Oral health status and treatment needs among institutionalized deaf children in the middle region of Iraq.

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Abstract:

A deaf child from birth has experienced disturbed learning which affect his/her intellectual skills, social environment and emotional relation ship. There fore this oral health survey was conducted among 519 deaf persons and 532 students aged 5-16 years in the middle region of Iraq (Baghdad, Anbar, Diyala, Salah AlDeen, Bayblon and Kerbala). The purpose of this study was to investigate and compare the oral health status and treatment needs of deaf persons and students in the same geographical area. Results showed that 40.66% of deaf persons were caries free compared to schools students 33.46%; dmfs mean value of deaf persons was found to be lower (3.935 ± 0.312) than that of students (4.252 ± 0,277) while DMFS mean value in deaf persons was higher (0.763 ± 0.095) than that recorded in students (0.603 ± 0.081) with no statistically significant difference. Higher percentage of deaf person and schools students were found in need of two or more surface restoration 30.44% , 40.23% respectively. Deaf persons demonstrated a higher mean plaque index value (1.056 ± 0.012) and gingival index value (1.098 ± 0.914 ± 0.012) respectively, so efforts should be made to ensure access to preventive care.

Key words:

Deaf children , Dental caries , Dental plaque , Gingivitis

Intruduction:

Although in recent years there have been an increasing concern a bout the problem of providing oral health care to disable population by dental profession but there is agreement that the dental care of disabled children is still neglected [1,2].

A person is said to be deaf if she or he has a sever hearing loss with a little or no residual hearing to enable him or her to understand speech successfully even with a hearing aids. [3]

It has been knowledge that the amount of dental disease in disabled subjects may not be markedly different from that found in normal subjects but the level of untreated diseases are often much higher. [4,5]

Different studies conducted in Baghdad city concerning different dental problems among physically, mentally, blind medically compromised and deaf children. [6,7,8] So the aims of this cross-sectional study were to assess the distribution and severity of dental caries experience, treatment needs , gingival health condition of deaf persons according to gender in comparison to students in the same geographical area .

Materials & methods:

The sample in this study consists of 519 (319 males), (200 femals) deaf persons and 532 (322 males) (210 females) students at 5-16-years of age, which was recorded

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according to last birthday, Permission was obtained from the Ministry of Work and Social Affaires and the Ministry of Education of Iraq. The whole children and adolescents in institutions in five governorates were examined (Anbar, Babylon, Diyala, Kerbala and Sala AL-Deen). In addition to four instiuions were randomly selected from Baghdad two from each sector. (Adhymia, Karrada. AL-mansour, and Hay ALAmel).

Examination of subjects was conducted in each institution and school. Utilizing a portable chair under standardized condition , plane mouth mirror No (4) were used along with CPI probe (WHO, 1997) [9]

Also sickle sharp explorers No. 00 were used. Containers one for used instruments, other for sterilizing instrument. Communication with deaf persons achieved by using sign language with assistance of the teacher. Dental caries and treatment needs were recorded as DMFS/dmfs described by (WHO 1997)[9] Radiographic was not used due to difficulties. Dental Plaque, dental calculus were recorded using the criteria reported by Silness and Loe (1964) [10] Ramfjord (1959) [11] respectively. Gingival health condition was assessed using gingival index by Loe and Silness (1963). [12]

The data were analyzed using Z-test, student t-test. confidence level was accepted at level of 5% and above

Results:

Results showed that the percentage of caries free deaf persons (40.66%) were higher than that seen in schools students (33.46%), this difference was found to be statistically significant (Z= 2.416, P< 0.02). Total males and females demonstrated a higher percentage of caries free in institutions than schools, however differences were found to be statistically not significant (Table 1).

Table (1): Distribution of Caries Free Deaf Persons and Students in the Middle Region of Iraq.

