Research Article **ISSN: 2349 – 4492**

Asian Journal of Research in Biological and Pharmaceutical Sciences

Journal home page: www.ajrbps.com

https://doi.org/10.36673/AJRBPS.2021.v09.i03.A11

EFFECT OF ORAL HEALTH EDUCATION AMONG 15 YEAR OLD CHILDREN IN CHENNAI, A CROSS SECTIONAL STUDY

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ABSTRACT

The aim was to develop and evaluate the initial impact of oral health educational program among 15 year old children. Oral health education is important objective in inculcating healthy lifestyle practice to last for a long time. The aim of this four week study was to assess impact of oral health education on the subjects. During this four week program, a questionnaire survey and complete mouth examination was done using Gingival Index (GI)[1] and Modification of Plaque Index[2]. In the present study, at baseline the mean gingival index score was 1.45 and plaque index score was 0.957. After 4 weeks there was a marked reduction in the gingival index score by 32.4% and plaque index score by 18.2%. These scores were statistically significant with $p< 0.001$. Tooth brushing monitory chart played an important role in assessing the brushing habits.

KEYWORDS

Oral health education, Good and Pleasurable life.

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INTRODUCTON

Oral health education is an important to our appearance and also for our well being and overall health. It is said that oral cavity is associated with development of healthy personality, perceptions and overall experience of pleasure. Maintaining good oral health includes keeping teeth free from cavities and preventing gum diseases. Poor oral health can affect appearance and self esteem.

Schools provide an important platform for children to reach, which have been considered an important effort to improve preventive dental behaviors'. For this reason promoting oral health in school is a necessity but a desirable approach. Untreated oral

diseases may lead to many health problems which interfere with their eating habits lead to pain and school loss time.

Many individuals suffer from dental caries and periodontal diseases which hamper their lifestyle, this is where education plays an important role in inculcating knowledge and awareness to see how important education on oral health is important. This program has an effect in decreasing the level of plaque in childrens. Hence there is an eveidence hat there will be a huge change in their oral health when simple advices were given in a proper manner

It is difficult to evaluate the effect of oral health promotion on an individual's attitude. Oral hygiene in turn can be altered and improved in short term duration by simple educative intervention. Oral health promotion should be improved on planning based on their oral needs, and their effect of availability for the health promotion

It has shown that school dental screening is well accepted and invaluable contact with children but could have greater impact on the uptake of dental care and better methods of communication with parents in required (S.T. Preston *et al*, 2001)[3]. It has been found that oral health education can be effective in increasing knowledge in the short term[4] and to some extent, behavior such as tooth brushing and healthy eating[5].

The most useful and appropriate definitions relevant to health promotion practice has been defined by World Health Organization's 2005 Bangkok Charter for Health Promotion in a Globalised World as "the process of enabling people to increase control over their health and its determinants, and thereby improve their health"[6] and "evaluation is the process of assessing that has been achieved and how it has been achieved[7].

MATERIAL AND METHODS

The present study is a questionnaire study which was carried out for a period of 4 weeks which was conducted on 100 subjects, of the age group 15 years.

Inclusion and exclusion criteria

Subjects in good general health were included in the inclusion criteria. While the exclusion criteria included subjects who were under treatment for cancer, seizure or any other disorder or subjects under antibiotic medications during examination or any other conditions that would interfere with the examination procedure were excluded from the study.

The first day of week one, a questionnaire related to knowledge and awareness regarding oral health were distributed to all the subjects. These subjects were asked to answer the questions and sufficient time was given. After this, questionnaires were collected back. The correct answers were given score of one. Oral examinations were conducted using mouth mirror, erythrosine disclosing solution and periodontal probe. Leo-Sillness Gingival Index[1] to examine the gingival health was recorded. Turesky's Modification of Quigley-Hein Index[2] was recorded after the use of erythrosine disclosing solution.

After the full mouth clinical examination, the subjects were intervened with oral health education using power point presentation. The subjects were directed and educated about the diseases effecting oral cavity, oral health, diet modifications and lastly importance of visiting a dentist .Proper brushing technique, types of brushes ,proper selection of toothbrush and frequency of brushing was demonstrated using a upper and lower arch models.

