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Knowledge and Awareness About Dental Procedures Among Parents Before and After Educational Intervention

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ABSTRACT

This study aims to determine the knowledge and awareness about dental procedures among parents before and after educational intervention. Different educational interventions about oral health and treatment have been used varying from the simple delivery of information to more complex programs involving psychological and behavior change strategies Knowledge, attitudes, intentions, beliefs, behaviors, use of dental services and oral health status and adoption of lifestyles have all been targeted for change as a result of these interventions, which has stood the test of time as dentistry's most pioneering testimony towards concern with the prevention of oral diseases and creating awareness among the patients about their treatment. It includes a questionnaire based study.The survey was conducted among 100 parents who visited a private dental institution. A self administered questionnaire was used.The results were obtained and statistically analysed through SPSS software, chi square test was done to check the association and a p value of 0.05 was said to be statistically significant. The results showed significant correlation between the knowledge and attitudes of parents about dental procedure and the oral health of their children. It is concluded that the awareness of parents about dental procedure and their prevention is not satisfactory before educational intervention. Thus after the educational intervention the parents are much clear about the etiology and prevention for the dental disease.

KEY WORDS: PARENTS, EDUCATIONAL INTERVENTION, DENTAL PROCEDURES, CARIES.

INTRODUCTION

The most common dental diseases in children are dental caries and periodontal diseases which are the most important etiological factors in the pathogenesis of these diseases are frequent intake of sugar and lack of oral hygiene. Dental caries occur as a result of a complex interplay of social, behavioral, cultural, biological and dietary risk factors. Too frequent consumption of food containing sticky and sugar material and lack of fluoride are the main factors for the development of dental caries(Burt, 1994). Dental caries are easily preventable with a judicious preventive regimen including fluorides. Therefore, most dental health education efforts are concentrating on motivating and informing the parents and children to restrict frequent intake of sugar, brushing their teeth with fluoride toothpaste and to have regular visits to the dentist(Sanadhya et al., 2014).

Despite the considerable decrease in the prevalence of dental caries among children for the past few decades,

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a significant proportion of children are still affected by these dental diseases(Marthaler, 2004). Since dental caries is well recognized as a dietary carbohydrate modified bacterial infectious disease, the caries prevention in young children has been reliant on parents being acquainted with information on dental health and having right attitudes towards their oral health(van Houte, 1994). The primary aetiology of dental caries consists of presence of Streptococcus mutans then fermentable carbohydrates metabolized into organic acids in a susceptible tooth surface(Ripa, 1988). Other factors such as oral hygiene, feeding patterns and various other habits are also associated with dental caries. Less studied areas of oral health are parental awareness, cultural attitudes and social influences knowledge regarding dental caries, which are now thought to be a contributing factor(Shugars, 2001; Sobo and Loustaunau, 2010).

Different educational interventions about oral health and treatment have been used varying from the simple delivery of information to more complex programs involving psychological and behavior change strategies(Halawany et al., 2018). Knowledge, attitudes, intentions, beliefs, behaviors, use of dental services and oral health status and adoption of lifestyles have all been targeted for change as a result of these interventions, which has stood the test of time as dentistry's most pioneering testimony towards concern with the prevention of oral diseases and creating awareness among the patients about their treatment.

Dental health education can result in enhanced oral health status objective measures and behaviors although it may be less effective in changing attitudes and knowledge(Ehizele, Chiwuzie and Ofili, 2011). It helps dentists to reach children families and communities influencing their attitudes and behaviors at a formative stage(Shenoy and Sequeira, 2010). Oral health education can be provided by means of professional instruction by using models, posters, charts, brochures, leaflets, audio-visual aids, or PowerPoint presentations.

Several studies have reported positive outcomes of oral health educational interventions with a positive outcome in terms of oral cleanliness(Yazdani et al., 2009), significant changes in oral health behaviors, brushing skills(Vanobbergen et al., 2004), caries control regimens, plaque and gingival scores (Zanin et al., 2007) and also in the incidence of dental caries, improved oral hygiene and established positive oral health practices and awareness on dental treatments(Tai et al., 2009). Hence, this study aims at determining the knowledge and awareness about dental procedures among parents before and after educational intervention.

