

USE AND CHOICE OF TOOTHPASTE BY MOTHERS OF PRESCHOOL CHILDREN IN KASHMIR, (JAMMU AND KASHMIR), INDIA

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ABSTRACT

BACKGROUND

A variety of toothpastes are available in the market, however proper knowledge and choice of fluoride toothpastes to be used is important in children for better oral health care. Parents especially mothers should be aware of type, frequency and quantity of toothpastes which has to be used by children.

METHODS

This is a cross sectional questionnaire-based study conducted randomly among mothers of preschool children of both sexes in the 3-5 years age group who visited different private dental clinics in Srinagar city (Kashmir J & K). 10 self-administered questions were used for interviewing mothers that included frequency of tooth brushing by their child, use and knowledge of fluoride toothpaste by their children.

RESULTS

Overall knowledge with regard to recommended fluoride concentration in the child's toothpaste among mothers was found to be less. 96% of the mothers did not know the advantages and disadvantages of fluoride. And overall poor knowledge was found among mothers regarding the toothpaste use for their children.

CONCLUSIONS

Based on the findings of this study, it shows that there is lack of awareness regarding dental health issue among parents. Emphasis should be made towards educating the mothers regarding importance of oral hygiene practices.

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BACKGROUND

Toothpastes are known as the best source of fluoride as they effectively protect both deciduous and permanent teeth from demineralization.¹ Oral healthcare for pre-school children is a main concern, as their oral health will determine the oral health status of future generations. Therefore, a healthy mouth with a full balanced set of teeth should be the goal for all children.² The decline in the prevalence of dental caries in many developing countries is mainly attributed to the use of fluoridated toothpaste.³ In an attempt to maximize the caries-preventive effect and minimize the risk of dental fluorosis, numerous guidelines for the use of fluoride toothpaste for infants and children have been published during the time.⁴

Presently, different types of toothpastes are available in market, which are specially designed for children. Generally, the type, frequency and quantity of toothpastes which are used by children are based purely on parental preference.⁵

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The aim of this study was to assess parental pattern of toothpaste usage among preschool children who were under six years of age.

