

Knowledge, Attitude and Practices Before and After Dental Health Education among Hearing and Speech Impaired Children

Kiran Tariq, Humayun Suqrat Hasan Imam, Muhammad Akhtar Parvez

ABSTRACT

Objective: To evaluate the level of dental health awareness, existing status of dental hygiene and extent of compliance to basic dental health education in hearing and speech impaired children. **Setting:** Govt. higher secondary school of special education for hearing impaired, Faisalabad, where around 300 hearing and speech impaired students from play-group to intermediate are under educational program. **Age group:** 7-11 years. **Sample Size:** Total 90 children had mixed dentition stage and were selected because this group is most vulnerable to poor dental health. **Study Design:** Cross-sectional study. **Duration:** April-May 2015. **Sampling technique:** Non-Probability convenient sampling. **Methodology:** Under the supervision of their parents and teachers, using their sign language to communicate, the children were assessed for their knowledge about dental health through a pretested and close ended questionnaire and their prevailing oral hygiene status especially their gingival health was examined visually. Any sign of gingival inflammation with glazing, redness, edema and/or hypertrophy was marked as gingivitis. Followed by a session of basic dental health education, which was delivered to these differently-abled (deaf) children through specially designed presentations with maximum picture and video messages, which were easy for them to understand. After 45 days, re-examination was done to find out the percentage improvement in their gingival health. **Results:** Of the total 90 children, 66 of them had never visited a dentist for a routine dental check-up. Yet 47 of them had a good knowledge that dental brushing prevented tooth decay, but only 25 children knew that sweets causes dental decay and only 18 were aware that fizzy drinks adversely affects the teeth. On oral examination, 61.11% of these children were found to have compromised gingival health status; gingivitis. When after they were given basic dental health education and examined again on 45th day, number of children having gingivitis dropped to only 28.88%, indicating that 32.22% of these hearing and speech impaired children having poor gingival health previously, showed up improvements. **Conclusion:** Comprehensive oral health awareness education to these children can largely bring a change in their knowledge, attitudes and practices in maintaining dental health. **Keywords:** Hearing and Speech impaired, oral hygiene, gingivitis, dental health awareness, improvements.

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INTRODUCTION

Health care structure in Pakistan is over burdened by increasing population and it is believed that the number of handicapped individuals is increasing in proportion to the general population. Around 360 million people worldwide have disabling hearing loss.

Deafness is clinically and genetically heterogeneous and can be caused by environmental as well as genetic factors. In a study, it was found that as a cultural preference in Pakistan, consanguineous marriages has increased the pool of recessive genes causing disorders like hearing and speech impairment and many other.¹ It is estimated that prevalence of bilateral hearing loss is 1.6 per 1000 persons in Pakistan and 70% arise in consanguineous-families. A survey,² founded the

prevalence of total hearing loss in rural Pakistan to be 7.9%.

Dental care is found to be the most unmet health care need, especially among the differently-abled individuals. Their oral health may be neglected because of the focus on their disabling conditions, other major diseases, or limited access to oral health care. Differently-abled children are at a greater risk of poorer oral health due to more frequent oral infections and periodontal disease, moderate to severe malocclusion, and craniofacial birth defects. Moreover, dental care is sought only on an emergency basis.³ Their dental needs are said to be highly underserved due to health care neglect by care takers or parents, communication barriers or socioeconomic status.⁴