Toothbrush monitoring charts were given to all the subjects which had two boxes (one for day and one for night) which they were asked to tick inside the box after brushing their teeth. The subjects were asked to resubmit the chart after four weeks for evaluation. Reinforcement was done across 8 sections regarding oral hygiene technique and its importance.

By the end of four weeks the same questionnaire was given and collected back and checked for completion. The same method to assess the gingival score and plaque score was carried out.

Data collected and (SPSS) version 15.0 was used for data analysis.

Study was conducted in the month of June 2011, in Chennai.

RESULTS

A total of 100 students participated in the survey, of which 45% of subjects were males and 55% of subjects were females. The study was conducted

among 15 year old students as it is important index age in Chennai.

Table No.1: Gender wise distribution of the study subjects in this study active participation of male (n=45) and female (n=55) were seen

Table No.2 shows increase in percentage of correct responses in the questionnaire at the end of 4 weeks. Significantly higher proportion of correct response were seen following the program in relation to Q4, Q7, Q8, Q9 and Q10.

This Table No.3 shows the mean total score between the pre and post-intervention changes. The pre-intervention mean was 5.8 while post-intervention mean score was 7.68.Which shows a marked increase in the knowledge and awareness by 1.88.

Table No.4 the pre-intervention gingival score was 1.45 while the post-intervention gingival score was 0.98.

Table No.5 graphic representation of comparison between pre and post intervention gingival score there was marked reduction in the gingival index score by 0.47 units which represented 32.4% lower gingival index. [% GI reduction = (1.45 -0.98)/ 1.45 = 32.4% ($p < 0.001$)].

Table No.6 Graphic representation of comparison between pre and post intervention plaque score 0.21 units of plaque reduction was observed which represented 18.2% lower plaque index score. [% PI reduction = (1.17-0.95)/1.17= 18.2% ($p < 0.001$)].

Table No.7 Graphic representation of tooth brushing day and night. During initial week the subjects had brushed their teeth twice daily as per education. But as the days passed by there was slight decline in brushing frequency observed.

Table No.8 Graphic representation of tooth brushing during day time. During the week one there was less response while as the week progressed we could see marked increase in the brushing habits.

DISCUSSION

The present study has reported the effect of oral health program among 15 year old age children. It shows that reinforcement and dental health education is an important trademark. In this study the reinforcement were carried out in 8 sections of 25 minutes each, which is necessary as it is shown that improving the oral health program to an short extent may improve their oral health among children (Brown L.F, 1994[5], Kay. E and Locker. D 1996, 1998[9], Sprod A.J. 1996[4]).

Imparting knowledge and health education programs are effective in improving both knowledge and outcome. Related to evaluation of the questionnaire given to the subjects reveals a greater percentage of questions to be answered correctly. All the questions showed a marked improvement in correct response specially the awareness of visiting a dentist. Statistically significant increase in the response was noted in question in relation to Q4, Q7, Q8, Q9 and Q10 (p value=0.001). Increase in knowledge and awareness included a significant increase in respect to the following questions number of dentition present in our oral cavity during our life time, which kind of food stuffs that can cause decay to our teeth, frequency of brushing, duration of brushing and increased awareness about the visits to dentist in respective to Q4, Q7, Q8, Q9and Q10.

Parent's attitude is also important as majority of parents believed that dental visits and awareness about oral health was an important part of their child's dental care and strongly encouraged the children to follow the instructions given during the intervention.

Oral presentations are less effective when children are considered. Creative methods such as power point presentations, demonstrations (through typhomodel) gain more interests and thus creates more awareness. Such methods are more attractive and seek much attraction thus imprinting on the minds of young individuals. If education is inculcated regarding oral hygiene and health practices in their regional language, it creates better understanding resulting in better adaptation of oral hygiene habits.

