. The research design selected for the study was "one group pre-test post-test design". The study was conducted in 2017-2018 among the 9th Class students studying in selected schools of Rajasthan. In the present study, 301 subjects were selected by convenient sampling. *Results:* The mean pre-test and post-test knowledge scores were 6.04 and 14.87 respectively. Hence, the obtained 't' value (36.5) represents the effectiveness of health education package. The mean post-test practice scores (7.90) was higher than mean pre-test practice scores (4.63). The calculated 't' value was 23.24 which represents the effectiveness of health education package by showing a significant difference between pre-test practice scores and post-test practice scores. The data revealed that there was no association among post test knowledge scores, post test practice scores of school children with the selected variables. *Conclusion:* The health education package was effective in increasing the knowledge and practices of school students regarding dental health. There is a need of sound orientation and continuous educational program for school students regarding dental health. It will be directly helpful in minimizing the prevalence and incidence of dental problems and the disease burden.

**Keywords:** Dental Health Problems; Health Education Package; School Students; Knowledge; Practice.

### Introduction

The school age child has multitude of problems among them, one of the most existing problem is related to dental health [1]. Oral health is an inseparable part of general health. India as developing country faces many challenges in

rendering oral health needs. The majority of Indian population resides in rural communities. The prevalence of dental caries among school going children is 60% to 90% in Asia [2,3]. Healthy teeth and oral tissues and the need for oral health care are important for any section of society [4]. Dental problem is one of the severe public health problems in India, as almost two-third states are fluoride endemic [5]. In India, approximately 25 million people are presently affected with dental problems and 66 million are at risk of developing dental problems, including children of age 12-18 years [6]. Dental caries is one of the most prevalent oral disease affecting children and adolescents in the world today. The prevalence of dental caries in a population is influenced by a number of factors such as age, sex, socioeconomic status, ethnicity, dietary patterns and proper oral hygienic practices.

**Author's Affiliation:** <sup>1</sup>M.Sc. Nursing, Rajkumari Amrit Kaur College of Nursing, New Delhi, Delhi 110024, India. <sup>2</sup>Nursing Superintendent, NW Railway Divisional Hospital, Lalgarh, Bikaner, Rajasthan 334004, India.

**Corresponding Author:** Arvind Kumar Nain, M.Sc. Nursing, Rajkumari Amrit Kaur College of Nursing, New Delhi, Delhi 110024, India.

E-mail: [arvindnain1991@gmail.com](mailto:arvindnain1991@gmail.com), [Shatrughan.pareek@gmail.com](mailto:Shatrughan.pareek@gmail.com)

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Although, the prevalence of dental caries in the developing countries was low until the recent years, but very lately there has been an increase in its prevalence. This increase has largely been contributed by factors like high consumption of sugars and inadequate use of fluorides, etc. However, a decline in the prevalence of dental caries has been observed in most industrialized countries, which could be attributed to population based preventive programs such as the use of fluorides, reducing sugar intake and maintaining proper oral hygiene. A very extensive and comprehensive National Health Survey conducted in 2004 throughout India had observed that the prevalence of dental caries was 51.9%, 53.8% and 63.1% in children aged 5 years, 12 years and 15 years respectively [8]. The prevalence of dental caries is estimated to be about 70% worldwide. Periodontal disease is also one of the two major dental diseases that affect mankind at highest prevalence rate. Periodontal diseases are one of the more prevalent oral diseases which affect more than 50% of Indian community [9].

According to the WHO, oral diseases qualify as a major public health problem owing to their high prevalence and incidence in all regions of the world. The greatest burden of oral diseases is one disadvantaged in socially marginalized populations. Poor oral health may have a profound effect on general health. In developing countries, resources are primarily allocated to emergency oral

care and pain relief; if treatment were available, the costs of dental caries in children alone would exceed the total health care budget for children [10].

## Methodology

In the present study, the Pre-experimental approach was considered to be appropriate to assess the dental health problem among school children and evaluate the effectiveness of health education package on dental health problems. The research design selected for the study was "one group pre-test post-test design" [11]. In the present study, Age, gender, education of mother, occupation of father & family income (per month) were demographic variables. The independent variable was health education package on school children. The dependant variable was knowledge & practice of school children. The study was conducted among the 9<sup>th</sup> Class students studying in Modern Prince Senior Secondary School and Tagore Senior Secondary School Taranagar, Churu, Rajasthan. In the present study, 301 subjects were selected by convenient sampling. Ethical clearance was obtained from the concerned authority. The study participants were assured that the obtained findings would be used for the research purpose only.