METHODS

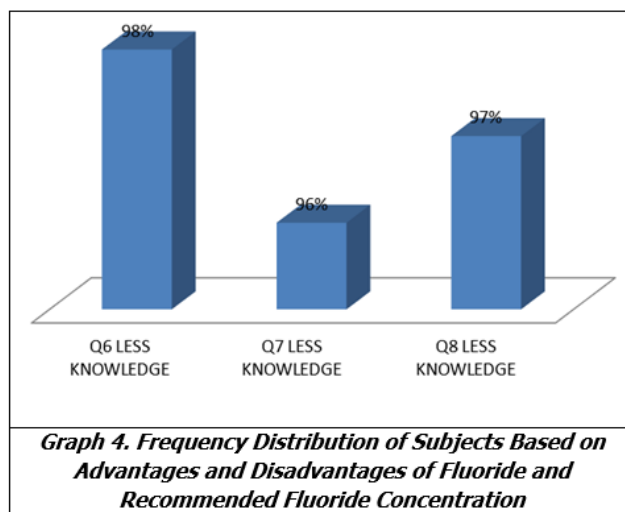
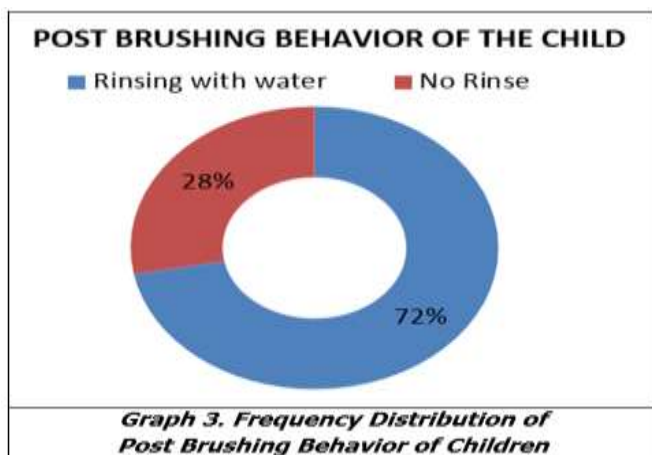
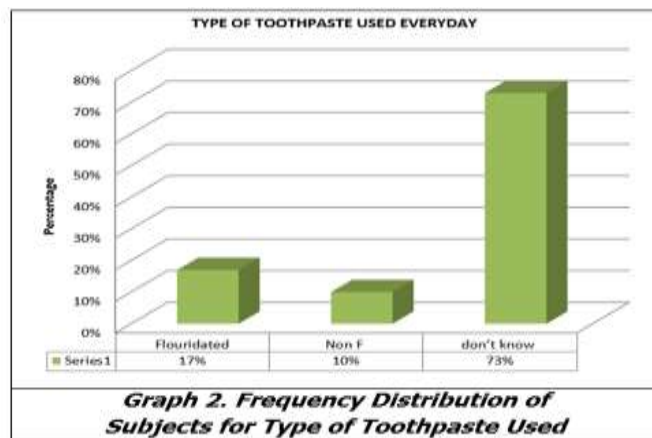
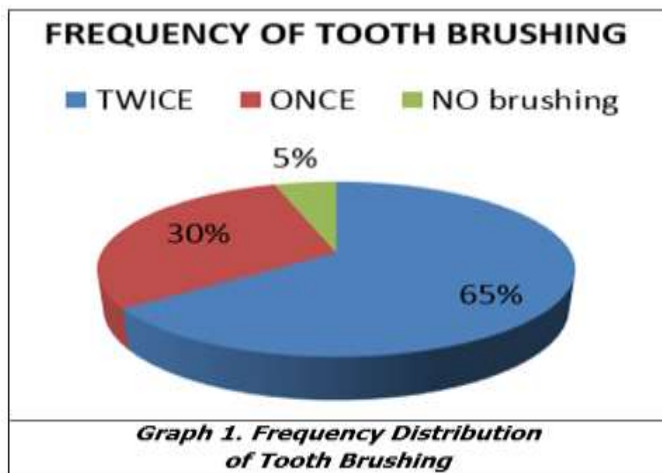
This present cross-sectional study was conducted randomly among 100 mothers of preschool children of both sexes from 3- to 5-year-old who visited different private dental clinics, of Srinagar city. The study took place over a period of 2 months from Jan 2019 to Feb 2019. Written informed consent was obtained prior to the enrolment from the parents participating in the study. A self-administered questionnaire consisting of 10 questions was used for interviewing mothers that included frequency of tooth brushing by their child, use and knowledge of fluoride toothpaste by their children. Parents who were willing to participate were included in the study. The data was tabulated and analysed for frequency distribution. The Statistical Package for Social Sciences (SPSS), version 16 was used.

RESULTS

The study comprised of 100 mothers of preschool children. When asked about the frequency of brushing, majority (graph 1) (65%) said that their children brush twice in day. When asked about the type of toothpaste used every day 17% subjects used fluoridated, 10% used non- fluoridated

and 73% of the mothers were unaware of this part of the question. (Graph 2)

45% of the participants cover 1/2 of the toothbrush with toothpaste, 27% use Less than a 1/4 and 25% use 1/4-1/3 on the toothbrush of their children. And a majority of mothers (93%) supervised their children during brushing. Rinsing with water after brushing was found to be 72% (Graph 3). Poor knowledge was found to be regarding the recommended fluoride concentration in the child's toothpaste, among mothers. 96% of the mothers did not know the advantages and disadvantages of fluoride, as shown in graph 4. Overall a poor knowledge was found among mothers regarding the toothpaste use.



DISCUSSION

At home parents are the best teachers and the ultimate role model for their children. Hence mothers of preschool children were included in the study. Results showed that majority (65%) of children brush twice a day. As per the AAPD guidelines Tooth brushing should be performed for children by the parent twice daily using a soft brush of age-appropriate size.⁶

Fluoride is an important defence against dental Caries and can reverse or arrest early lesions. According to the results most of the mothers (73%) were not particularly clear about the concept of fluoridated toothpaste. When asked the details about the type of toothpaste it was revealed that they use whatever toothpaste is available at home and that even includes the use of adult toothpaste. According to the recommendations of European Academy of Paediatric Dentistry⁷ and American Academy of Paediatric Dentistry (AAPD)⁶ children who are below the age of six should use toothpastes with low fluoride concentrations (less than 500 ppm). Studies conducted by BennaDi et al⁵ and Tay et al⁸ also showed the use of adult toothpaste.

So, it is very important for the parents to be vigilant when they select their child's toothpaste as not all children's toothpastes which are available in the market, have fluoride in them and some may even have higher concentration than recommended. Hong et al⁹ in their study found that fluorosis prevalence is related to fluoride intake that is elevated for first 3 years of life. Some may even have a higher than the recommended concentration. So, education of mothers regarding selection of tooth pastes for their children, is crucial.