It has also shown a marked decrease in plaque and gingival values as compared to study conducted by Shabana *et al*[8]. Present study shows gingival reduction of 32.4% and plaque reduction 18.2%. Similar study states general reduction in gingival score and plaque score by 30%[9]. This reduction is observed as proper demonstration (through typhomodel) about the brushing technique were given and subjects were even asked to demonstrate

themselves if they had doubts. After the intervention the subjects were allowed to enquire any doubts regarding oral hygiene practice or the brushing techniques, which created to more impact and interest of the subjects to know more and how to have a healthy life style. Usually effects obtained in health education programs, disappears at the later follow-ups. Parents play an important role in providing and supporting a good dental health, considering as their responsibility for their children. Observed reduction in plaque and gingivitis shows that the subject who had followed the instructions properly and have their personal interests in enhancing their oral health.

Table No.1: Gender wise distribution of the study subjects

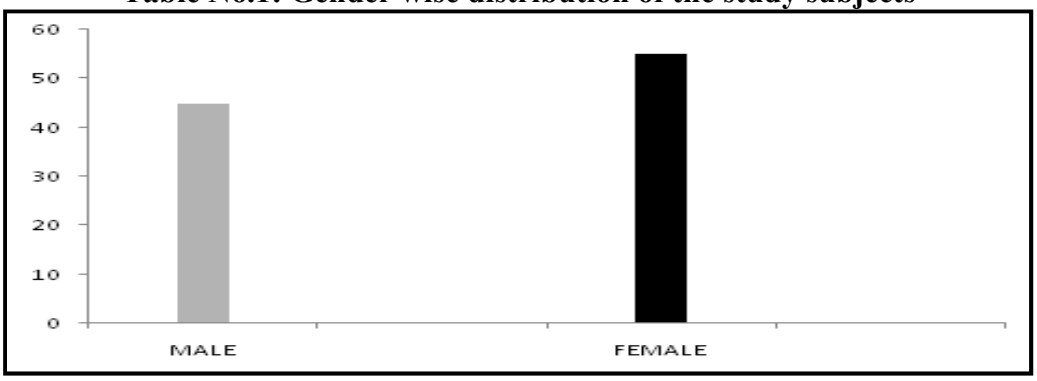


Table No.2: Evaluation of questions regarding knowledge and awareness among students

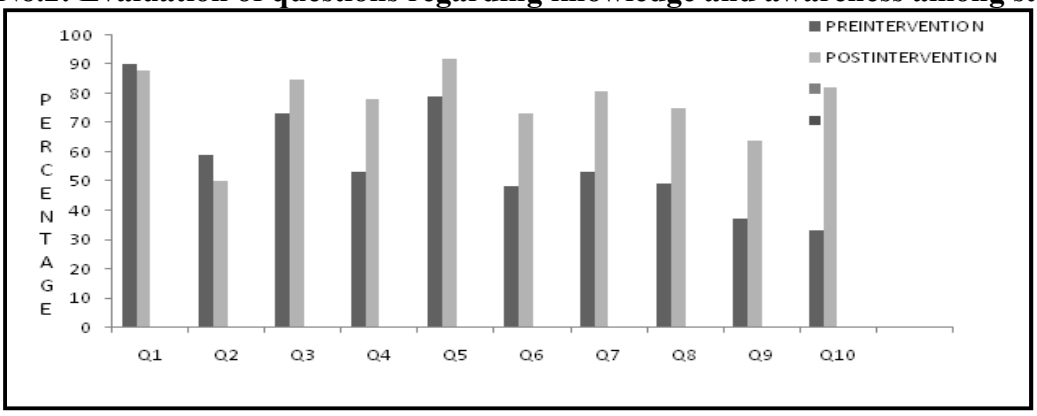


Table No.3: Graphic representation of pre and post intervention changes in knowledge and awareness among students