## Results

**Table 1:** Frequency and percentages distribution of demographical characteristics N= 301

S. N.	Sample Characteristics	No. of Samples (f)	Percentage
1.	Age (in Years)		
	12-13	84	28.90
	14-15	136	45.18
	16-17	76	25.24
2.	18-19	5	1.66
	Gender		
	Male	227	75.41
	Female	74	24.58
3.	Educational Status of Mother's		
	Illiterate	93	30.89
	Primary	98	32.55
	Secondary	52	17.27
	Senior secondary	39	12.95
Graduate or above	19	6.31	

4	Occupation(Father's)		
	Farmer	121	40.19
	Govt. Service	42	13.95
	Private Service	96	31.89
	Other	42	13.95
5	Family income (per month)		
	less than 5,000	43	14.28
	5001-10,000	64	21.26
	10001-15,000	68	22.59
	15,001-20,000	77	25.58
	More than 20,000	49	16.27

**Table 2:** Mean, mean difference, SEMD, and t-value of the Pre-test knowledge scores & post-test of knowledge scores among school children N= 301

Types of scores	Mean	Mean difference	SEMD	't' value
Knowledge pre-test	6.04	8.83	0.22	36.5*
Knowledge post-test	14.87			

NS = Non significant    \*= Significant    df(300)

**Table 3:** Mean, mean difference, SEMD, and T-value of the Pre-test practice scores & post-test practice scores among school children. N= 301

Types of scores	Mean	Mean difference	SEMD	't' value
Practice pre-test	4.63	3.27	0.57	23.24*
Practice post-test	7.90			

NS = Non significant    \*= Significant    df(300)

**Table 4:** Chi-square value showing association between post-test knowledge score of school children and selected variable among school children N= 301

S. No.	Selected variable	DF	Obtained Chi Square value (X <sup>2</sup> )	Table value of Chi square value(X <sup>2</sup> )
1.	Age (in Years)	3	0.28 <sup>N.S.</sup>	7.81
2.	Occupation of father	3	1.89 <sup>N.S.</sup>	7.81
3.	Education Of Mother	4	3.06 <sup>N.S.</sup>	9.48

Chi-square at 0.05 level of significance. N.S. Non-significant \* significant

## Discussion

Over the past 25 years, interest in health promotion and disease prevention has increased significantly. Prevention should be considered as the approach of choice as it is both efficient and economical. The existing dental health services in India should be restructured to embrace the philosophy of prevention. Most of the children 166 (55.08%) had fair understanding of importance of good dental health and information about the

functions of teeth, which is similar to other studies done by Mridula Tak et al. [11] on school children at Udaipur city, Rajasthan and Yatish Kumar Sanadhya et al. [12] in Kutch district, Gujarat among school children. However, a considerable number of children 125 (41.7%) were not aware of all the functions of teeth. Appropriate knowledge about the functions of teeth is likely to enhance dental care among these children. The situation in this specialized population draws immediate attention for an integrated approach in improving.

The present study communicated, the mean post-test practice scores and mean post-test knowledge scores were higher than mean pre-test practice scores and mean pre-test knowledge scores suggesting that there were significant increase level of practice and knowledge of school children. The educational package was effective to enhance the dental health practices of school students. This is in consistent with the study of Sandhya KY et al. [12] Nagwa et al. [13] and Single K et al. [14] whose findings showed that educational interventions were effective to enhance the knowledge and practices of school children regarding dental health. There was no statistically significant difference between female and male school children concerning dental health knowledge and practices of tooth brushing frequency, technique and visit to dentists. There was no study to support the present findings

The findings of the study implied that the education plays a vital role in improving the knowledge of school children regarding dental hygiene. The school system is the logical environment to teach preventive dental health practices. The rationale behind the inclusion of educational activities is that prevention is the key element in controlling dental disease. School-based oral health education in short term has shown positive outcomes for oral cleanliness, gingival health and oral health knowledge in some developing and developed countries

### Conclusion

Dental health education is an important and integral part of prevention and health promotion. It is a process that informs, motivates, and helps persons to adopt and maintain health practices and life styles, advocates environmental changes as needed to facilitate this goal, and conducts professional training and research to the same end. The primary objective of dental health education is to motivate individuals to seek the goal of disease prevention and tooth conservation and to have them assume responsibility for their own oral health maintenance. The appropriate policies and programs will facilitate in improving awareness and knowledge of the general public about the preventive and promotive aspects of oral health as well as to create the required services and train the necessary dental manpower to meet these needs. Lack of awareness about dental diseases has resulted in gross neglect of oral health.

*Competing Interest:* None

### *Contributor's Statement*

Mr. Arvind Kumar Nain would act as the overall guarantor and the corresponding author of the manuscript.

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