

Oral hygiene and gingival health among adolescents and adult population (15-44) years in Sharkhan village, Ninevah, Iraq.

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ABSTRACT

The aim of the study is to evaluate the oral hygiene and gingival health and to identify if there is any variation between sex and age group among adolescents and adults population in rural area (Sharkhan Village), in Ninevah Governorate.

A sample of 203 individuals aged 15-44 years (84 males and 119 Females) were examined using plaque index score by Silness and Loe (1964) and gingival index by Loe and Silness (1963). The results show that mean plaque score for the total sample is (1.29), the plaque index was increase with age, the females reported less mean plaque score than male, however, there was no statistically significant difference of oral hygiene by sex. The mean gingival score was moderate (1.26) for the total sample and it was increase with age significantly, the mean gingival score was slightly better in females than males with statistical significant between them.

The study revealed that about (50%) of the total sample did not brush their teeth or brush infrequently. Therefore the objective of dental health education to those subjects is to brush their teeth regularly and to improve the effectiveness of oral hygiene practice.

Key words: Oral hygiene, gingival health, toothbrushing, rural area.

الخلاصة

إن الهدف من هذه الدراسة هو لتقييم حالة التهاب اللثة ونظافة الاسنان وكذلك لمعرفة وجود أي اختلاف بين الجنسين أو الفئات العمرية لمجموعة من الأشخاص المراهقين والبالغين في منطقة ريفية (قرية الشريخان) في محافظة نينوى.

جرت الدراسة على عينة من (203) شخص تتراوح أعمارهم بين (15-44) سنة (84 ذكر و 119 أنثى) تم فحصهم باستعمال دليل اللويحات الجرثومية ودليل التهاب اللثة وتبين من النتائج بأن معدل اللويحات الجرثومية كان (1.29) لمجموع العينة وكان المعدل يزداد مع زيادة العمر ، وان المعدل عند الإناث اقل من الذكور ولكن بدون دلالة إحصائية.

أما معدل التهاب اللثة فكان متوسط (1.26) لمجموع العينة وكذلك ازداد مع زيادة العمر بدلالة إحصائية، وكان المعدل للإناث اقل من الذكور بدون دلالة إحصائية.

ومن خلال نتائج الدراسة ظهر بان حوالي (50%) من مجموعة العينة لا ينظفون أسنانهم أو ينظفون أحيانا ، فان الغاية من التنظيف الصحي لهذه العينة هي تنظيف الاسنان بالفرشاة والمعجون بصورة منتظمة وكذلك تنظيفها بصورة صحيحة وفعالة لتحسين نظافة الاسنان.

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INTRODUCTION

Periodontal disease is one of the major dental diseases and has been shown to have a worldwide distribution^(1,2), and more prevalent among population of the developing countries^(3,4,5) particularly in rural areas^(6,7,8).

As it is generally agreed that oral hygiene is the most important factor for the health of periodontal tissue, the most appropriate oral hygiene habit is by their regular and proper technique of tooth brushing and use other aids^(9,10).

Also there are variable including age^(11,12), sex^(13,14) have significant effect on gingival health and periodontal disease.

So the purpose of this study was to estimate the prevalence of gingivitis and oral hygiene condition and to identify if there is any variation between sex and age group among adolescents and adults population (15-44) years in Sharkhan village.

MATERIALS AND METHODS

The study is conducted in Sharkhan village (rural area) it is (7 Km) far from central city of Ninevah city.

Two hundred and three individuals aged 15-44 years were selected randomly using random cluster sampling technique in which the village divide into 6 Zones and selected 2 Zones randomly and examined all individuals aged 15-44 years in these Zones.

The clinical examinations are carried out in the school in village using dental unit and adequate light. Mouth mirror and WHO periodontal probe was used⁽¹⁾ to detect the dental plaque and gingival health.

The indices used for assessment of dental condition were as follow:

- 1- Plaque index by Silness and Loe⁽¹⁵⁾ to evaluate the oral hygiene of the individuals.
- 2- Gingival index by Loe and Silness⁽¹⁶⁾ to evaluate the gingival health of the individuals.

Additional information relevant to this study were recorded as age, sex, tooth brushing frequency.

The statistical analysis of the data included the mean and standard deviation for plaque and gingival indices. The differences in plaque score and gingival health between age groups and between males and females were tested statistically using student t-test at a level of (0.05) significance.

RESULTS

There were (203) individual comparing (41.4%) males and (58.6%) Females, the population sample are divided into three age groups table (1).

Table (1): The number of individuals distributed according to sex and age groups.

Age group	Male	Female	Total
15 – 24	34	50	84
25 – 34	26	42	68
35 – 44	24	27	51
Total	84	119	203

Table (2) reveals the number of subjects according to the frequency of tooth brushing. The study indicated that about 50% of the sample no brush their teeth or brush infrequently. The females reported more frequently brush the teeth than males, also the younger age groups (15-24) and (25-34) year reported more frequently than older age group (35-44) year.

