

Oral Health Status of Deafness Persons in Sulaimani city-Iraq

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Abstract:

Introduction: There is no information available regarding the dental health care and needs of hearing-impaired individuals. Such information is important to improve the oral health in these special need persons.

Aims and Objects: The aims of this study are to check the oral health status and determine attitude of hearing-impaired person toward dentistry.

Materials and Methods: A hundred hearing-impaired volunteers were screened in Basic Hewa Institute for hearing impaired and the oral hygiene status were checked by group of dentist at the same time. The attitudes of participants toward dental health were collected interview questionnaire.

Results: The data of this study shows that most of hearing-impaired participants have good to fair oral status (90%) and 81% of them have tooth brushing at least once a day. Family shows to have great impact of these people on their attitude about oral health (50%) followed by advice from school (28%). Finally, Majority of the participants tends to rely upon themselves for their oral hygiene measures.

Conclusion: The findings of this study revealed that despite the hearing difficulty, These people managed to keep their oral health status at good levels and a little extra care by the parent or caretaker regarding oral hygiene can give further improvement.

Keywords: Deafness, Oral health.

I. Introduction

The World Health Organization defined Health as “a state of complete physical, mental, and social well-being, rather than solely the absence of disease”¹. Oral health has been defined as “the standard of health of the oral and related tissues which enables an individual to eat, speak and socialize without active disease, discomfort and embarrassment and which contributes to general well being”. Oral health has strong biological, psychological and social consequences because it affects their beautifulness and communication, and quality of life is affected by oral health status². Good oral health is important for proper mastication, digestion, appearance, speech and health. Oral health is linked to happiness and good general health and there is evidence that aesthetically unacceptable and functionally unsatisfactory dentitions affect self-esteem, confidence and socialization³.

The disabled form a substantial section of the community, and it is estimated that there are about 500 million people with disabilities worldwide. About one in 600 neonates have congenital hearing loss and about 1-3 in 1000 neonates have congenital visual impairment⁴. Studies pertaining to the oral health status of the handicapped individuals in the past few decades have shown that though the handicapped children start their life with teeth and gums that are strong and healthy as that of normal children, however their diet, eating pattern, medication, physical limitations, lack of cleaning ability and the attitude of their parents and the health care providers all contribute to the poor oral health⁵.

Dental caries or periodontal diseases are not a priority of the disable student's families⁶. Dental caries is a rapidly emerging oral health problem amongst the children and it is significant yet a preventable public health problem. It is the most common chronic disease of childhood that interferes with normal nutrition intake, speech, self-esteem and daily routine activities, because the caries pain adversely affects the normal food intake. This results in underweight children with abnormal cognitive development. Some of the most important reasons of high caries prevalence may be inadequate recall systems, practical difficulties during treatment sessions, socioeconomic status and underestimation of treatment needs, communication problems and poor cooperation.

There have been no published reports on the dental health status deaf persons in Sulaimani city-Iraq. Such information is important for appropriate policy decisions to improve the oral health of these special need groups. The purpose of the present study was to determine the oral health status, attitude among deaf person in Suliamani city-Iraq. The data obtained will increase our knowledge regarding the oral health condition of Sulaimani deafness subjects.

II. Materials And Methods

The study was conducted among Basic Hewa Institute for hearing impaired in Sulaimani city from kinder garden children to ninth basic class. The sampling technique was convenience. All deaf children attending the governmental institute "male and female" from kinder garden to 9th grade were included. Any child with combined disability was excluded. An interview questionnaire was carried out amongst students in the classroom. The clinical exam forms were attached to the questionnaires. Each student keeps the questionnaire with him/her for the examiner to record the clinical exam on the same form.

Before undertaking periodontal examination, volunteers with medical and dental history that might affect oral hygiene performance. Periodontal examination was performed on Ramfjord teeth, the six teeth of Ramfjord were examined for the presence and absence of dental plaque and bleeding upon probing using Michigan dental probe⁷. The facial, lingual, mesial and distal surfaces of every tooth were examined for dental plaque and bleeding. If any tooth missed, the adjacent tooth was examined instead. The means of dental plaque and gingival bleeding were calculated by dividing the sites that exhibit dental plaque or gingival bleeding by total number of sites.

The interview questionnaire included questions about the oral health status, the mode of tooth cleaning, the means used for cleaning teeth, when and who help if needed, the use of dentifrices, the use of dental floss and the tooth cleaning frequency, methods used for brushing, visit to dentist (The reason behind seeking the dentist was also assessed for check-ups or pain only) and how they learned to brush their teeth (from school, television, and home). An educational health program was done to the school students through oral short story, data show and models. Ethical approval was obtained from the Poly-technic University Research Ethics Committee. The data analysis was carried out by SPSS software version 16. T-test and one-way ANOVA used to compare between groups. P-value of ≤ 0.05 considered as statistically significant.

