Original Article

ASSESSMENT OF KNOWLEDGE, ATTITUDE AND PRACTICE OF 12 YEAR OLD CHILDREN TOWARDS ORAL HEALTH IN SOUTH CHENNAI

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Abstract

Introduction: Oral diseases are known to be significant public health issues due to their high prevalence and frequency. Dental caries and gum disease are the most prevalent illnesses of human populations affecting over 80 per cent of school children in certain countries. Improving oral health-related awareness is known to be an important prerequisite for improving oral health in the culture.
Aim: The aim of the present study is to assess the knowledge, attitude and practices of 12 year old children towards oral health in the South Chennai population.
Materials and Methods: 100 school children aging 12 years from South Chennai were selected for the study. Both male and female participants were included. 15 self- structured close-ended questionnaires were prepared and circulated. The questionnaire included details such as demographic data, dental health status, oral health KAP, towards dental problems and past dental experience. The collected data were analysed by Chi square analysis using SPSS software.
Results and Discussion: Based upon the present study findings, most of the results were found to be significant ($p<0.05$). Oral health- related KAP have to be addressed and focused upon as an important component of any comprehensive school oral health program. The results suggest that simple preventive oral health measures among study participants like brushing twice a day is not a norm. Based upon these findings, systematic community- oriented oral health promotion programs are needed to target lifestyles and the needs of school children.
Conclusion: Results of this study suggest that oral health among study participants is poor and needs to be improved. Hence, there is a need to improve their knowledge by regular oral health education of the children, as well as their parents and teachers.
Key words: Awareness; Knowledge; Attitude; Perception; Oral health, Innovative technique.
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INTRODUCTION:

Oral health is fundamental to general health and well being. Schools can provide a supportive environment for promoting oral health. School policies and education on health-related matters are imperative for the attainment of good oral health and control of related risk behaviors. Oral diseases are known to be significant public health issues due to their high prevalence and frequency. Awareness of oral health is known to be a necessary condition for actions associated with health (Al-Ansari, Honkala and Honkala, 2003). School-based promotion of oral health is recommended by the World Health Organization (WHO) for enhancing knowledge, awareness, attitude and behaviour related to oral health, and for the prevention and management of dental diseases among school children (Petersen, 2008). Chronic oral disease typically leads to tooth loss, and in some cases has physical, emotional and economic impacts: physical appearance and diet are often worsened, and the patterns of daily life and social relations are often negatively affected. These impacts lead in turn to reduced welfare and quality of life. To minimize these negative impacts of chronic oral disease, there is thus a clear need to reduce harmful oral health habits (Buischi *et al.*, 1994). Such a reduction can be achieved through appropriate health education programmes. Tooth decay is a very frequent oral disease. It may be prevented by acting on its basic causes, cariogenic diet and poor oral hygiene. In the last 50 years, the epidemiological profile of dental caries has changed, as a result of oral health promotion programmes, as well as increased use of fluoridated toothpastes and drinking water, which has been directly related to reductions in caries and tooth extractions (Petersen *et al.*, 2005). This declining trend is in clear support of the view that dental caries can be reduced by controlling risk factors.

Schools should provide a positive environment for the advancement of oral health. School policy and instruction on health-related issues are important for the achievement of healthy oral health and for the regulation of related risk behaviours. Dental caries and gum disease are the most prevalent illnesses of human populations affecting over 80 per cent of school children in certain countries (Petersen, 2003). Over the past decades, the general consensus in many studies has been that the incidence of dental caries in children and teenagers has reduced dramatically in developed countries as opposed to developing countries (Zhu *et al.*, 2003). However, there are recent studies that obviously suggest a marked rise in the incidence of dental caries in many nations. The key causes for this global rise tend to be potentially unhealthy eating patterns and poor oral hygiene routines (Bagramian, Garcia-Godoy and Volpe, 2009). The 12-year age group is highly important since it is the age at which all permanent teeth, except the third molar, have erupted. This age has also been chosen as the global caries tracking age for regional comparisons and the future planning and oral hygiene programmes (Haleem, Siddiqui and Khan, 2012). To promote oral hygiene and Planning, the review of school-based oral health services will be required. An overview of the oral health condition, including information on knowledge, attitude and practice(KAP) will be important for the preparation of these programmes. Despite the high rate of dental caries in 12-year-olds, socio-epidemiological data on oral health activities of children are not available at national level. Therefore, KAP studies to gather this knowledge and to determine oral health in children and adolescents are considered to be a necessary prerequisite (Pakshir, 2004).

