



Evaluation of Patient Hygiene Performance (PHP) index in concordance with dental habits amongst whippersnappers in Chennai, India. A cross sectional study.

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Abstract

Objective: The purpose of the study was to evaluate the patient hygiene performance index (PHP) comparing with dental habits amongst children aged between 10 and 12, and to educate the children on the importance of maintaining good oral hygiene and to promote many health education programs amongst school children in Chennai, India.

Methodology: A cross-sectional questionnaire-based study was conducted among 200 children in Chennai School. The questionnaire comprised of 14 closed ended questions based on individual maintained their oral hygiene. Chi square and SPSS software for Windows, version 20.0(SPSS Inc., Chicago, IL, USA) were used to analyze the data collected.

Results: On evaluating the PHP rating with brushing schedule, it was found that majority of the students had fair brushing schedule, and there was a significant association between Patient Hygiene Performance index and Brushing Schedule. Similarly there was a significant association between Patient Hygiene Performance index rating and Routine Dental Check-up.

Conclusion: This study concludes that percentage of school children who had concern on their oral health and knowledge about the importance of it was less compared to those who were unaware. So there should be many health education programs conducted and various forms of health education in schools this may give more awareness to the school children regarding oral health.

Keywords: whippersnappers, Patient Hygiene Performance, Brushing Schedule, Dental Check-up.

INTRODUCTION

Oral hygiene is one of the important practices of keeping one's oral cavity clean and free from diseases. The most common method of practicing it is by cleaning the teeth and other supporting structures at regular intervals using suitable brushing and cleanings aids. Doing them habitually enables in prevention of dental diseases along with bad breadth. The commonest types of dental diseases include 'Dental Caries' and gum diseases such as 'Gingivitis' and 'Periodontitis'. Bad oral health may affect general health as oral diseases are related to chronic diseases like diabetes [1].

Dental caries is presently the commonest chronic disease among children and it is five times more prevalent than asthma, and seven times more prevalent than seasonal allergies [2]. World-wide about 90% of school children and adults have experienced caries, which is being most prevalent in Asian and Latin American countries [1]. Good oral hygiene practices should begin from a very younger age in order to prevent upcoming dental problems. Both children and parents should to be taught and made to understand the importance of proper oral hygiene of the child from small age so that it is followed habitually throughout their life. Knowledge, practice and attitude of the child plays a major role here as the knowledge on the

importance of good oral hygiene will improve attitude towards oral health and in turn transform these attitudes into practice [3].

As already mentioned that improper oral hygiene not only affects the tooth but also its surrounding structures, most children are unaware about bleeding gum due to the consequences of dental plaque [4]. Therefore, the aim of this study was to evaluate the hygiene performance index (PHP) comparing with dental habits amongst children aged between 10 and 12, and to educate the children on the importance of maintaining good oral hygiene and to promote many health education programs amongst school children. .

MATERIAL AND METHODS:

A cross-sectional study was carried out amongst school children in Chennai, Tamil Nadu, India, between February 2018 and March 2018. Girls between the age group of 10 and 12 from St. Joseph's AIHS School, Perambur, Chennai were evaluated for the study. By convenient sampling method the participants between the decided aged groups were selected. Informed consent was obtained prior to distribution of the questionnaire.

A total of 200 self-administered, validated questionnaires were distributed. It includes 14 closed ended questions. The questions were based on how each individual maintained their oral hygiene which included questions on when and how often they cleaned their teeth, type of dental aids used, method of brushing and frequency of changing their tooth brush, cleaning of tongue, rinsing of mouth with the usage of mouthwash and finally their history and frequency of visit with their dentist. Significance between PHP and Dental habits were

quantified using a chi-squared test with the P value of <0.05 was considered significant.

Inclusion criteria:

- Girls between the age group of 10 and 12 were included in the study
- Those willing to participate in the study
- Only those students who were present to school on those particular days were used as samples for the study

Exclusion criteria:

- Boys weren't included in the study
- Girls below 10 and above 12 years of age were excluded from the study
- those not willing to participate were not taken as the sample in the study

RESULTS:

Evaluating the PHP rating with brushing schedule, it was found that majority of the students had fair brushing schedule. Around 110 students fell under that criteria from 200 samples evaluated. This was significantly associated and P value was found to be 0.03 which was significant.

Evaluating the PHP rating with students who had routine dental check-up, it was found that most of them visited the dentist once in a year. Out of the 200 samples taken for the study, only 100 of them fell under this category. This was significantly associated and the P value was found to be 0.02.

Evaluating the significance between PHP rating and Usage of Mouthwash, it was found that most of the student didn't have the habit of using mouthwash. Around 110 of 200 students belonged to this category. The P value was found to be 0.5 which is not significant between these two groups.