Table (2): Frequency distribution of subjects according to tooth brushing by sex and age groups.

Age group	Male				Female			
	Never	Infrequent	Once	Twice or more	Never	Infrequent	Once	Twice or more
15 - 24	7	10	11	5	7	13	18	12
25 - 34	7	10	6	3	8	9	14	11
35 - 44	8	7	7	2	8	8	7	4
Total	23	27	24	10	23	30	39	27
%	26.2	32.1	28.6	13.1	19.3	25.2	32.8	22.7

Mean plaque index scores are shown in table (3) according to sex and age groups. The mean plaque for the total sample was (1.29) and the males reported higher mean than females in all age groups and the total except age group (25-34) year with no significant difference between them. The study revealed that the mean plaque is increase with age and there was a significant difference between the age group (15-24) year and age groups (25-34) and (35-44) year.

Table (3): The mean and standard deviation of plaque index according to sex and age groups.

Age group	Male	Female	Total
15 - 24	1.26 ± 0.486	1.10 ± 0.450	*1.16 ± 0.476
25 - 34	1.31 ± 0.545	1.34 ± 0.539	1.32 ± 0.545
35 - 44	1.54 ± 551	1.42 ± 0.419	1.47 ± 0.484
Total	1.35 ± 0.512	1.25 ± 0.432	1.29 ± 0.472

* Significant difference at 0.05 level ($p < 0.05$) between age group (15-24) year and (25-34) , (35-44) year

Table (4) shows the mean gingival score according to sex and age groups. The mean for the total sample was (1.26). Although the males reported higher mean gingival score than females. However the sex difference was not found to be statistically significant while the mean gingival score was increase with age significantly.

The study reveal that only one person female in age group (15-24) year has health gingival (score = 0) and free from dental plaque (score=0) from the total sample.

Table (4) : The mean and standard deviation of gingival index according to sex and age groups .

Age group	Male	Female	Total
15 - 24	1.14 ± 0.465	1.06 ± 343	*1.09 ± 0.450
25 - 34	1.27 ± 0.511	1.34 ± 560	**1.31 ± 0.533
35 - 44	1.53 ± 0.552	1.49 ± 0.410	1.51 ± 0.462
Total	1.29 ± 0.496	1.25 ± 0.462	1.26 ± 0.481

* Significant difference at 0.01 level ($P < 0.01$) between age group (15-24) year and (25-34) , (35-44) year..

** Significant difference at 0.05 level ($P < 0.05$) between age group (25-34) year and (35-44) year..

DISCUSSION

Almost every one how has some natural teeth has chronic periodontal disease. This may be confined to the gingival or gum tissues (gingivitis) or may involve the deeper supporting tissues including the bone (periodontitis).

The periodontal disease is caused by a dental plaque. Plaque initially form at the tooth gum junction and between the teeth. It starts to form quite soon after the tooth surface has been cleaned. It has been shown that careful tooth brushing can keep the teeth free from plaque and maintain the gingival healthy^(9,17).

The tooth brushing data indicated that about (50%) of the total sample didn't brush their teeth or brush infrequently. The finding of this study show that the females (55.5%) reported higher frequency brushes their teeth once or more daily than males (41.7%), specially in younger age group. The percentage of subjects brushes their teeth is in accordance with other studies carried out in Iraq^(6,18) and less than many studies carried out in developed countries^(19,20).

Concerning sex variation in relation to tooth brushing, this study concluded that females reported a better oral hygiene habits than males, while the differences between them was not significant. This finding was in agreement with others^(10, 17, 21, 22).

The mean plaque score for the total sample was moderate (1.29), the plaque index score was increase with age and there was a significant difference between the younger age group (15-24) year and older age group (25-34) and (35-44) year, this finding is in agreement with other studies^(23,24,25,26).

The females reported less mean plaque score than male, however, there was no statistically significant difference of oral hygiene condition by sex, this was in accordance with other studies^(21,23).

Also the mean gingival score was moderate (1.26) for the total sample and it was increase with age significantly, that mean the younger age group have healthy gingival than the older age group this reflect the amount of dental plaque present in these age groups and the frequency of tooth brushing. Because tooth brushing is associated with groping and personal hygiene, so the majority of young subject (15-24) years brush their teeth regularly.

However, the effectiveness of their cleaning is frequently in adequate. This observed from the finding of study that only one female from the total sample has health gingival (score = 0), this would be in keeping with the conclusion that frequency of brushing doesn't necessarily reflect thoroughness⁽²⁷⁾; therefore the objective of dental health education to those subjects is to brush their teeth regular and to improve the effectiveness of oral hygiene practices.

The study shows that the gingival health was slightly better in females than males, this may attributed to more concerning of the females about their looking as well as they consistently more likely to brush frequently than males^(20, 22, 28), however, there was no statistical significant of the periodontal condition by sex. This confirms the finding of other studies carried out in developing countries that reported there was no differences between the sexes in gingival health^(7,29,30,31).

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