

Assessment of Adults Returning for Health Education Review after First Counseling

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Abstract

Health education is a process of enabling people to increase control over and to improve their health. Oral health education is an important part of oral health promotion and is an essential and basic part of oral health services. Aim of health education is to provide information to improve oral health, knowledge for adoption of a healthier lifestyle, changed attitudes and desirable behaviours. The aim of this study is to determine the number of patients that return after receiving first counseling of health education. A retrospective study was done in an institutional

setting to study Among patients who have visited the dental facility, the records of the patients were obtained from a given time period of June 2019 to April 2020. Data was retrieved and evaluated by 2 reviewers. Once the data was collected, it was then tabulated based on the parameters which are gender, first visit, second visit and OHI score. The data was sorted and was tabulated in excel. Analysis of data was done in SPSS software. Total of 6245 patients received health education on their first visit. Only 8.3% of the patients returned for a second visit. Highest number of patients who returned for a second visit belong to a younger age group (17-40 years) which is 5.84%. Mean OHIs is 1.84 for patients who have returned for a second visit .It was concluded that patients with a higher OHI score tend to return for a second visit and this shows the willingness of patients to return to a dental hospital to improve their oral health in chennai city.

Keywords : First counseling, health education ,OHI score, second visit,

Introduction

Oral health is always an inseparable part of general health. Lack of information regarding oral health is among the reasons for nonadherence to oral hygiene practices. Dental health education has been considered to be an important and integral part of dental health services (Towner, 1993; Kay and Locker, 1996) and has been delivered to individuals and groups in settings such as dental practices (Baab and Weinstein, 1986; Stewart *et al.*, 1991) , school (Buischi *et al.*, 1994) and workplace and day care and residential settings for older adults. Health education/ health promotion is a process of enabling people to increase control over and to improve their health (D’Cruz and Aradhya, 2013) Oral health education is an important and is an essential and basic part of oral health services thus dentist play an important aspect in a health team (Indiran, 2017)Dental diseases are among the most common and widespread diseases around the world. Poor oral health and untreated dental conditions can lead to a reduced quality of life . (Gambhir *et al.*, 2013) The main dilemma which are often faced by some people are the fear of painful dental treatment, high dental charges, long waiting times, and being too busy for a dental visit were cited as the most important barriers to seeking dental treatment (Kadaluru, Kempraj and Muddaiah, 2012) Due to all these reasons, people will tend to ignore the importance of maintaining one's oral hygiene.

According to the World Oral Health Report 2003 (Petersen, 2003), despite great achievement in the oral health population globally, problems still remain in many communities around the world particularly among underprivileged groups in developed and developing countries. Oral health education is essential for promoting oral health in adolescents. At this age, young people are able to assume responsibility for learning and maintaining health related attitudes and behaviours that carry over into adulthood (D’Cruz and Aradhya, 2013) By providing adequate education regarding oral health maintenance, the patients will improve their oral health. They will gain knowledge regarding the perception of good oral health. Introducing and emphasizing oral health at younger age groups will allow them to improve their health status when they age.

Schools are of the environment setting in which oral health programmes can be conducted. Schools can contribute to the achievement of public health goals in conjunction with their education commitments (Leger and St Leger, 2001; Vanobbergen *et al.*, 2004) Globally ,

approximately 80% of children attend primary schools and 60% complete at least four years of education, with wide variations between countries and gender. (Gambhir *et al.*, 2013) Most studies of classroom dental health education programs report positive changes in knowledge about oral health. Teachers also play an important role in ensuring that their students are aware of the importance of oral hygiene. India is still a developing country and it faces many challenges in delivering the oral health needs to its population. In 1940, it was found that the prevalence of dental caries in 5 and 12 year old school children in India was 55.5% and it rose to 68% in the 1960s and climbed to 89% in the subsequent years (Dash *et al.*, 2002; Joshi, Rajesh and Sunitha, 2005; Gambhir *et al.*, 2013)