TABLE 1: Evaluation of Significance between Patient Hygiene Performance index and Brushing Schedule:

PHP Rating	Brushing Schedule			Total	P value
	Morning	Morning and afternoon	Morning, afternoon and night		
Good	10	12	2	24	0.03
Fair	50	59	1	110	
Poor	27	36	3	66	

TABLE 2: Evaluation of Significance between Patient Hygiene Performance index rating and Routine Dental Check-up:

PHP Rating	Routine Dental Check-up			Total	P Value
	Once in Three months	Every 6 months	Once in a year		
Good	4	3	15	22	0.02
Fair	19	17	64	100	
Poor	12	13	34	59	

TABLE 3: Evaluation of Significance between Patient Hygiene Performance index rating and Usage of Mouthwash:

PHP Rating	Usage of Mouthwash		Total	P value
	YES	NO		
Good	10	14	24	0.53
Fair	38	72	110	
Poor	28	38	66	

DISCUSSION:

Any practice or habit begins mainly from childhood. Likewise, youngsters should be educated on good oral hygiene practice from childhood. The link between oral health and systemic well-being of the body helps promotes oral health and oral self-care practice among school children [5]. Majority of adults nowadays despite knowing about their bad dental health still do not take any measure of treatment since there is lack of awareness on how dental health would their systemic health if left untreated. One of the mainly reasons of dental unawareness was found to be “fear of dental treatment’ both by the parents and children [5,6]. In another study, the participants were due to lower socioeconomic strata there was a neglect towards oral health because of the high cost of dental treatment [6]. The dental health educators, in planning effective educational strategies, can expect to find existing positive dental health attitudes among adolescents, despite lack of factual knowledge if they were educated on good oral health practice from childhood [7].

In this present study when we evaluated the school students (only girls) aged between 10 and 12, we found that they had lack of awareness about their dental health. Students those who brushed their teeth twice in a day had better oral hygiene compared to the other who brushed only once. Also when their PHP index was compared with their routine dental checkup, it was found significant that those who visited the dentist once a year maintained better dental health. One of the main drawbacks about unawareness is that health education programs these days have been narrowed down to only urban areas while the rural people remain blind in understanding the importance of maintaining proper oral hygiene. In another study , it was found that children only visited the dentist whenever they had any discomfort in their oral cavity or tooth ache and resorted with the history of extraction [8]. Since in this study a school from an urban area was chosen, the results only prove that school children from urban areas also need more awareness. However, conducting dental health education programs in rural and rustic areas which is mainly flooded only with government aided school as people there have low socioeconomic status compared to the urban, children will definitely gain more knowledge

and start being aware about the impact of dental health in their life.

CONCLUSION

This study thus concludes that percentage of school children who had concern on their oral health and knowledge about the importance of it was less compared to those who were unaware. Whilst there are many research studies being published on creating awareness amongst growing children on good oral hygiene, it is also important that both urban and rural areas get benefitted equally. There should be many health education programs conducted and various forms of health education aids could be used to achieve this. Thus this study clearly highlights the profound benefits of the importance of practicing oral hygiene and its impact on ones well-being otherwise also.

REFERENCES

1. Petersen PE, Bourgeois D, Ogawa H, Estupinan-Day S, Ndiaye C. The global burden of oral diseases and risks to oral health. *Bull World Health Organ.* 2005;83:661–9.
2. Al-Darwish M, El Ansari W, Bener A. Prevalence of dental caries among 12–14 year old children in Qatar. *The Saudi dental journal.* 2014 Jul 1;26(3):115-25.
3. Smyth E, Caamaño F, Fernández-Riveiro P. Oral health knowledge, attitudes and practice in 12-year-old schoolchildren. *Medicina Oral, Patología Oral y Cirugía Bucal (Internet).* 2007 Dec;12(8):614-20.
4. Priya M, Devdas K, Amaral D, Venkatachalapathy A. Oral health attitudes, knowledge and practice among school children in Chennai, India. *Journal of education and Ethics in Dentistry.* 2013 Jan 1;3(1):26.
5. Al-Omiri MK, Al-Wahadni AM, Saeed KN. Oral health attitudes, knowledge, and behavior among school children in North Jordan. *Journal of dental education.* 2006 Feb 1;70(2):179-87.
6. Harikiran AG, Pallavi SK, Hariprakash S, Nagesh KS. Oral health-related KAP among 11-to 12-year-old school children in a government-aided missionary school of Bangalore city. *Indian Journal of Dental Research.* 2008 Jul 1;19(3):236.
7. Walsh MM. Effects of school-based dental health education on knowledge, attitudes and behavior of adolescents in San Francisco. *Community dentistry and oral epidemiology.* 1985 Jun;13(3):143-7.
8. Petersen PE, Hoerup N, Poomviset N, Prommajan J, Watanapa A. Oral health status and oral health behaviour of urban and rural schoolchildren in Southern Thailand. *International dental journal.* 2001 Apr;51(2):95-102.