To organize community-oriented oral health promotion programs systematic analysis of the oral health situation would be needed, including information on oral health knowledge, attitudes, and practices (KAP). Improving oral health-related awareness is known to be an important prerequisite for improving oral health in the culture. The critical approach to health education considers that economic, social and cultural factors are the principal determinants of disease. The responsibility for unhealthy behaviour lies with society, not with the individual. Thus educational programmes targeted at the individual, aiming to change an unhealthy conduct, will be a complete failure if they do not consider the different aspects of the subjects life, both socioeconomic and environmental, that influence their behaviour and are responsible for diverse health problems. Very few studies have been undertaken to determine the level of oral health-related awareness and attitudes and practises of children in developing countries, especially those living in rural areas, relative to children in developed countries. Therefore the aim of the present study is to assess the knowledge, attitude and practices of 12 year old children towards oral health in the South Chennai population. Our team has extensive knowledge and research experience that has translate into high quality publications(Dinesh *et al.*, 2013; Krishnan and Lakshmi, 2013; Muthukrishnan and Warnakulasuriya, 2018; Sekar *et al.*, 2019; Gomathi *et al.*, 2020) (Sathivel *et al.*, 2008; Panda *et al.*, 2014; Govindaraju, Neelakantan and Gutmann, 2017; Johnson *et al.*, 2020; Saraswathi *et al.*, 2020)

MATERIALS AND METHODS:

A total of 100 school children from South Chennai were selected for the study. The children in the age group of 12 years who were present on the day of data collection were included in the study. Both male and female participants were included. Consent for participation of school children was obtained from the head of the school. The participants were from a homogeneous population. To reduce the sampling bias, internal and external validity was checked. Data on oral health KAP was collected by means of 15 self- structured close-ended questionnaires. The study was approved by the scientific review board of Saveetha Dental College and Hospital, Chennai. The questionnaire included details such as demographic data, perceived dental health status, oral health KAP, behavior (practice) toward dental problems and past dental experience, dietary history, and adverse oral habits.The independent variables include age, time and lifestyle modification. The dependent variables include awareness, knowledge, perception and attitude. The collected data were analyzed using SPSS software version 23. The results obtained are represented through pie charts and the statistical analysis used was Chi square test and descriptive statistics. The associations are represented through bar graphs.

RESULTS:

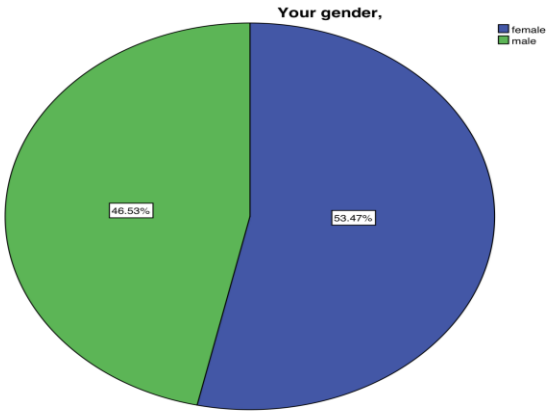

Figure 1: Pie chart represents the gender of participants. 53.47% participants were females (blue) and 46.53% participants were males (green).