Because oral hygiene affects one's esthetics and communication, it has strong biological,

psychological and social impact. Variable access to dental care, inadequate oral hygiene practices and disability related factors may account for the differences in these hearing impaired children. In a study,⁵ on oral characteristics in deaf children, it has been shown that there is a significantly increased prevalence of caries and gingival inflammation in these children than their healthy counterparts. These people are more prone to develop periodontitis in earlier life, have poor oral hygiene and are mouth breathers resulting in xerostomia. There are many other difficulties faced by the deaf children when they are compared with their healthy hearing counterparts, leading to inequalities to access oral health care. A study,⁶ observed that 78% of the children with special health care needs were in need for dental care. In the same study, those who reported a dental care need, 10.4% did not receive any of the required dental care. Thus the health care providers must have unique communication skills to deal with special needs of the deaf children and programs should be designed to improve knowledge, attitude and behavior to meet the special needs of this group of population, as recommended in a study⁷. They form a unique population deserving special considerations. Previously, they have been ignored or even hidden away in institutions. Therefore, this study will help to assess dental health awareness, oral hygiene status and oral hygiene practices in children with impaired hearing and speech.

METHODOLOGY

Study Design: A cross sectional-study

Place of Study: Govt. higher secondary school of special education for hearing impaired, Faisalabad,

Duration of Study: April-May 2015

Around 300 hearing and speech impaired students from play-group to intermediate are under educational program. Study population consisted of all the 90 children having mixed dentition, because this group is mostly vulnerable to poor dental health, age ranging from 7-11 years. They were selected through non-probability convenient sampling.

Data Collection: The children were examined at the institution seated comfortably on an ordinary chair in daylight. Under the supervision of their parents and teachers, using their sign language to communicate, the children were assessed for their knowledge about dental health through a closed ended; pretested questionnaire. This questionnaire was an assessment of previous dental visits, tooth brushing habits and snacking habits (consumption of sweets and fizzy drinks) among these hearing and speech impaired children. Followed by an oral hygiene

examination, using disposable wooden retractors to expose the oral cavity, evaluation of any sign of gingival inflammation with glazing, redness, edema and/or hypertrophy was marked as gingivitis.

Next, specially prepared presentations, having easy to understand information and maximum picture slides and videos, were used to teach the audience about the causes of dental diseases, need for tooth brushing, proper tooth brushing methods, unhealthy eating habits that need to be avoided and importance of routine dental check-ups. Assistance was taken from their respective teachers to help the children understand the delivered message through their sign/symbol language. After ensuring that the required awareness about dental health has been delivered to the subjects, a re-examination was done on 45th day to review any improvement in their gingival health status. The data collected was cleaned, coded and analyzed for descriptive statistics, using SPSS version 20.

There were no ethical issues; a written informed consent was taken on an informed consent proforma from the parents of the children before starting the study.

