Periodotnal health status and treatment needs among Iraqi dental students

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Summary:

Background: periodontal disease are the major risk factors for tooth loos in aged persons. Clinically, patients with gingivitis or periodontitis usually suffer from gingival bleeding and periodontal probing.

Material and method: The human sample consisted of five hundred and ninety eight students, 208 males and 390 females. Russel's periodontal index (PI) plaque index (PI. I) and the periodental treatment need system (PTNS) were scored.

Results: The mean PI and P1.I for males were 1.94, 1.72 respectively. For females the corresponding values were 1.73. 1.49. From the total sample 2.4% males and 6.1% females were in no need of periodontal therapy.A comparison between first and final year students showed for all indices used a statistically highly significant differences (P<0.01).

Conclusions: Although an improvement in all indices does occur, but still more emphasis should be placed on prevention through out the dental on curriculum.

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Introduction:

Bacterial plaque is generally accepted as the predominant etiological factor in periodontal disease and is also regarded essential for the initiation of dental caries. (1, 2) Consequently preventive programs of the above mentioned conditions are based on plaque control. Dental students should be convinced that dental caries and periodontal disease are preventable, and should possess the knowledge and conviction of prevetive principles in planning and implementation of programmers and possess leadership in this aspect.(3,4) An attempt was made to measure the periodontal disease and oral hygiene level of Iraqi dental students and also to compare the results from first and fifth (final) year students to find out if they are practicing effectively the dental health regimes they are taught during their training period. Periodontal treatment need was recorded to guide the students on the type of periodontal treatment required.

Materials and Methods:

Five hundred and Ninety Eight Iraqi Dental Students, (208 males and 390 Females), were included in the study. All examinations and recordings were performed by the authors who have been previously calibrated. Oral examinations were carried out in the dental school, under standard conditions, using plane mouth mirrors, Willam's periodontal probes and artificial light. All teeth were examined with the exception of third molars. The treatment required was measured by the periodontal treatment need system (PTNS) (Johansen etal (1973), the periodontal condition was assessed by Russell's (1956), periodontal index (PI) and oral hygiene was evaluated by mean of the plaque index (PLI) (Silness and Loe, 1964). PTNS, PI and PIT indices were classified according to their scores among males and females and the percentage distribution was calculated. Statistical methods for analysis of distribution of PTNS, PI and PLI indices were performed by the chi-square test of significance.

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Results:

Total number and percentage of students examined and their distribution by age and sex is shown in Table 1. The number of females were higher than that of males in all age, groups except for the 24 year and above age group. Table 2 and 3 show the frequency distribution of males and females in subgroups of PI and PI.I both tables show highly significant differences (P<0.01). The mean PI and PI.I for males were 1.94, 1.72 respectively while the corresponding value for females were 1.73 and 1.49 respectively. In accordance with the criteria of the PTNS, the number and percentage of student needing different types of treatment are shown in Table 4 from the total sample only 2.4% males and 6.1% females were in no need of periodontal therapy. Comparison of the PI and PLI scores between first and fifth year students are shown in Tables (5) and (6). A highly significant differences among the females were observed for both indices (P<0.01), while there was no statistically significant difference among males (EML05). In Table (7) PTNS among first year student show that 2.39% males and 2.20% females were in no need of peridental treatment, while fifth year 4.17% males and 14.8% females were in no need of treatment. The difference among males was not statistically significant whereas the difference among females was highly significant (P<0.01).

Discussion:

The sample reported upon is a highly selected group, consisting of adult dental students. One might expect that this group has more dental awareness, good oral hygiene and periodontal health than other groups. It is clear from the results presented in this study that most of the dental students did not demonstrate effective oral hygiene. This is in agreement with previously reported studies, Holmgren et al (1994), Christopher et al (1994), Adegbembo and El-Nadeef (1995), Ismail et al (2003). Our findings showed that females students had lower plaque scores than female male students which is also in agreement with others, Mijazaki et al 1991, Locker et al, 2000. In accordance with the criteria suggested for the periodontal treatment needs, 55.4% of female students were in need of scaling and oral hygiene instruction while 67.8% male students were in need of the same treatment. This difference between males and females were highly significant (P<0.01). Most of the subjects in the present study were unaware of their need of periodontal treatment. A statistically significant improvement in plaque scores and periodontal health were found between first and final year dental students. This is in agreement with some other studies (10, 13, and 14). How et al & Davidovich et al (2005) were unable to demonstrate an improvement of roal hygiene between pre-clinical and clinical dental students (Tenenbaum) (1980) El- Qardria and Ta'an (2004). Despite this improvement in oral hygiene and periodontal health still the final year students displayed high scores, which indicate that their training did not appear to have influenced the oral hygiene effectively for all students. From our findings and the findings of other investigators the supposition that dental students have good oral hygiene and periodontal health is not proven. The results of this study confirm the need for extensive and continual exposure of dental students towards prevention and should be started from the first year and continued through out their courses in order that the graduated dentist have ample knowledge and are capable of implementing and maintaining thorough preventive measures for their patients

Table 1. Ag e and Sex distribution expressed as a percentage

	Male		Female	
Age	No.	%	No.	%
18	7	3.36	13	3.33
19	22	10.57	66	16.92
20	30	14.42	63	16.15
21	31	14.90	75	19.23
22	33	15.86	81	20.76
23	30	14.42	65	16.66
24	27	12.98	21	5.38
25	16	7.69	3	0.76
26	10	4.80	3	0.76
27	2	0.96	00	0.00
Total	208	34.78	390	65.21

Table 2. Distribution of males and females in subgroups of periodontal index. Percentage in parentheses

	0.0-0.99	1.00-1.99	2.00-2.99	3.00-3.99	4.00 and Over mean
Males	26 (12.50)	81 (38.94)	98 (47.12)	1 (0.48)	2(0.96) 1.94
Females	92 (23.59)	165 (42.31)	124 (31.79)	6 (1.54)	3(0.77) 1.73
Total	118 (19.73)	246 (41.13)	222 (37.12)	7 (1.17)	5(0.83)

Table 3. Distribution of males and females in subgroups of plaque index. Percentage in Parantheses.

	0.00-0.99	1.00-1.99	2.00-2.99	3.00	Mean
Males	3 (1.44)	96 (46.15)	102 (49.40)	7 (3.37)	1.72
Females	8 (2.05)	263 (67.44)	119 (30.51)	0	1.49
Total	11 (1.83)	359 (60.03)	221 (36.95)	7 (1.17)	

Table 4. Number and percentage of males and females according to the periodontal treatment need system (FINS)

PTNS				
Classification	Males		Females	
	No.	%	No.	%
class 0	5	2.4	24	6.1
class A	37	17.8	117	30.0
class B	141	67.8	216	55.4
class C	25	12.05	33	8.5
Total	208	100.0	390	100.0

Table 5. Distribution of plaque index (PL.I) among first and final year dental students.

First Score	Males		Females		Total		Final Males		Females		Total	
No.	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
0-0.99	—	—	1	1.1	1	0.8	2	4,2	4	5.3	6	4.8
0-1.99	20	47.9	55	60.4	75	56.4	25	52.1	65	85.5	90	72.6
2-2.99	18	42.9	35	38.5	53	39.8	21	43.7	7	9.2	28	226
3	4	9.5	—	—	4	3						
Total	42 100	91 100	133 100		48 100	76 100	124 100					

X^2 First / Final male = 6.415, P>0.05
X^2 First / Final Females= 20.115, P < 0.01
X^2 First / Final Total= 16 , 356, P<0.01.

Table 6. Distribution of periodontal index (PI) among first and final year dental students

Score	Male		Female		Total		Male		Female		Total	
No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
0-0.99	6	14.3	18	19.8	24	18.1	7	14.6	28	36.8	35	28.2
1-1.99	14	33.3	37	40.7	51	38.3	28	58.3	36	47.4	64	51.6
2-2.99	22	52.4	35	38.4	57	42.2	13	27.1	10	13.7	23	18.6
3+			1	1.1	1	0.7			2	2.6	2	1.6

X^2 First / Final male - 6.688, P >0.05
X^2 First / Final Female - 15.185,P <0.01
X^2 First / Final total = 18, 011. P < 0.01.