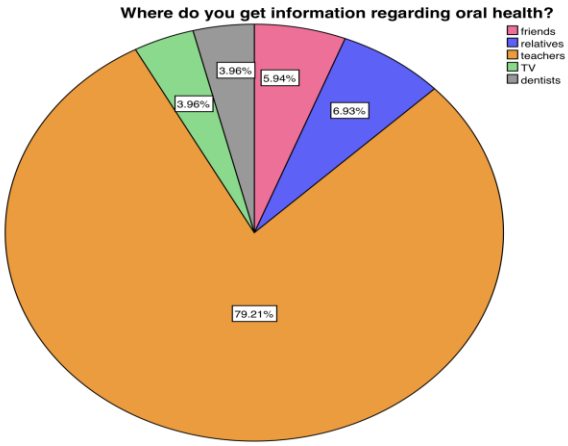

Figure 2: Pie chart represents the percentage distribution of source of information regarding oral health. 79.21% of the participants gain information from teachers (mustard), 6.93% of the participants gain information from relatives (blue), 5.94% of the participants gain information from friends (light pink), 3.96% of the participants equally gain information from TV (light green) and dentists (grey).

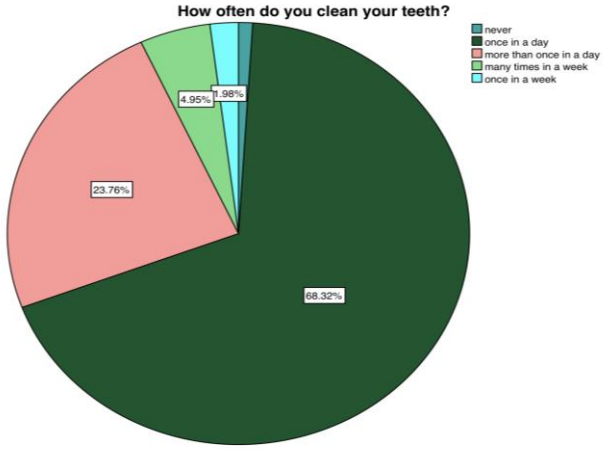

Figure 3: Pie chart represents the percentage distribution of frequency of cleaning teeth. 68.32% of the participants brush once in a day (dark green), 23.76% of the participants brush more than once in a day (peach), 4.95% of the participants brush many times in a week (light green) and 1.98% of the participants brush once in a week (light blue).

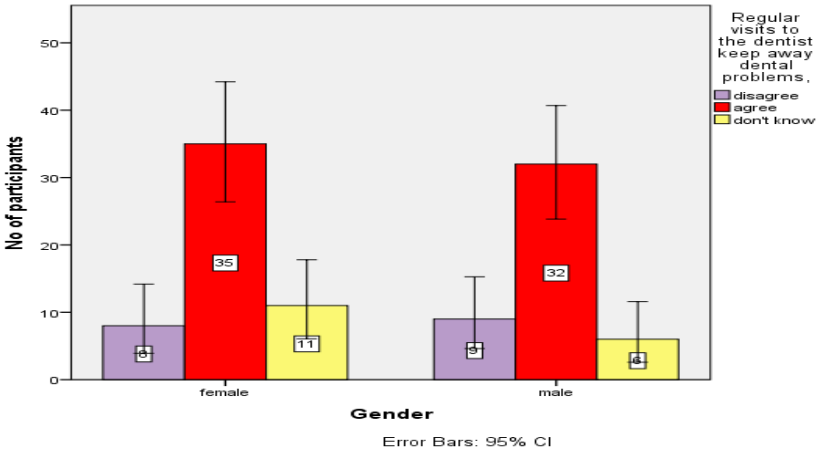

Figure 4: Bar graph depicts the association between the gender and participants' opinion on visiting the dentist to avoid dental problems. X axis represents gender and Y axis represents number of participants. Violet represents disagree, red represents agree and yellow represents don't know. Most of the participants agree that regular visits to the dentist helps in keeping away the dental problems. The difference was not statistically significant (Chi-square test ; p = 0.553 - not significant).