According to the latest research data, children from 2-3 years of age swallow 48% of toothpaste, but children from 6-7 years of age swallow 25% of toothpaste.¹⁰ Hence, for children younger than 3 years The Canadian Dental Association recommends using a small amount of fluoride toothpaste (a portion the size of a grain of rice) who are at risk of developing caries, and then a pea-sized amount of less than 500 ppm of fluoride, for children aged 3 to 6 years.¹¹ The American Dental Association (ADA) currently recommends brushing with water for children younger than 2 years, and then using a pea-sized amount of toothpaste

for children from 2 to 6 years of age.¹² In the present study about (45%) of mothers use half of the length of tooth paste on toothbrushes for their children, and majority (97%) knew nothing regarding pea sized amount of toothpaste to be used for their children, showing poor knowledge among mothers about same.

Our study showed that a majority (93%) of mothers supervise and help their children during brushing which is in accordance with many other studies.^{13,14} This is important, for effective cleaning of teeth as well as to avoid over-ingestion of toothpaste.¹⁵ Majority of the children (72%) in present study rinsed their mouths with plenty of water after brushing. However, in order to retain more fluoride in the mouth for its anticarious effect, children who are below the age of six years should be encouraged to either rinse for a short time with a small amount of water or to spit out the oral contents without rinsing.¹⁵

98% of the mothers did not know the amount of fluoride concentration in their child's toothpaste. Due to swallowing and risk of fluorosis the low fluoride –toothpaste (<1000 ppm) are mainly intended for preschool children.¹⁶ Mothers (96%) did not have enough knowledge regarding advantages and disadvantages of fluoride and only 13% knew brushing with fluoridated toothpaste can prevent caries. Toothpaste used as a local source of fluoride can reduce the development of caries almost about 19 to 27%, providing remineralization of enamel.¹⁷ However there is also a risk of developing dental fluorosis due to chronic fluoride consumption.¹⁸ Most of the mothers selected toothpastes for their children, by its taste (27%) and from television advertisement (45%) and only 16% used as recommended by their dentist. Hence mothers need to be educated regarding the choice of toothpaste that they make for their children.

CONCLUSIONS

Based on the findings of this study, it can be inferred that there is lack of awareness regarding dental health issues among parents. Steps should be taken towards educating the mothers regarding importance of oral hygiene practices and for the selection and usage of toothpastes in children as per the guidelines. Dental professionals should help and motivate parents to properly supervise and assist their children's brushing habits with the goal of reducing the potential risk of fluorosis. Comprehensive school-based oral health programmes are greatly needed and will provide a unique context for promoting the use of fluoride toothpaste. The parents and schoolteachers, however, need proper training and practical support in health education from dentists and should also be provided with relevant educational material.

QUESTIONNAIRE

01. Frequency of tooth brushing	
a)	No brushing (5%)
b)	Once (30%)
c)	Twice (65%)

02. Type of toothpaste used everyday	
a)	Fluoridated (17%)
b)	Non- fluoridated (10%)
c)	Don't know (73%)
03. Amount of fluoride toothpaste used Every day on the toothbrush	
a)	Less than a ¼ (27%)
b)	¼-1/3 (25%)
c)	½ (45%)
d)	Full head of the toothbrush (3%)
04. How does your child brush his teeth?	
a)	On his own (7%)
b)	Under parental supervision (93%)
05. Post brushing behaviour of the child	
a)	Rinsing with water (72%)
b)	No rinsing (28%)
06. Do you know the recommended fluoride concentration in your child's toothpaste?	
a)	Yes (2%)
b)	No (98%)
07. Do you know proper amount of fluoride is helpful but excess amount may be harmful to Health?	
a)	Right (3%)
b)	Wrong (1%)
c)	Don't know (96%)
08. Do you know amount of fluoride toothpaste should be less than a pea size for your child?	
a)	Yes (3%)
b)	No (97%)
09. Do you know brushing with fluoridated toothpaste can prevent caries?	
a)	Yes 13%
b)	no 87%
10. How do you choose the right toothpaste for your child?	
a)	Toothpaste recommended by the dentist (16%)
b)	By its taste (27%)
c)	From television advertisement (45%)
d)	Whether it contains fluoride or not 12%
e)	By its price 0%

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