

Determining The Effect Of Parental Dental Education on Dental Hygiene Practices in Their Children

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Introduction

The United States Surgeon General's Report of 2000 specified that dental caries is the most common chronic childhood disease of children aged 5 to 17 years and is five times more common than asthma and seven times more common than hay fever (Baramian, Godoy & Volpe, 2009). According to the CDC (2014) over 19% of children ages 2-19 have untreated cavities in the United States. Skeie et al (2011) emphasize that parental behaviors influence the oral health of their children to a large extent. The importance of patient centered dental education is emphasized in a study conducted in Germany by Sagheri, Hahn and Hellwig (2007) on school age children who advocated research on focused, need-based, oral health education programs.

Aim

The aim of the study is to determine the effectiveness of in-depth parental dental education and its influence on their knowledge and oral and dental health practices of their children.

Research Question

“What is the effect of parental dental education on children's oral hygiene practices?”

Significance

The study provides understanding of the demographics of the population along with their prevailing dental hygiene knowledge and practices. As part of the prevention program, the study has potential to reduce the detrimental effects of dental caries through education.

Method

The sample population was derived from the patient pool visiting the dental department at the David Raines Community Health Center (DRCHC), Bossier City, Louisiana by randomized controlled trial. Due process and confidentiality of participants was maintained. The participants were parents of children aged 1-12.

Intervention

The intervention was conducted in two parts with an interval of one month in between. Proposed participant number was 70; 35 for treatment and 35 for control groups. But at the end of the data collection only 38 participants were recruited; 19 for treatment and 19 for Control.

Both control and treatment groups were assessed for current knowledge about dental health and practices with a short questionnaire. The treatment group in addition to the questionnaire also received in-depth dental education program lasting 30 minutes using visuals and models. Education covered topics about importance of healthy teeth, plaque, dental caries, brushing and flossing techniques. A month after the first visit, participants in both treatment and

control group were re-assessed with the same questionnaire via phone and email and 20 responses were elicited.

Results and Discussion

The ages of the children participating in the study ranged from 2 to 14 with higher number being of age 14 years. The need for dental care seems to increase as the children got older. The number of female child patients was 21 and the male child patients were 17. Ages of the parents/caregivers of the child patients ranged from 19-57 years with majority being 25-35 years and females. Mothers seemed to be more involved in their children's care.

The racial profile of the parents showed that the majority was African American (58%), followed by Caucasian (21%), Hispanic (11%), Asian (8%) and Other (about 2%). About a third of them had only high school education. Of the 38 parents/caregivers, only 4 had received a Degree/Diploma and the rest had high schooling or less. About 55% of parents were unemployed. Most of the patients were on Medicaid. Dental need seemed to be higher in African Americans, less educated and unemployed population.

Almost all the child patients in both the control and treatment group followed daily regimen of tooth brushing. Post intervention, the treatment group showed improvement with in daily tooth brushing, frequency and timing of tooth brushing. Parents showed an increased awareness in knowing about the kind of toothpaste used by the family and the children, in looking for fluoride in the toothpastes, identifying the kind of toothbrush used by their children along with the duration of usage. Compared to the tooth brushing, flossing was not followed by the child patients on a regular basis. Post-intervention, there was considerable improvement in daily flossing in treatment group.

Limitations

Study design was based on post intervention responses through phone/mail due to time and scheduling constraints rather than face-to-face meetings. Responses of the participants had the possibility of being biased, especially response bias (the participants alter replies to please the investigator). Language or cultural barriers could have limited the conduction of study and collection of data. The number of study participants was limited due to time and availability problems. Problem of attrition with post-survey respondents also limited the study results. Non-availability of intra-oral findings for confirmation of survey responses to confirm the study results was an added limiting factor.

Conclusions

The results provide data about the demographics and the oral hygiene habits of the patient sample population. Also, the benefits and drawbacks associated with the study are highlighted. The whole process also illustrates the patient attitude and response towards education programs as about half the patients did not respond to the post study evaluation indicating their non-interest. The analysis indicates greater awareness in patients' oral hygiene knowledge and children's oral hygiene behavior. Educating parents about oral hygiene does have a positive effect on their children's oral hygiene practices.

Recommendations

Include altering the study design to incorporate more sites to increase patient sample size. A larger time frame can also be considered to access the required population. An incentivized post intervention program may also increase the response rate of the patients. Language/cultural barriers can be overcome with help of translators or, in their absence, by exclusion criteria. The education part of the study can be repeated at periodic intervals and evaluated for progress.

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