MATERIAL AND METHODS

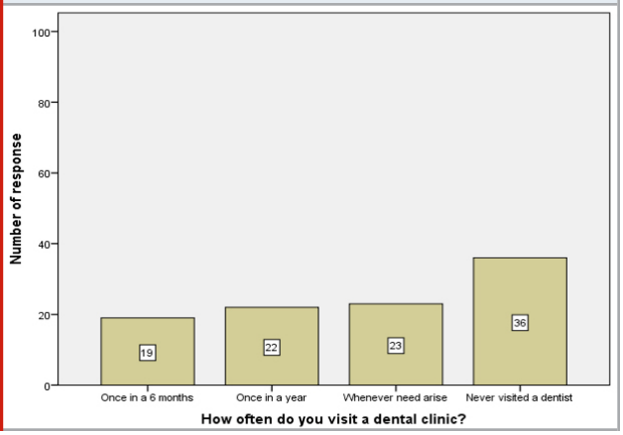
The study was initiated after receiving ethical approval from the institutional ethical committee. Survey was undertaken to evaluate the awareness and knowledge about the dental procedures among parents before and after educational intervention. A total of 100 parents who visited a private dental institution was included in the study. A self administered questionnaire was used. The questionnaire consisted of the major aspects of knowledge and awareness about dental treatment. This survey was a questionnaire based study which consisted of 15 questions.

Data collection: The survey was taken by 100 parents who visited a private dental institution All data was entered in an excel sheet. Data was analysed by multiple logistic regression analysis using SPSS software version 20 .Chi square test was used to find an association between the study variables. p value less than or equal to 0.005 was taken statistically significant. Inference of the study is given below.

RESULTS AND DISCUSSION

The study estimates the awareness and knowledge about the dental treatment among the parents by means of a subjective evaluation of the response of the participants on the questionnaire. Out of 100 participants, the gender distribution of the patients was reported as 37% were males and 63% were females. It was inferred that among the parents the males(37%) have reported higher in number than females. Figure 1 reveals that the majority of parents never visited a dentist (36%) followed by once in a year (22%), once in 6 months(19%) and whenever need arises (23%). Most common cause for not visiting a dentist on a regular basis or reason for disliking visiting the dentist was fear and anxiety (48%) which is illustrated in figure 2. The frequency distribution of the chief complaint of a child is illustrated in figure 3.

Figure 1: Bar chart distribution showing the frequency of dental visit by the participants. X axis represents the number of dental visits and Y axis represents the number of the participants who responded. Majority of the respondents reported that they have never visited a dentist (36) followed by once in a year (22), whenever need arises (23) and once in 6 months (19).



It is inferred that the majority of the patient complaints of dental pain (44%), discolouration of tooth (22%), bleeding gum injuries to the tooth(20%) and swelling. Figure 4 explains the awareness about the fact that

if deciduous teeth are extracted before their shedding periods, the upcoming permanent teeth may have some ill effects and it is inferred that (51%) parents are unaware of it. Majority of the participants reported that the most important way to prevent dental caries is by reducing the frequency intake of sugar (35%) followed by frequently brushing the teeth and regular visits to a dentist (figure 5).

Figure 2: Bar chart distribution showing the response of parents to the question about the reason for not visiting a dentist. X axis represents the question "If you do not visit the dentist the reasons are" and Y axis represents the number of the participants who responded. Majority of the respondents reported that they are afraid of dentists (48) followed by afraid of dental instruments (27), afraid of sitting in the waiting room (5) and no time (20).

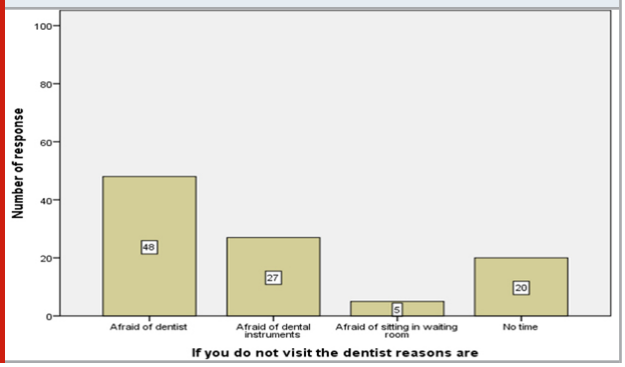
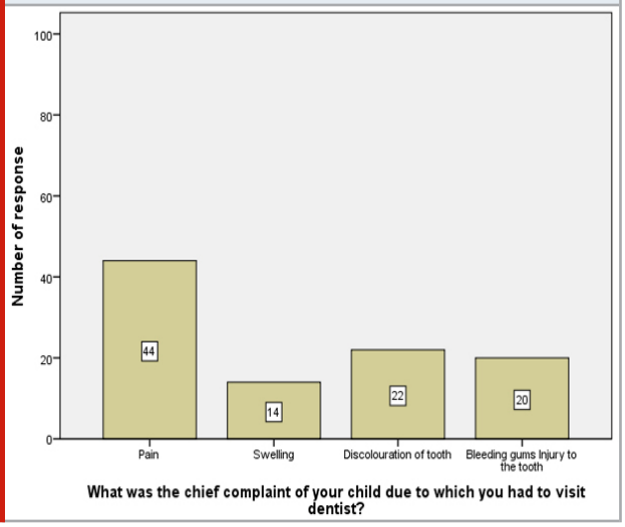