III. Result

A total of 100 hearing-impaired participants (44 males- 56 females) aged between 6yrs to 22 years from Basic Hewa institute Upon the field trips were recruited. A part from these 100 subjects, eleven volunteers were excluded as they had multiple disability. The participants were examined for Plaque index, bleeding index and presence or absence of calculus were recorded (Table 1) and information on oral hygiene practice, attitude were collected by an interview questionnaire. They were divided into three age groups (as shown in table 2). Majority of participants were belongs to age group of 16 years and above. Each child had interview questionnaire regarding oral hygiene practice, attitude and knowledge.

Mean Plaque index was 1.33 ± 0.67 it was statistically significantly higher in age group of ≥ 16 years than the other two group. However, no statistical significant differences were found between genders. On the other hand, More than three quarter of participants (78%) had plaque index of 1-2, whereas, 16% of them had maximum plaque index and only 6% of them had plaque index of 0-1 (Fig. 1).

The prevalence of calculus and bleeding were 30% and 20%, respectively (Fig 2). Just above half percent (52%) of them had a good oral hygiene, while 40% of hearing-impaired volunteers had poor oral hygiene (Fig. 3). Furthermore, majority of participants (78%) doing their teeth brushing by their own and 14% of them need help from their mother (Fig. 4). The data revealed that all participants had tooth brushing and 50% of the had the brushing twice a day, while, 34% of them had the brushing once a day and more interestingly 16% of them had brushing more than twice a day. On the other hand, family seems to have a great impact on educating hearing-impaired subjects (50%) followed by school (28%), TV (8%) and 14% from other non-specified sources. Vertical technique of brushing shows to be slightly higher (%52) than horizontal technique (%48). Majority of hearing-impaired participants (70%) were not use floss as a mean of cleaning their teeth and it is also shown that 64% of these participants had visit to dentist on regular basis.

IV. Discussion

The greatest challenge that people who are handicapped have had to face has been society's misperception that they are a "breed apart", because historically they have been pitied, ignored or even hidden away in homes and institutions. Providing health care services for individuals with the special health care needs of these handicapped individuals will continue to be a challenge in the 21st century. Although these handicapped (hearing-impaired) subjects are entitled to the same standards of health and care as the general population, there is evidence that they experience poorer general and oral health, and have unmet health needs and a lower uptake of screening services⁸. Oral health and quality oral health care contribute to holistic health, which should be a right rather than a privilege⁹.

It was seen in the institutes for hearing-impaired that the number of females was higher than that of the males. Among 100 subjects, 56 (56%) were female and 44 (44%) were male and this is not in line to the study carried out by Manish et al 2013¹⁰. This may be attributed to the fact that females attend school more than males

this may be contribute to the educational development of a family. Regarding plaque index of both gender 1.34/1.33 respectively. Also the age group distribution revealed significant difference between age groups.

Plaque index was 78% have 1-2 soft debris accumulation while 16% have >2-3 soft debris accumulation and only 6% have 0-1 soft debris accumulation, also 30% had calculus and 20% of them had bleeding on probing, this might because the oral health of hearing impaired individual may be neglected because they focus on their disabled condition, other than the disease(s), or this might be related to the fact that brushing need a skill that can be achieved mainly when the subject has dexterity to manipulate toothbrush. So we need to improve the education modalities to prevent ways of oral disease and permit for the hearing impaired to apply it perfectly. As shown the prevalence of calculus is higher than bleeding and this can be explained by the fact that the calculus is not the main etiological factor of inflammation^{11,12}.

In his study most of the individuals found that have good oral hygiene 52%, but at the same time 40% of students poor oral hygiene also 8% of them fair oral hygiene this may be due to lack of manual coordination or they may be reduced concern for his or her appearance¹³ or could be attributed to lack of assistance or supervision of care givers during performance of oral hygiene practices. This is not in accordance to what is reported by Vignehsa et al¹⁴ that showed the hearing-impaired subjects had mainly poor oral hygiene, this might be due to that these subjects in this institute had intensified daily brushing dental personnel, developed self-help workshops, provided effective staff training, or by a combination of all these approaches¹⁵.