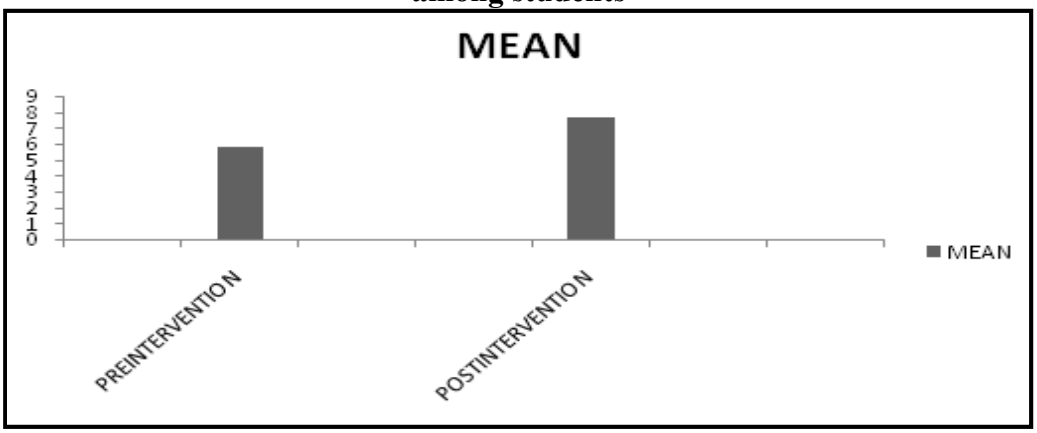


Table No.4: Comparison between pre and post intervention gingival score and plaque score

S.No	Parameter	Pre-intervention	Post-intervention	P Value
1	GI SCORE	1.45±0.32	0.98±0.28	0.001
2	TPI SCORE	1.17±0.67	0.95±0.45	0.001

Table No.5: Graphic representation of comparison between pre and post intervention gingival score

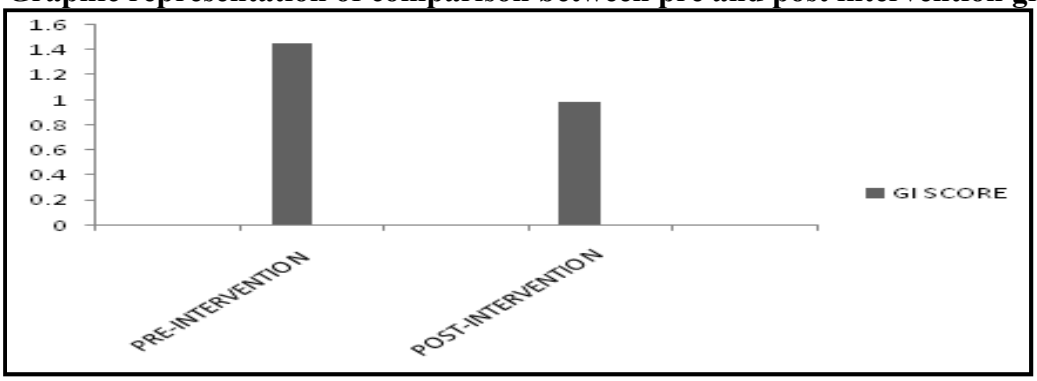


Table No.6: Graphic representation of comparison between pre and post intervention plaque score