Our team has rich experience in research and we have collaborated with numerous authors over various topics in the past decade (Ariga *et al.*, 2018; Basha, Ganapathy and Venugopalan, 2018; Hannah *et al.*, 2018; Hussainy *et al.*, 2018; Jeevanandan and Govindaraju, 2018; Kannan and Venugopalan, 2018; Kumar and Antony, 2018; Manohar and Sharma, 2018; Menon *et al.*, 2018; Nandakumar and Nasim, 2018; Nandhini, Babu and Mohanraj, 2018; Ravinthar and Jayalakshmi, 2018; Seppan *et al.*, 2018; Teja, Ramesh and Priya, 2018; Duraisamy *et al.*, 2019; Gheena and Ezhilarasan, 2019; Hema Shree *et al.*, 2019; Rajakeerthi and Ms, 2019; Rajendran *et al.*, 2019; Sekar *et al.*, 2019; Sharma *et al.*, 2019; Siddique *et al.*, 2019; Janani, Palanivelu and Sandhya, 2020; Johnson *et al.*, 2020; Jose, Ajitha and Subbaiyan, 2020).

The aim of this study is to determine the number of patients that return for a second visit after first counseling of health education. This can determine the willingness of patient to return to a dental clinic to improve oral health after receiving health education

Materials & Methods

A retrospective, institution based study was conducted at the Department of Implantology, Saveetha Dental College & Hospital, Chennai. The advantage of choosing to conduct the study in an institutional set up provides for a population with similar ethnicity. Institutional ethical committee approval was obtained for the study (SDC/SIHEC/2020/DIASDATA/0619-0320). . All patients who underwent implant placement in the posterior maxillary region were included in the study. Exclusion criteria were patient records that were incomplete or repetitive. Data was obtained by the Dental Information Archiving Software (DIAS) developed and maintained by the Institution. All available data was collected and sorted. The data was extracted and tabulated based on the parameters required. Sample size was found to be 6245 patients out of which males were found to be majority of participants (59.81%) whereas female participants consist of 40.19%. Based on these sample sizes, patients who have returned for a second evaluation. Only 8.34% of patients returned for a second visit. Between males and females, more males returned for a second visit (5.22%) compared to females (3.12%).

Once the case details have been obtained, the data is then extracted and tabulated based on the parameters which are gender , OHI score, first visit of health education and patients that returned for a second visit of health education

Statistical analysis

Once the results have been tabulated based on the parameters, the data is then exported to SPSS software. Frequency, percentage and mean value were employed in the analysis. Correlation between the parameters ; gender, patients that received health education (first visit), patients that have returned after the first visit (second visit) and OHI scores of the patients

Results and Discussion

The oral cavity harbours wide variety of microorganisms(Prabakar, John, Arumugham, Kumar and Sakthi, 2018b; Mohapatra *et al.*, 2019; Neralla *et al.*, 2019) Oral diseases especially dental caries and periodontal diseases are highly prevalent. Dental caries is the most common chronic disease of childhood (Prabakar, John and Srisakthi, 2016; Khatri, Madan and Srinivasan, 2019; Mathew *et al.*, 2020) and it normally occurs in pit and fissures of the occlusal surfaces in primary and permanent posterior teeth(Prabakar, John, Arumugham, Kumar and Sakthi, 2018a; Prabakar, John, Arumugham, Kumar and Srisakthi, 2018) Early childhood caries (ECC) is one of the most neglected chronic disease of childhood in india.(Samuel, Acharya and Rao, 2020) Cost of dental treatment is high and most of them are unable to afford dental treatment. In India 75% of the population reside in the rural areas. As per the Dental Council of India, there are more than 79 000 dentists for a population of about 1 billion with dentist-population ratio 1:10 000 in urban areas and 1:150 000 in rural areas(Schou, 1985). Our institution is passionate about high quality evidence based research and has excelled in various fields ((Pc, Marimuthu and Devadoss, 2018; Ramesh *et al.*, 2018; Vijayashree Priyadharsini, Smiline Girija and Paramasivam, 2018; Ezhilarasan, Apoorva and Ashok Vardhan, 2019; Ramadurai *et al.*, 2019; Sridharan *et al.*, 2019; Vijayashree Priyadharsini, 2019; Chandrasekar *et al.*, 2020; Mathew *et al.*, 2020; R *et al.*, 2020; Samuel, 2021)