Figure 3: Showing the frequency distribution of the patient's chief complaint. X axis represents the chief complaint of a child and Y axis represents the number of the participants who responded. It is inferred that the majority of the patients had a complaint of pain (44) followed by discolouration of tooth (22), bleeding gums (20) and swelling (14).



Most of the parents were unaware about "what is root canal treatment?" before the programme but after the programme more than half of the parents responded correctly (figure 6). Regarding the association between the total knowledge score for awareness on root canal treatment and educational intervention, it was found that the highest score was reported after the educational intervention and the study interestingly also found a significant correlation (p=0.000) between educational intervention and the awareness about root canal treatment. There was a drastic increase in knowledge about the etiology of dental caries at the end of the programme. Figure 7 shows the association between the total knowledge score of awareness on dental caries and educational intervention, it was found that the highest score was reported after the educational programme. Pearson's correlation to assess the educational intervention and knowledge on cause of dental caries was found to be statistically significant p =0.00($p<0.05$).

Figure 4: Showing the frequency distribution of awareness of the participants about the fact that if deciduous teeth are extracted before their shedding periods, the upcoming permanent teeth may have ill effects. X axis represents the participants awareness on deciduous teeth extraction before their shedding periods and Y axis represents the number of the participants who responded. The bar chart shows that the majority of the participants are unaware of it (51).

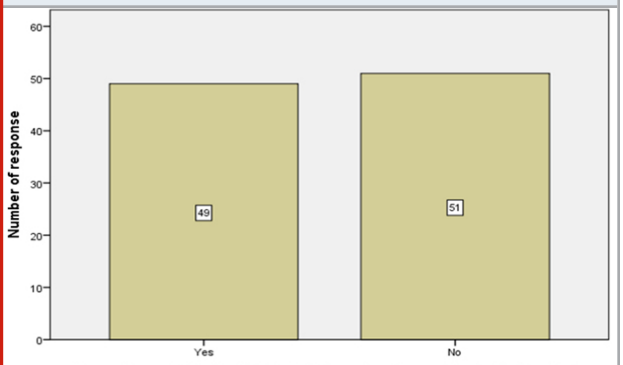


Figure 5: Bar chart distribution showing response of parents to the question about prevention of dental caries. X axis represents the question "What do you think is the most important way to prevent dental caries?" and the Y axis represents the number of the participants who responded. Majority of the respondents reported that dental caries can be prevented by reducing the frequency of sugar intake (35).

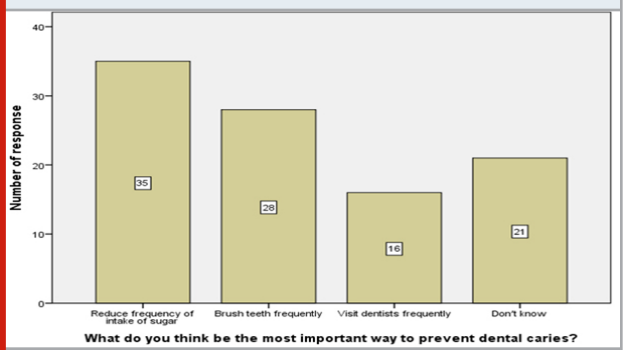


Figure 6: Bar chart represents the association between the awareness about root canal treatment and educational intervention. X axis represents the educational intervention (before - blue and after - green) and Y axis represents the question"What is root canal treatment". The highest score was reported after the educational intervention (green). Chi square test was performed and association between the awareness about root canal treatment and educational intervention was found to be statistically significant. Pearson's correlation value =0.000 (p<0.05), hence statistically significant.