Table 7. Number and percentage of males and females among first and final year Students, according to the periodontal treatment need system (PTNS) Missed information of two female students.

PTNS Classification	Male				Female			
	First		Final		First		Final	
	No.	%	No.		No.		No.	
Class 0	1	2.39	2	4.17	2	2.20	11	14.86
Class A	6	14.29	19	39.58	20	21.98	42	56.76
Class B	32	76.19	25	52.08	60	65.93	19	25.68
Class C	3	7.14	2	4.17	9	9.89	2	2.70
Total	42	100	48	100	91	100	74	100

References:

1. *Baelum V; Fejeskov and Manji F(1988): periodontal disease in adult Kengans. J. Clin periodontal. 15:445-452.*
2. *Anthony L., Neely R., Thendore R., Hdford L., (2001). The natural history of periodontal disease in Man. Risk factors for progression of attachment loss in individual receiving no oral health care. J. Periodontal: 72:100-1015.*
3. *Adegbembo A.C. and El- Nadeef MA (1995) National survey of periodontal status and treatment need among Nigerians Int. Dent J. 1995; 45:197-203.*
4. *Gamonal JA, Lopez NT and Aranda W. (1998): Periodontal conditions and treatment need by CPITN I n35-44 years old population in Santiago. Int Dent. J; 48:96-103.*
5. *Holmgren CJ, Corbet EF, Live LP (1994): periodontal condition among the middle aged and elderly in Hong Kong community. Dent. Oral Epidemiol; 22: 386-402.*
6. *Christopher H., Fox L., Alan M, Sheila M (1994): periodontal disease among new England Elders. Jof. Periodontal: 65: 676-684.*
7. *Ismail Markoglu, Uliv K, Gursory D. (2003): Periodontal status of chronic renal failorir You Sei Medical Journal, 44(4): 648-652.*
8. *Locker D, Slad GD, Murraytl (2000) Epidemiology of periodontal disease among older adult periodontal 16: 16-33.*
9. *Miyazak H, Pilot T, Leclercg MH (1991) Profiles of periodontal condition in adolescents measured by CPITN. Int Dent. J. 41: 67-73.*
10. *Linda A, Corey, Waltes F, Nance P(1993) reported periodontal conditions in a virgina population. J periodontal; 64: 1205-1208.*
11. *Davidevich E, Schwarz Z, Daridorith M, Bismtein E(2005) oral finding and periodontal status in children addoscetns and xung adults J Clin. Periodontal 32: 1076-82.*

12. El- Qadri SS, Jastak JT., Bennefx MW (2004): Assessment of periodontal knowledge and periodontal status of an adult pepulation in Jordon. Int of Dent Hygiene:2: 132-136.
13. Alexander, A. G.: Dental calculus and becterial plaque and their relationship to gingival disease in 400 individuals. Br. Dent J. 1970: 129: 116-122.
14. Bakdash, M.B. & PROSHEK, J. M.: Oral hygiene status of dental students as related to their personal and academic profiles. J. Periodontal Res. 1979: 14: 438-443.
15. How AT, A. TRABELSY, I. & BRADNOCK, G.: Oral hygiene levels and behaviour in pre-clinal and final-year dental students. J. Clin. Periodntal. 1979: 6: 177-185.
16. Johansen, J.R.Gjermo, P. & Bellini, H.T.: A system to classify the need for periodontal treatment. Acta Odontol. Scand. 1973: 31: 297-305.
17. Lang, N.P., CUMMING, B.R. & LOE, HA: Oral hygiene and gingival health in Danish dental students and faculty. Community Dent. Oral, Epidemiol. 1977: 5: 237-242.
18. Russell, A.L.: A system of classification & scoring for prevalence surveyes of periodontal disease. J. dent Res. 1956: 35: 350- 359.
19. Silness, J. & LOE, H.: Periodontal disease in pergnancy 11. Correlation between oral hygiene and periodontol condition. Acta Odontol. Scand. 1964: 22: 121-135.
20. Tenenbaum, H,: Impact of periodontol course on oral hygiene and gingival health among senior dental students. Community. Dent. Oral Epidemiol: 1980: 6: 335-338.