Based on our study with a study population of 6245 patients the majority of the patients are from the rural area and these patients have minimal or no knowledge regarding the importance of oral health. This study shows that males were found to be the majority of participants (59.81%) whereas female participants consist of 40.19% (Figure 1) The mean age for males was 35 years whereas the mean age for females was 36 years. P value was 0.279 (>0.05), which is not statistically significant. (Table 1)

A study done among adolescents (Walsh *et al.*, 2011) showed that most of their respondents had very little knowledge of issues relating to caries and periodontal diseases. With providing proper health education, these adolescents are able to prevent further progression of any oral health. A study was conducted to test the to compare the effect of carbonated and energy drinks on salivary pH and it was found the most of the people are unaware of the adverse effects of it as it leads to dental erosion, dental caries, decrease in salivary pH and decrease in the surface hardness of of restoration (Pratha and Prabakar, 2019) Our study showed that only 8.3% of the initial population returned for a second visit after receiving first counselling of health education. Between males and females, more males returned for a second visit (5.22%) compared to females (3.12%) (Figure 2). However this was found to be not statistically significant (P Value - 0.179). This shows that the participants are willing to improve their oral health status. Based on age group, it shows that 5.84% of the patients who have returned for a second visit were patients in the 17-40 year age group (Figure 3). However, this was found to be

not statistical significance (P Value- 0.674). This shows that patients of a younger age are more willing to improve their oral hygiene compared to those of an older age group. Patients of a younger age have more knowledge regarding the importance of oral hygiene and oral practises thus they are shown to be more willing to improve their oral health. Dental professionals should provide knowledge to help improve the nutritional and health of the patients (Harini and Leelavathi, 2019; Neralla *et al.*, 2019; Pavithra and Jayashri, 2019) Various studies have been conducted to test the fluoride content in water in India (Kumar and Preethi, 2017; Kumar and Vijayalakshmi, 2017), based on those studies it was found that most of the population had dental fluorosis and was unaware of its effects

Mean values of OHIs score for patients who have returned for a second visit was determined for both males and females. It was found that the mean OHI score was higher in females (n=1.16) compared to males (n=1.11). P value was found to be not statistically significant P Value - 0.589) (Table 1). The mean value of OHIs for patients that return for a second visit was 1.84 which is more than the OHIs of patients that did not return which is 1.55. thus we can say that patients that have a poor oral hygiene return to improve their oral health status (Table 2)

Oral Hygiene Index Simplified (OHIs) is based on 2 parameters which are calculus index and debris index. Based on their index we can score the patients oral health. This is where the importance of health education plays, to aid in improving one's oral health status. Based on a study (Kay and Locker, 1996) they have found that knowledge and attitude could be improved through dental health education. They have collected 14 articles regarding the effect and benefit of oral health programmes and found positive effects. They have found that patients have reduced plaque levels and improved gingival health. Some programmes can be sometimes successful and sometimes not. However they have found a reduction in plaque and gingival bleeding and this was found to be significant (Kay and Locker, 1996)

Conclusion

In conclusion, only a smaller percentage of individuals returned for the second health education counselling session, and a greater number of males returned for the second time as compared to females. The oral hygiene of the patients who returned for second review was significantly better than those who didn't. This study helps us to understand that people who are motivated enough to improve their oral health chose to come for review/follow-ups. This finding should help the clinician in encouraging the patient towards productive oral health behaviours and emphasize the importance of review in maintaining good oral hygiene.