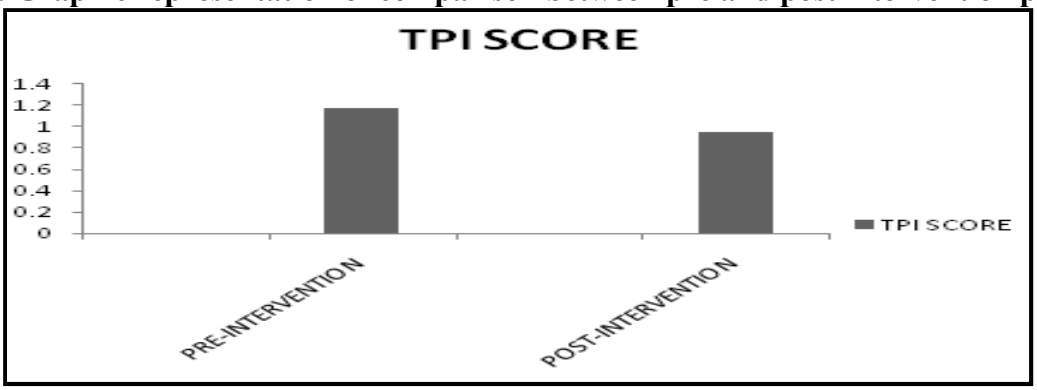


Table No.7: Graphic representation of tooth brushing day and night

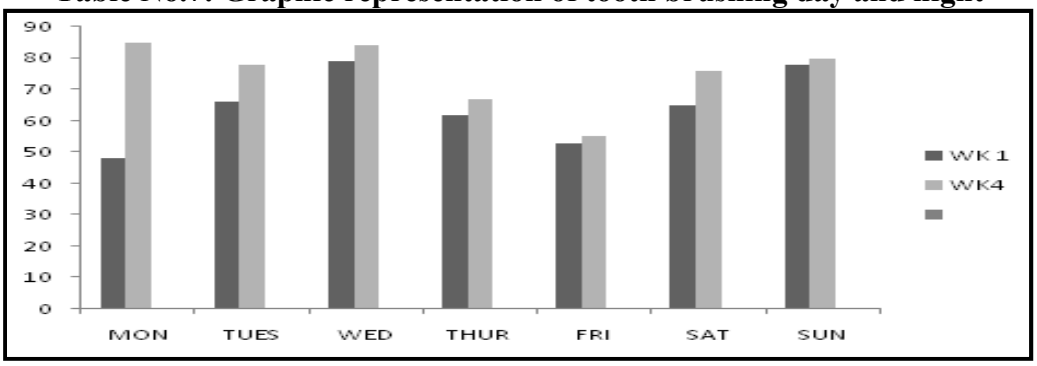
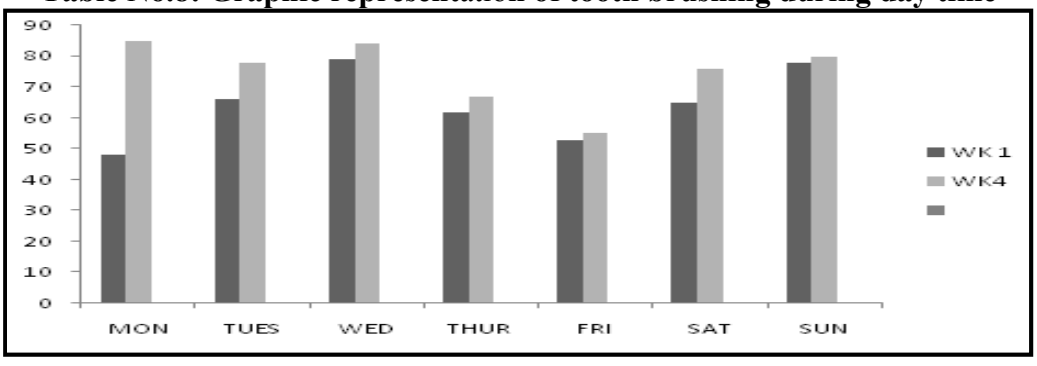


Table No.8: Graphic representation of tooth brushing during day time



CONCLUSION

Education and awareness is important for a good oral health conditions and school children play an important role through this education program for their own betterment of their oral health. As it is said earlier that healthy oral may lead an good and pleasurable life style that may lead to good overall health in an individual. So introducing and making students aware of importance of oral health education is necessary.

ACKNOWLEDGEMENT

The authors wish to express their sincere gratitude to Department of Public Health Dentistry, S.M. Dental Clinic, Thiruvallur, Tamilnadu, India for providing necessary facilities to carry out this research work.

CONFLICT OF INTEREST

We declare that we have no conflict of interest.

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Please cite this article in press as: Prabu D *et al*. Effect of oral health education among 15 year old children in Chennai, A cross sectional study, *Asian Journal of Research in Biological and Pharmaceutical Sciences,* 9(3), 2021, 75-80.