The interview questionnaire revealed that 78% they are independent in brushing their teeth without any help, while 14 helped by mothers and 6 % helped by father while 2% helped by sister and only 30% use dental floss and 70% never use dental floss. Because most of the individuals above 10 years old they don't need help for brushing of their teeth only few of them need help because they may be didn't learn to brush their teeth properly. Brushing Frequency revealed that 34% brush their teeth once per day and also 50% brush their teeth twice per day while 16% brush more than twice and 52% of students use vertical brushing method while 48% of them use horizontal brushing method.

V. Conclusion

The present study shows although this study population had hearing impairing, that did not further deteriorate the oral health status. A little extra care by the parent or caretaker regarding oral hygiene can give great impact toward better oral health status. Further studies recruiting more subjects and have control group to compare normal are necessary.

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Table 1: Mean and standard deviation of plaque index according to gender.

| Gender | No. | PI (mean) | Std. Deviation | P-value (t. test) |
|--------|-----|-----------|----------------|-------------------|
| Male | 44 | 1.34 | 0.64 | 0.5 |
| Female | 56 | 1.33 | 0.71 | |
| Total | 100 | 1.33 | 0.67 | |

Table 2: Mean and standard deviation of plaque index according to age groups.

| Age groups | No. | Plaque index (mean) | Std. Deviation |
|------------|-----|---------------------|----------------|
| 6-10 | 34 | 1.14 | 0.342 |
| 11-15 | 20 | 1.01 | 0.7708 |
| ≥16 | 46 | 1.62 | 0.72506 |
| Total | 100 | 1.33 | 0.67644 |

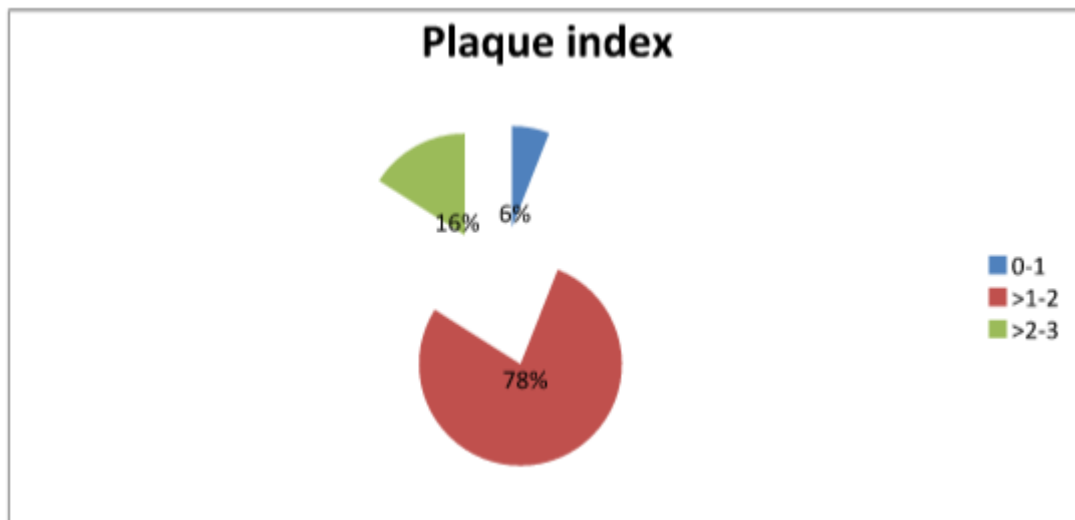


Figure 1: The percentage of plaque scores in study population.