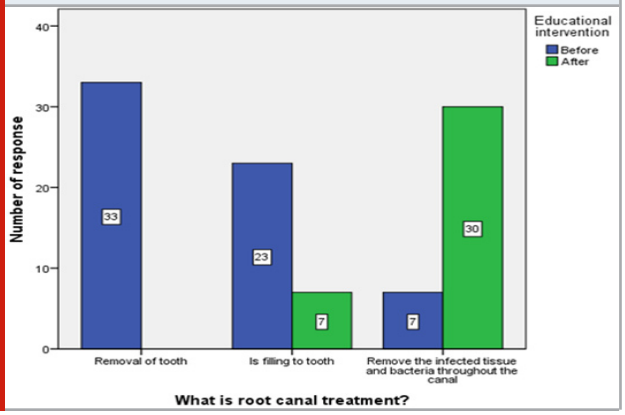
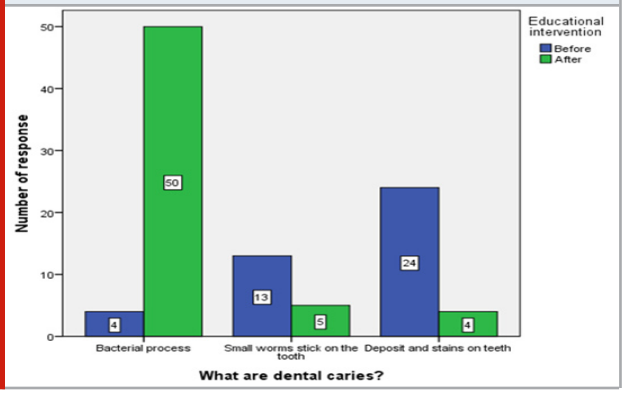
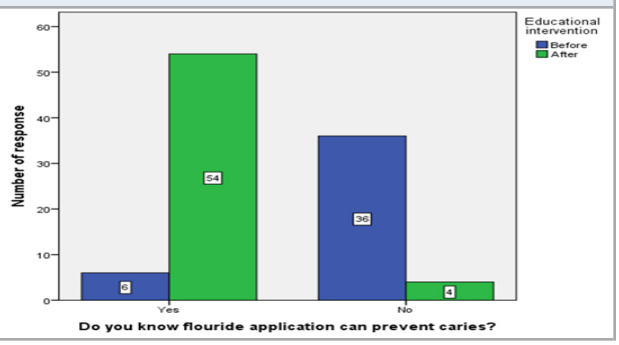


Figure 7: Bar chart represents the association between the etiological factors of dental caries and educational intervention. X axis represents the educational intervention (before - blue and after - green) and Y axis represents the question"What is dental caries". The highest score was reported after the educational intervention (green). Chi square test was performed and association between the awareness about etiological factors of dental caries and educational intervention was found to be statistically significant. Pearson's correlation value =0.000 (p<0.05), hence statistically significant.



The knowledge about fluoride application was increased from among 16% participants to 54% participants (Figure 8). The association between the total knowledge score of awareness about fluoride application and educational intervention, it was found that the highest score was reported after the educational programme. Pearson's correlation to assess the educational intervention and knowledge on fluoride application was found to be statistically significant p =0.00(p<0.05). Figure 9 represents the knowledge scores of the study subjects. There was a significant difference noted in regarding the questions about factors responsible for periodontal disease among the children . About 34% of parents understood the factor responsible for periodontal disease after educational intervention. Chi square test was performed and reported p=0.00(p<0.05), which is statistically significant. After the educational programme 91% of the participants reported that after the explanation given by the dentist they understood the dental procedure(Figure 10). Apart from knowledge and attitude, there was drastic improvement in the practices related to oral health after the programme.

Figure 8: Bar chart represents the association between fluoride application and educational intervention. X axis represents the educational intervention (before - blue and after - green) and Y axis represents the question"Do you know fluoride application can prevent caries?". The highest score was reported after the educational intervention (green). Chi square test was performed and association between the awareness about fluoride application and educational intervention was found to be statistically significant. Pearson's correlation value =0.000 (p<0.05), hence statistically significant.