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Conflict of interest

The authors declare no conflict of interest

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Table and Graphs

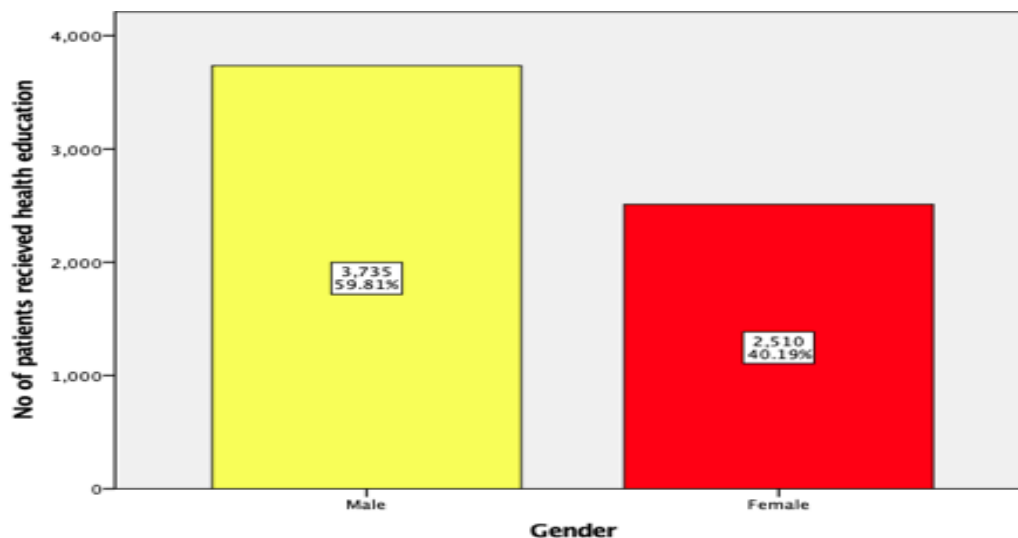


Figure 1: Graphical representation of the frequency of number of patients who received health education based on gender. X axis represents gender and Y axis represents the number of patients who received health education. Males (yellow) were found to be majority of participants (59.81%) whereas female (red) participants consist of 40.19%

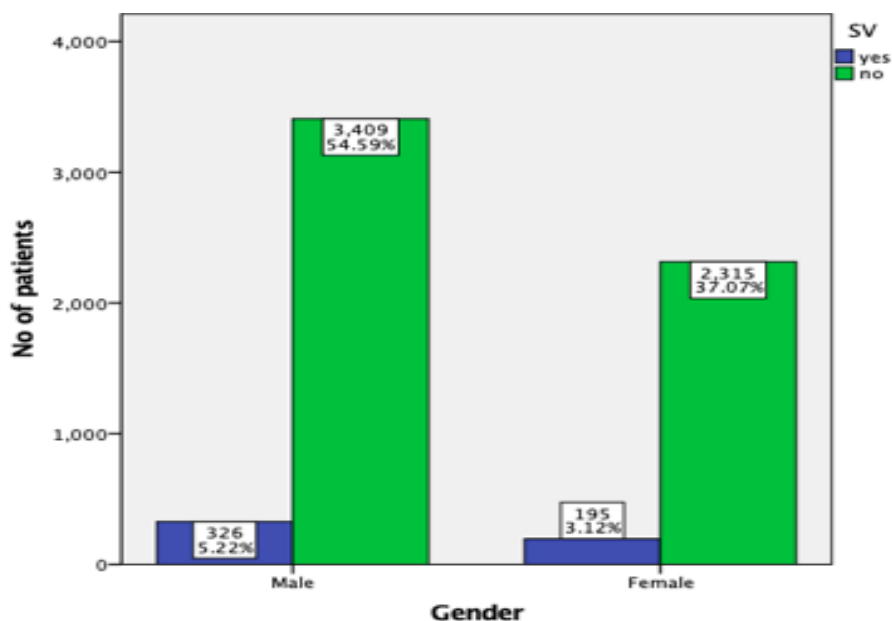


Figure 2: Graphical representation of the association the patients who have returned for after first counselling and gender. X axis represents gender and Y axis is the number of patients who have received health education and returned for a second visit (blue) not returned for a second visit (green). Between males and females, more males returned for a second visit (5.22%) compared to females (3.12%). Chi square test shows no statistical significance between the number of patients who have returned for a second visit and gender (Chi square test – 1.807; p value- 0.179)