Institutions			Schools		
Gender	No	%	Gender	No	%
Male	134	42.01	Male	112	34.78
Female	77	38.50	Female	66	31.43
Total	211	40.66	Total	178	33.46

The total dmfs mean value of deaf persons was found to be lower (3.935 ± 0.312) than that of students however no statistically significant differences was recorded. In both institutions and schools decayed fraction (ds) of dmfs contributing the major part, 2.987 ± 0.214 , 3.791 ± 0.239 respectively, followed by missing surfaces (ms) due to caries while mean of filled surface (fs) was the lowest as seen in (Table 2). DMFS mean value was recorded to be higher in deaf persons (0.763 ± 0.095) than students (0.603 ± 0.081) with no statistically significant differences (Table 3).

Table (2): Caries Experience dmfs Mean ± Standard Error of Primary Teeth in Institutions & Schools in Middle Region of Iraq

	Gender	ds	Ms	fs	dmfs
Institutions	Male	3.097± 0.297	1.082± 0.211	0.000 ± 0.00	4.179 ± 0.435
	Female	2.810± 0.291	0.725± 0.249	0.010 ± 0.007	3.545 ±0.41
	Total	2.987± 0.214	0.944± 0.161	0.004 ± 0.003	3.935 ± 0.312
	Gender	ds	Ms	fs	dmfs
Schools	Male	3.944± 0.340	0.419± 0.111	0.084 ±0.039	4.447±0.391
	Female	3.557±0.309	0.310±0.107	0.086±0.052	3.952±0.365
	Total	3.791±0.239	0.376±0.079	0.085±0.031	4.252±0.277

Table (3): Caries Experience DMFs Mean ± Standard Error of Primanent Teeth in Institutions & Schools in Middle Region of Iraq

	Gender	Ds	Ms	Fs	DMFs
Institutions	Male	0.599±0.107	0.219±0.073	0.050±0.034	0.868±0.133
	Female	0.357±0.082	0.175±0.082	0.045±0.024	0.595±0.125
	Total	0.513±0.073	0.202±0.055	0.048±0.023	0.763±0.095
	Gender	Ds	Ms	Fs	DMFs
Schools	Male	0.335±0.067	0.155±0.058	0.078±0.026	0.568±0.099
	Female	0.305±0.067	0.167±0.078	0.186±0.064	0.657±0.138
	Total	0.323±0.048	0.160±0.047	0.120±0.030	0.603±0.081

DS mean value contributes the major component of DMFs value a higher (DS) mean value was recorded in deaf persons than students, this difference was found to be statistically significant (t= 2.173,df=1049, P<0.05). Total males demonstrate a higher (Ds) value in institutions than schools, this difference was found statistically significant (t= 2.093, df= 639, P <0.05)

Although the mean of (MS) value was higher in institutions than schools but with no statistically significant differences, the mean (Fs) value was lower in institutions than schools, this difference was not proved to be statistically significant. Total females demonstrate a higher (Fs) value in schools than institutions with statistically significant difference (t=2.012, df=408, P<0.05).

Results revealed that two or more surface restoration was the highest treatment needed both in schools and institutions (40.23% 30.44%) respectively, while the least was in need of partial denture (Fig 1) Deaf persons demonstrated a higher mean plaque index value (1.056 ± 0.012) compared to students (0.891 ± 0.012), this difference was found to be statistically highly significant (t=9.522, df=1049 P<0.001).