This study presented a comprehensive overview of the oral health knowledge, behavior and consent towards their dental treatment. Most of the study subjects reported irregular dental attendance and this finding is consistent with the findings of holst et al and ismail et al (Holst, Schuller and Grytten, 1997; Ismail, Tanzer and Dingle, 1997). This can be explained by this that the majority of the study sample did not visit the dentist due to dental fear and anxiety. This pattern of behaviour may indicate barriers to dental services and utilization which needs to be explored in future studies. In this study the parents reported that the most important way to prevent dental caries is by reducing the frequency intake of sugar (35%). This result is in accordance with studies conducted by walsh et al and petersen et al (Walsh, 1985; Petersen and Esheng, 1998). The relationship between dental caries,oral hygiene and a sugary diet was addressed as well(Redmond et al., 2001; Vanobbergen et al., 2004).

In the present study it was found that there was an increase in the overall knowledge score about dental treatment which was similar to the study conducted by

(Farias et al., 2009). There was no gender variation in knowledge, attitude and practices before and after the education programme. At the end of the study, parents seemed to have gained improved knowledge about the treatment, cause and prevention of tooth decay and gingival disease.The dentist must make the parents understand the value of oral hygiene measures and dental treatment which help the child to remain caries free(Sistani et al., 2017).

Figure 9: Bar chart represents the association between the etiological factors for periodontal disease and educational intervention. X axis represents the educational intervention (before - blue and after - green) and Y axis represents the question"Factors responsible for gingival or periodontal disease". The highest score was reported after the educational intervention (green). Chi square test was performed and association between the etiological factors for periodontal disease and educational intervention was found to be statistically significant. Pearson's correlation value =0.000 ($p<0.05$), hence statistically significant.

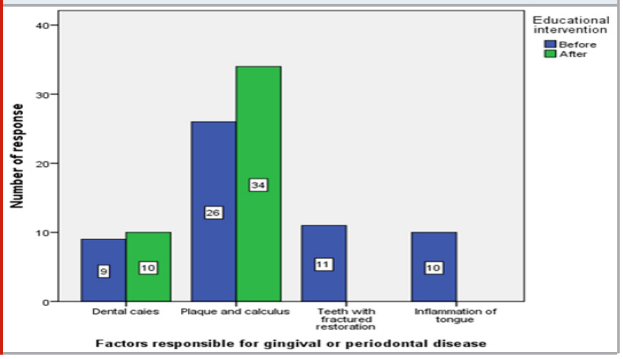
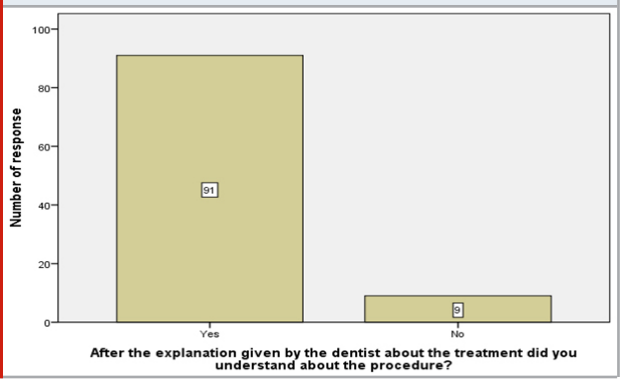


Figure 10: Bar chart distribution showing responses of parents to the question about satisfaction about the programme. X axis represents the question "After the explanation given by the dentist about the treatment did you understand about the procedure?" and the Y axis represents the number of the participants. Majority of the participants understood the dental procedure after the explanation given by the dentist (91).



Several limitations of this study need to be addressed. Because of a smaller study population, the findings obtained from these self-reported data can only be generalized within this population. The short time period between the before and after programme need to bring about a substantial change may be considered as other limitations of this study.

CONCLUSION

Within the limits of our study, we found that parents had some knowledge regarding the oral health and dental treatments but they were not able to use this knowledge in practical because of various factors like time constraint, some beliefs related to the oral care. It is concluded that the awareness of parents about dental procedure and their prevention is not satisfactory before educational intervention. Thus after the educational intervention the parents are much clear about the etiology and prevention for the dental disease.Therefore, the dentist must include these health education programmes into their counselling session to parents when they attend the hospitals with their children and help the parents to modify their lifestyle.

Author Contribution: All authors have equally contributed to the research.

Conflict of Interest: Nil

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