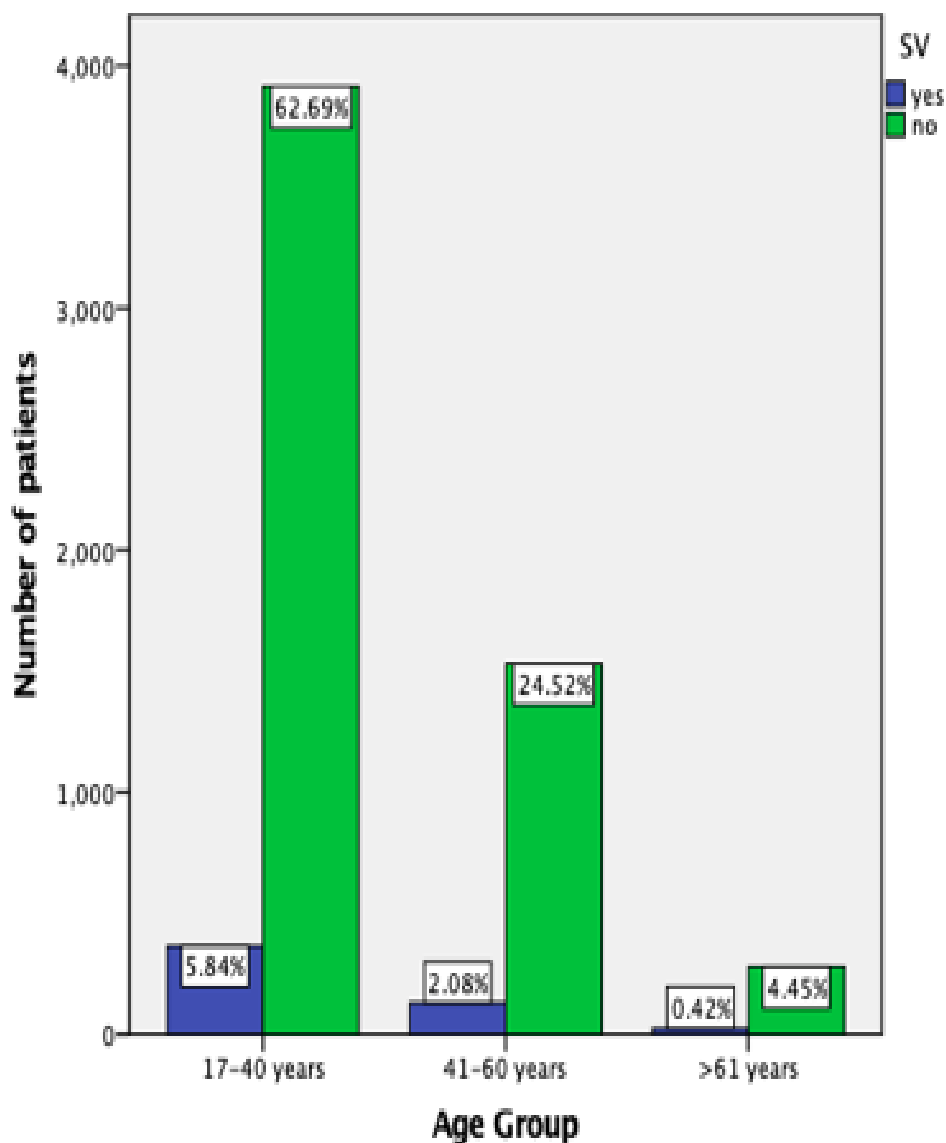


Figure 3: Represents the association of patients who returned for a second visit health education and the age groups in our sample. X axis represents age groups and Y axis is the number of patients who have received health education and returned for a second visit (blue)/not returned for a second visit (green). It shows that most number of the patients who have returned for a second visit were seen in patients in the 17-40 year age group. Chi square test shows no statistical significance between the number of patients who have returned for a second visit and age groups (Chi square test – 0.788; p value- 0.674)

Gender		N	Mean	Std. Deviation	P-Value
Age	Male	3735	35.7976	13.22830	.279
	Female	2510	36.1558	12.15484	
OHIs	Male	326	1.11472	.735536	.589
	Female	195	1.16174	1.252293	

Table 1: This table shows the descriptive statistics for age and OHI score based on gender. The mean age for males was 35 years whereas the mean age for females was 36 years. The number of male patients (n=3735) was more than females (n=2510). P value was 0.279 (>0.05), which is statistically not significant. Mean values of OHIs score for patients who have returned for a second visit was determined for both males and females. It was found that the mean OHI score was higher in females (n=1.16) compared to males (n=1.11). P value was 0.589 (>0.05), which is statistically not significant.

Health Education	Mean OHI score
Patients - First Visit	1.55
Patients - Second Visit	1.84

Table 2: This table shows the mean OHI score of patients in the first visit and second visit. It was found that the OHI score of patients who returned for a second visit (n=1.84) was higher compared to those from the first visit (n=1.55)