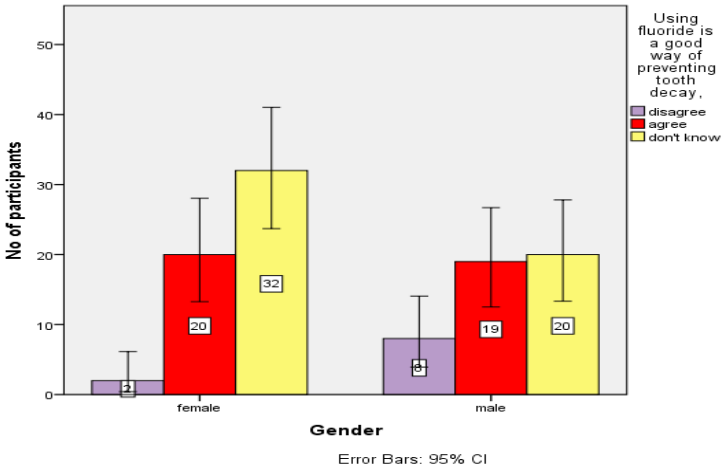

Figure 5: Bar graph depicts the association between gender and participants' opinion on using fluoride to prevent tooth decay. X axis represents gender and Y axis represents number of participants. Violet represents disagree, red represents agree and yellow represents don't know. Most of the participants are not aware that use of fluoride is a good way of preventing tooth decay. The difference is statistically significant (Chi-square test ; p = 0.051 - significant).

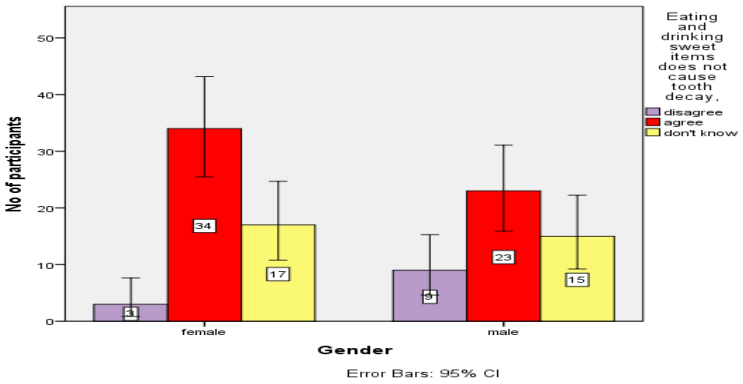

Figure 6: Bar graph depicts the association between gender and participants' opinion on tooth decay being caused by eating and drinking sweet items. X axis represents gender and Y axis represents number of participants. Violet represents disagree, red represents agree and yellow represents don't know. Most of the participants agree that eating and drinking sweet items does not cause tooth decay. The difference is statistically not significant (Chi-square test ; p = 0.091 - not significant).

DISCUSSION:

The results obtained from the conducted survey are depicted through pie charts and bar graphs. 53.47% participants are female and 46.53% participants are male (figure 1). 6.93% of the participants define as very good, 42.57% of the participants define as good, 22.77% of the participants define as average, 0.99% of the participants define as poor and 26.73% of the participants do not know about their dental health. 66.34% of the participants agree, 16.83% of the participants disagree and 16.83% of the participants are not aware about visiting the dentists to avoid dental problems (figure 4). 68.32% of the participants agree, 14.85% of the participants disagree and 16.83% of the participants are not aware that tooth decay may look bad. 75.25% of the participants agree, 7.92% of the participants disagree and 16.83% of the participants are not aware that brushing teeth can prevent tooth decay and gum disease. 56.44% of the participants agree, 11.88% of the participants disagree and 31.68% of the participants are not aware that tooth decay is caused due to eating and drinking of sweet items (figure 6). 38.61% of the participants agree, 9.90% of the participants disagree and 51.49% of the participants are not aware that using fluoride is a good way of preventing tooth decay (figure 5). Regarding oral health, 79.21% of the participants gain information from teachers, 6.93% of the participants gain information from relatives, 5.94% of the participants gain information from friends, 3.96% of the participants equally gain information from TV and dentists (figure 2). 27.72% of the participants have visited once, 26.73% of the participants visited more than twice, 26.73% of the participants have never visited and 18.81% of the participants have visited twice to the dentist in 12 months. 11.88% of the participants have undergone pain many times, 49.50% of the participants have undergone pain occasionally, 15.84% of the participants have never experienced pain and 22.77% of the participants don't remember about the pain or discomfort in teeth faced by the participants. 91.09% of the participants fear for dental treatment and 8.91% of the participants do not fear for dental treatment. 56.44% of the participants avoid smiling, 19.80% of the participants have not avoided smiling and 23.76% of participants has never avoided smiling because of the appearance of the teeth. 68.32% of the participants brush once in a day, 23.76% of the participants brush more than once in a day, 4.95% of the participants brush many times in a week and 1.98% of the participants brush once in a week (figure 3). 93.07% of the participants use toothbrush and toothpaste, 2.97% of the participants use toothpowder and 1.98% of the participants use dental floss and any other aids to clean their teeth. 53.47% of the participants don't know about the contents of their toothpaste, 35.65% of the participants use fluoridated toothpaste and 10.89% of the participants do not use fluoridated toothpaste.

