

# Comparison of the Source of Introduction to Cariogenic Food Substance and Caries Prevalence in Children

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## ABSTRACT

**Introduction:** Dental caries being a multi-factorial disease depends on lot of factors. Since awareness and exposure seems to have increased, in the present scenario it is difficult to assume that one particular source would increase the occurrence of dental caries. Children are exposed to different media sources and spend most of their free time watching them. They are attracted by messages of advertisers' and susceptible to stylish advertisements of foods often harmful to oral and general health.

**Aim:** To compare the effects of three different sources of introduction to cariogenic food substance among school children and their role in caries prevalence.

**Materials and Methods:** A total of 300 school children were selected for the study and a questionnaire was prepared

keeping in mind the various sources introducing cariogenic foods to children namely television advertisement, magazines/news paper, posters/banners. Following which oral examination will be done to determine the number of carious lesions in the subjects. The data will be acquired, computed and statistically analysed to compare the correlation between these sources and caries prevalence.

**Results:** Children who watched television advertisements and asked for food items and soft drinks were found to have more caries and DMFT/dmft index.

**Conclusion:** A total ban on advertisements would not be practically possible. A more realistic approach would be to limit the number of advertisements that feature potentially cariogenic and unhealthy food products, and also ensure that they ideally carry statutory warnings.

**Keywords:** Children, Television, Advertisement, Food Purchase, Caries, Oral Health

## INTRODUCTION

Dental caries can be defined as the signs and symptoms of a localized chemical dissolution of the tooth surface caused by metabolic events taking place in the biofilm (dental plaque) covering the affected area. The destruction can affect enamel, dentin and cementum [1].

There are four main causes for dental caries is tooth surface (enamel or dentin); cariogenic (or potentially caries causing) bacteria; fermentable carbohydrates (such as sucrose); and time.

Higher sugar-rich foods have always been associated with dental caries [1].

Parents play an important role in shaping children's eating habits. A study was evaluated the influence of both parenting style and parenting practices on child outcomes such as dietary intake [2]. Children are clearly being targeted as a receptive market by the manufacturing industry. In 2006, 12 billion US dollar were invested in marketing strategies directly aimed at children [3]. Advertisements broadcast to children in 13 developed countries found that advertisers promoting food, toys, and entertainment were the most common. Foods advertised when children are most likely to be watching are high in fat and sugar and low in fibre, with relatively few nutrients [4]. Fast foods, high-fat foods, high-sugar foods, and sugar-sweetened beverages are heavily advertised during prime-time programs that target all age groups, including adolescents. Healthy foods, such as fruits, vegetables, whole grains, milk, and low-fat items, are rarely advertised on television banners and posters to increase in food promotion advertisements and children's preference, purchase behaviour, and consumption of the advertised product [5].

The purpose of this study was to compare the effects of three different sources of introduction to cariogenic food substances among school children and their role in caries prevalence.

## MATERIALS AND METHODS

The study population comprised of 300 children in three age groups of six, seven and eight years respectively, who attended the dental camp in Seetha Kingston School Chennai, were recruited for the study. A letter of consent was utilized to obtain consent from the parents. The study plan was approved by Institutional Ethics Committee of Dr. M.G.R. Educational and Research Institute University, Chennai, India. Out of 300 children, 59.7% were male and 40.3% were female. Children were divided into three groups comprising of 100 children in each group. A questionnaire comprising of 15 questions was administered to each subject including 12 closed and 3 open-ended questions followed by oral examinations. All examinations were carried out in a well-lit room with additional light using mouth mirrors and standard explorers. Dental caries of all the participating children were recorded using DMFS/defs index for assessing the severity of dental caries in permanent and deciduous dentition respectively [Table/Fig-1].

D—Decayed teeth: Only carious cavities were considered as 'D'; Temporary restorations were considered as 'D'.

M—missing teeth due to caries

F—teeth that have been previously filled with permanent restoration

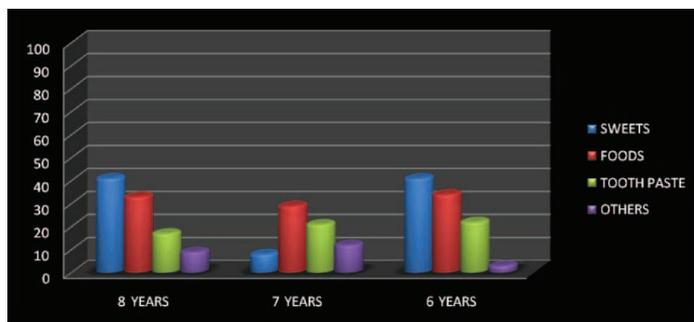
D—decayed teeth

E—extracted teeth due to caries

F—filled teeth

Data were analyzed using Statistical Package for Social Sciences, version 11.5. Frequencies of all the variables were determined. A chi-square test was used for comparison of categorical data. Pearson's correlation was used to compare the effects of three different sources of introduction to cariogenic food substance





[Table/Fig-3]: Items you asked your parents to buy after watching advertisement.

## CONCLUSION

Television watching children are more prone for dental caries and having high caries index value. A total ban on advertisements would not be practically possible. A more realistic approach would be to limit the number of advertisements that feature potentially cariogenic and unhealthy food products, and also ensure that they ideally carry statutory warnings. Strategies such as advertisements for healthy food, education, and health-related information should be encouraged on children's favourite channels during their favourite shows. Health education measures such as video clips demonstrating oral hygiene maintenance and prevention of dental caries. Along with this oral hygiene, practice methods should be briefly explained in comics or magazines. Parents should motivate their children to adapt positive things from such advertisements and work towards a healthy future.

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Date of Submission: **Feb 16, 2014**

Date of Peer Review: **Jul 01, 2014**

Date of Acceptance: **Aug 30, 2014**

Date of Publishing: **Nov 20, 2014**

FINANCIAL OR OTHER COMPETING INTERESTS: None.