RESULTS

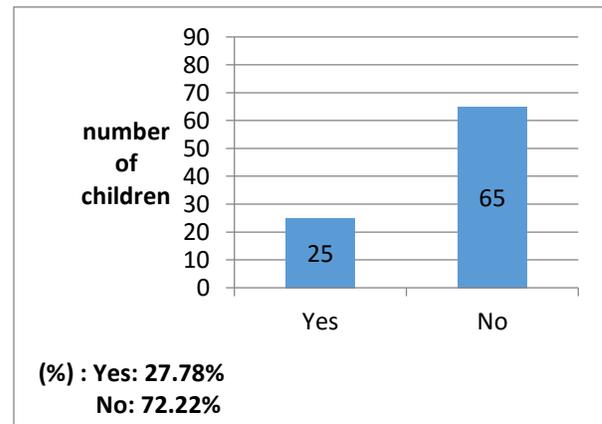


Figure 1: Sweets affect teeth

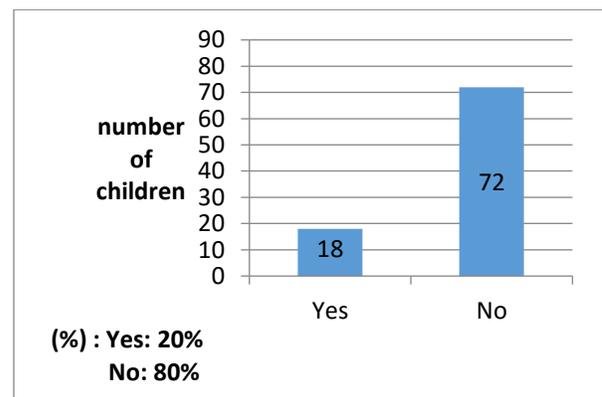


Figure 2: Fizzy Drinks affect teeth

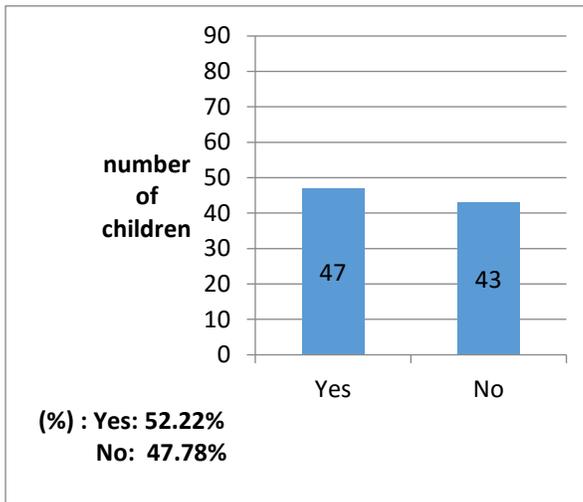


Figure 3: Brushing Prevents tooth decay

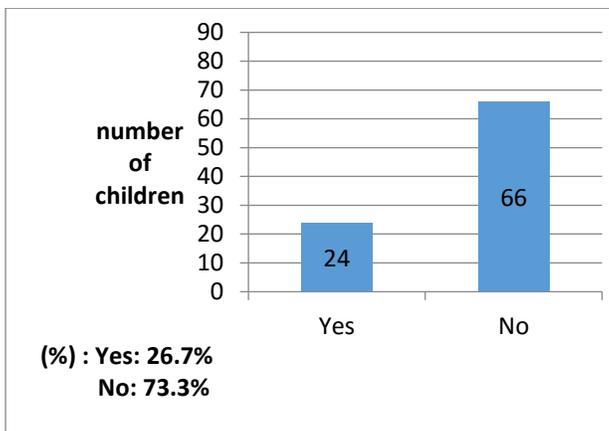


Figure 4: Routine Dental check-up

Oral health examination was done and basic dental health education was given to these children and on 45th day re-examination demonstrated following results:

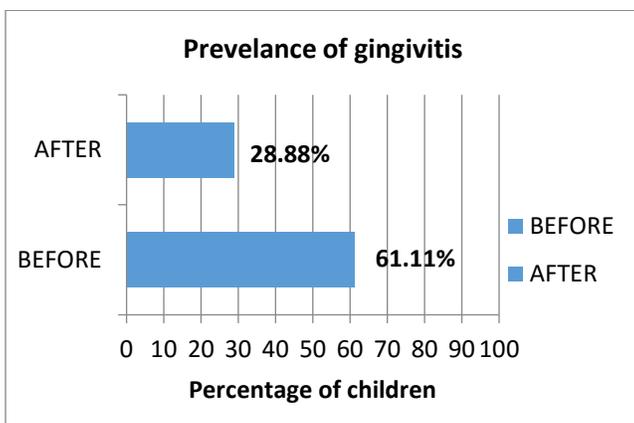


Figure 5: Prevalence of gingivitis, before and after dental health education.

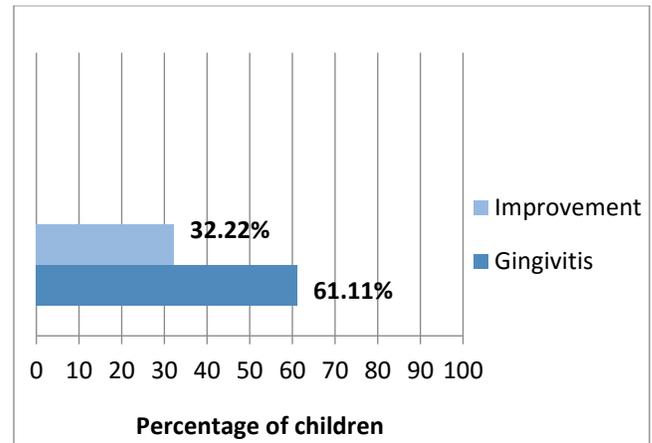


Figure 6: Improvement in gingivitis after dental health awareness.