In the present study, participants answered that the health of their teeth was good which was similar when compared to a previous study by Benoit Varenne et al. (Varenne, Petersen and Ouattara, 2006) where it was 63%. It was found that participants avoided smiling and laughing because of their unattractive teeth which was similar to study by Petersen et al. (Petersen *et al.*, 2001) and is in contrast with the findings of study by Varenne et al. (Varenne *et al.*, 2006). The study participants received information regarding oral health mainly from teachers. This finding does not agree with the findings of the study by Jamjoum (Jamjoom, 2001). In contrast to this, in a previous study many children living in urban areas received oral health information from their parents; the reason for this difference may be because parents of the children had a high level of education when compared to the present study. Many participants were aware that carious dental caries affect dental aesthetics which was very less compared to study by Al-Omiri et al.(Al-Omiri, Al-Wahadni and Saeed, 2006) where it was 77%. Awareness of the importance of tooth brushing for caries

prevention was moderate among the study population. This finding is similar to a study by Varenne et al., where the majority of children in urban areas reported that tooth cleaning and regular dental visits may prevent oral disease. The children were not aware whether consumption of sugary products may cause tooth decay which was similar to a study by Varenne et al. (57%). In all, the caries preventive effect of fluoride was not realized by a substantial proportion of the children. Only one-third correctly identified the action of fluoride as preventing tooth decay which was similar to the study by Wyne et al (Wyne *et al.*, 2004).

Children had positive attitudes toward their dentists; nevertheless, they indicated that they feared dental treatment. Although the study population was aware of the importance of regular dental visits, only very few of the study population reported that they have visited dentists during the last 12 months and this finding is consistent with the findings of other studies. This survey found that only few participants brushed their teeth two or more times a day, but in a study by Zhu et al.(Zhu *et al.*, 2005) it was 44.4% of study participants. The subjects also reported irregular times of tooth brushing similar to study by Al-Omiri et al. Lack of both parental and child oral health education might also explain these findings. The use of other recommended oral hygiene methods such as dental floss was found to be rare; this also could be attributed to the lack of oral health education and/or the cost of such aids. This finding is similar to a study conducted in North Jordon by Al-Omiri et al., where the use of dental floss was very less. In the present study, it was found that female performance was better than male performance in oral health practices which was similar to study by El-Qaderi and Taani (El-Qaderi and Taani, 2004). Females performed the oral hygiene practices better than their male counterparts which is in agreement with other previous studies (Beiruti *et al.*, 2009). This difference can be attributed to a higher concern regarding personal hygiene and health care among females.

Based upon the present study findings, oral health KAP of the surveyed children is poor. This poor oral health- related KAP has to be addressed and focused upon as an important component of any comprehensive school oral health program. The limitations of this study includes less sample size in the homogenous population. Multicentered trials have to be conducted to assess more about the dental hygiene of 12 year old children. This poor oral health- related KAP has to be addressed and focused upon as an important component of any comprehensive school oral health program. The results suggest that simple preventive oral health measures among study participants like brushing twice a day is not a norm. Based upon these findings, systematic community- oriented oral health promotion programs are needed to target lifestyles and the needs of school children. The limitations of this study include the small sample size and geographic isolation of participants which could be overcome by a larger, multi centered sample in the future studies.

CONCLUSION: Results of this study suggest that oral health among study participants is poor and needs to be improved. Hence, there is a need to improve their knowledge by regular oral health education of the children, as well as their parents and teachers.

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CONFLICT OF INTEREST: The author declares that there was no conflict of interest in the present study.

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