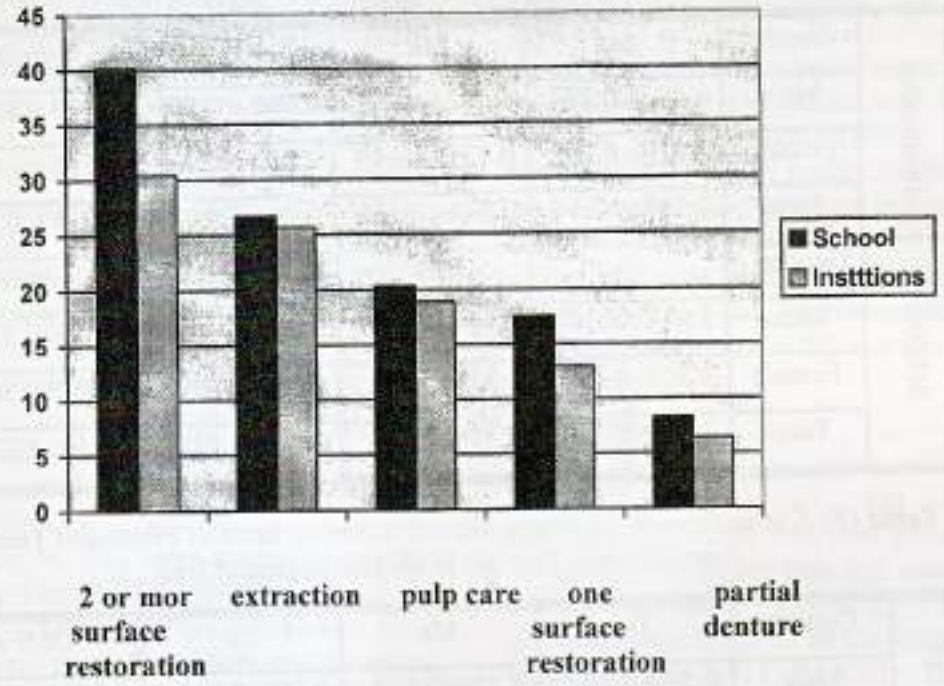

Figure (1): Treatment needs of Dentition Status Among Institutions & Schools

Deaf males and females had a higher plaque index mean than students and this differences were found to be statistically highly significant respectively (t=7.766, df=639, P<0.001, t=5. 504, df=408, P<0.001) respectively (table 4), from the same table results revealed that total means of calculus index were found to be more or less similar in institutions and schools with no statistically significant differences. were recorded.

Table (4): Plaque, Gingival and Caleulus Indxes Mean and Standard Error of Mean of Institutions & Schools in Middle Region and Iraq

	Gender	Plaque index mean	Gingival index mean	Calculus index mean
Institutions	Male	1.076 ± 0.016	1.116 ± 0.018	0.022 ± 0.006
	Female	1.025 ± 0.020	1.068 ± 0.021	0.012 ± 0.004
	Total	1.056 ± 0.012	1.098 ± 0.014	0.018 ± 0.004
Schools	Gender	Plaque index mean	Gingival index mean	Calculus index mean
	Male	0.899 ± 0.016	0.926 ± 0.016	0.017 ± 0.005
	Female	0.878 ± 0.018	0.897 ± 0.019	0.010 ± 0.004
	Total	0.891 ± 0.012	0.914 ± 0.012	0.014 ± 0.003

. A higher mean of gingival index was recorded in deaf persons (1.098 ± 0.014) than that recorded for schools (0.914 ± 0.012), this difference was found to be statistically highly significant (t=10.098, df=1049., P< 0.001) respectively..

Deaf males and females had a higher gingival index mean than students with a highly statically significant differences were recorded (t=8.029, df=639, P< 0.001, t= 6.110, df= 408, P<0.001) respectively.

Discution:

Two of the greatest problems facing the deaf child are his education and his integration into the society of his hearing peers. The best education must be given and this is achieved by well trained teachers in methods of imparting knowledge and skills that lead to get the obstacles presented by the child's disability. Results showed that 40.66% of deaf person are caries free and this percentage was more than that reported in Kuwait (4). In schools 33.46% of students were caries free and this finding was slightly higher than that reported by AL- Ganabi (2003) (13) in middle region of Iraq. Since there was no statistically difference between both groups in caries severity this indicate that both group exposed to similar environmental factors. Decayed surfaces were the major component of dmfs/DMFs and these findings were in agreement with AL-Ganai (1995) (7) on deaf persons and Ahmed 2002 (14) on normal students and this explains the high percentage of the sample in need of two or more surface restoration. Missing surfaces were greater than filled surfaces, this indicate that deaf persons and students are receiving less dental care and they tend to have extraction rather than restorative treatment. Deaf males and females showed a higher mean of plaque and gingival index than set students. This may be related to the parents of deaf children more concerned about hearing problem of their child and neglect their oral health status. So majority of deaf persons and students need instruction for good oral hygiene and others were found in need of scaling and polsihing finally those with hearing impairments are reported to experience impairments are reported to experience significant problems in accessing health care and in communicating with doctors, lack of sign language and awareness training among health services staff and the shortage or absence of aids to communications have also been pointed out.

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