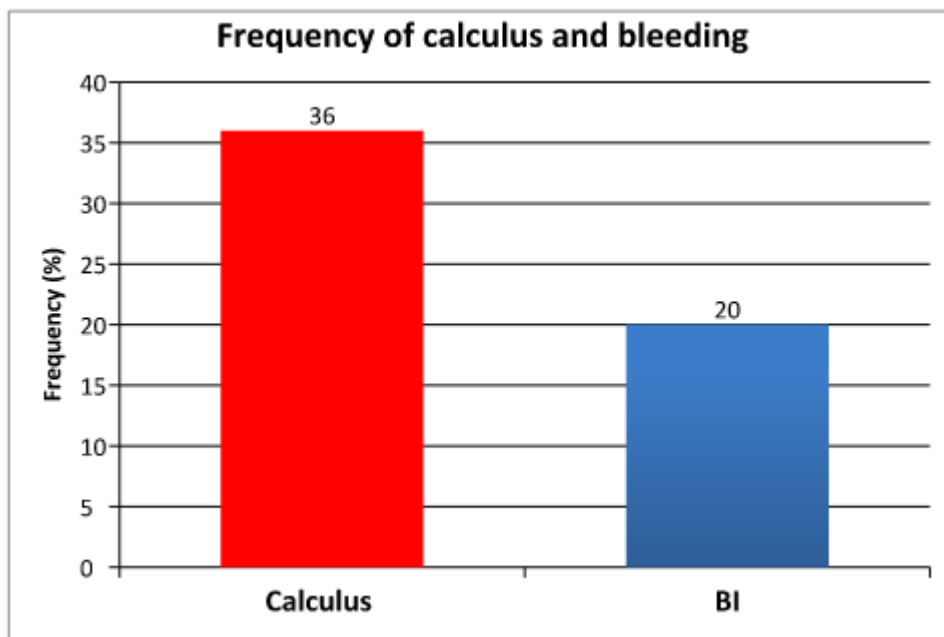


Figure 2: Prevalence of calculus and bleeding amongst the participants.

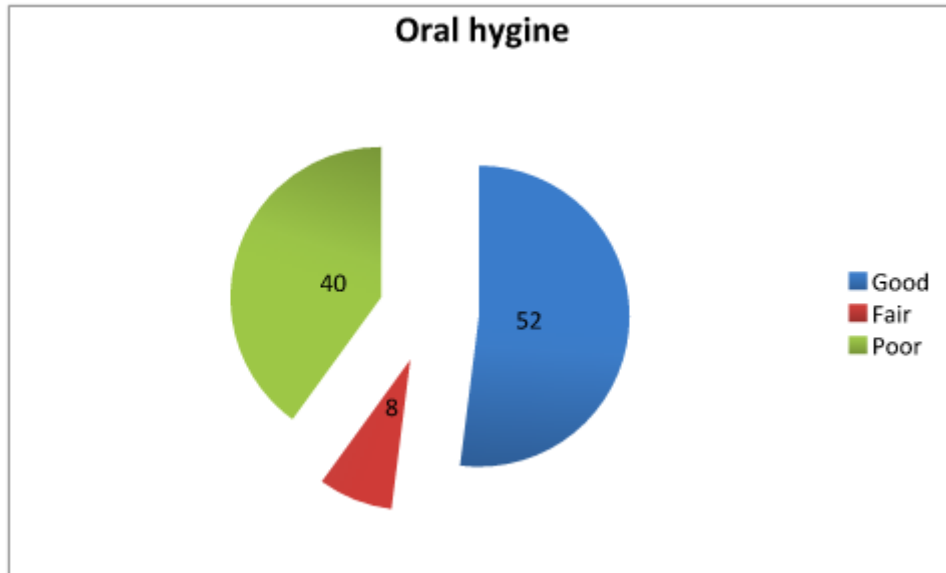


Figure 3: Distribution of oral hygiene among the participants.

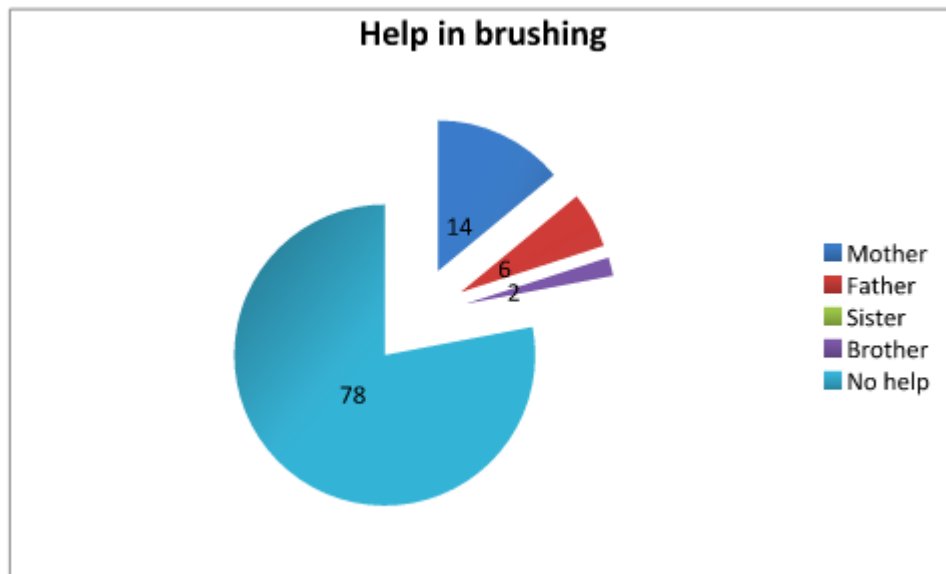


Figure 4: The prevalence of tooth brushing by help from others or not.