Results show that 61.11% of these children were found to have compromised gingival health. After they were given basic dental health education and examined again on 45th day, number of children having gingivitis dropped to only 28.88%, indicating that 32.22% of these hearing and speech impaired children having poor gingival health previously, showed-up marked improvements.

DISCUSSION

This study shows that very few among these differently-abled children knew that sweets and fizzy drinks adversely effects the teeth but were aware that brushing their teeth daily prevented dental decay. Majority of them had never visited the dentist for a routine dental check-up; this could be due to low priority of parents for oral health care. These results are similar to the study⁸ where only 8% of the children with special needs gave correct answers to the causes of tooth decay.

Oral hygiene status was found largely compromised in these children with poor gingival health. This corresponds to a study,⁹ stating that periodontal health was generally poor in deaf blind children, they had significant gingival inflammation. In another study, the deaf and dumb children were found to have periodontal pockets with loss of attachment score of 91.7%.¹⁰

Educational research has shown that simple incentives and reinforcement by professionals can encourage these young children to change their attitudes about oral hygiene maintenance measures.¹¹ Accordingly in our study, a conservative approach was adapted without any intervening dental treatment. Children were given basic dental health awareness, through specially designed, encouraging presentations; parents/teachers cooperated and helped us to deliver the message more precisely through their language of perception i.e.

sign and symbol language. Emphasis was given to teach them the importance of tooth brushing with proper tooth brushing methods; it has been shown that tooth brushing like other habits can be positively reinforced in these children through behavior management techniques like tell-show-do approach and protective stabilization.¹² When after 45 days, these selected children were again re-examined for their oral health status, marked improvements in their gingivitis reflected that proper awareness could largely bring a change in their oral hygiene status. Reason behind these contrasting results could largely be attributed to the communication barriers between these hearing and speech impaired children and the dental professionals. Most important concern in our study was to make sure that these hearing and speech impaired children must understand what was meant to teach them, because children with hearing impairment are one important group deprived of good oral health due to communication barriers.¹³ Because of which these children and their parents/caregivers feel hesitant to visit their doctor on a regular schedule. This finding is consistent with a study¹⁴, where 46% of the children with disability had difficulty in seeking dental care and 55% of those with disabilities had unmet dental needs. Lack of sign language and of awareness training among health service staff and shortage or absence of aids to communication have also been pointed out. Difficulties may then continue in consultation. Lip readers may be hampered by doctors looking at computers or wearing masks. Thus doctor-patient relationship usually fails to develop. Emphasis must be given on how to improve communication with deaf children.¹⁵

A study has highlighted the importance of involving parents/caregivers during treatments and when giving oral hygiene instructions to the children with hearing impairment.¹⁶ Parents' involvement makes them take greater responsibility for their child's oral health. That was the reason why the parents/caregivers were involved in this study.

A study states that ideal prophylactic measures must aim not only at improving the oral health during the period of investigation, but also in improving the conditions later in life.¹⁷ Any motivation to improve oral health should be efficient and appropriate to the target groups. This is only possible when the needs of the target groups are identified precisely.

CONCLUSION

This study shows that these hearing and speech impaired children have inadequate awareness about dental health care. Comprehensive oral health awareness and education can largely bring a

change in their knowledge, attitudes and practices in maintaining and caring for their dental health.

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AUTHORSHIP AND CONTRIBUTION DECLARATION

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