

Oral diseases and disorders among sample of elderly patients in Basrah province

Mohanad Jameel Najm B.D.S, H.D.D, M.Sc
Assistant lecturer , College of Dentistry , Basrah University

ABSTRACT

Background: The aim of study was to find out the prevalence of oral diseases and disorders in elderly patients who attending the oral diagnosis department of the College of Dentistry – Basrah University and compare it with the prevalence rates of these lesions in other parts of Iraq and other countries around the world.

Materials and Method: Oral examination of 242 elderly patients, 125 females(51.6%) and 117 males(48.3%) . The patient's age range 60-85 years . All the patients of this study referred to oral diagnosis department, College of Dentistry, Basrah University seeking for dental treatment(from January 2012-May 2012).

Results: The most common oral disorder of the studied populations was hyposalivation, which diagnosed in (45.4%), and there was significant statistical difference between males and females . Among the total study sample 74 (30.5%) of patients were denture wearer. Denture stomatitis was the most common denture related lesions in denture wearer patients (25.6%). The clinical examination revealed that (62.3%) of total elderly patients had at least one oral mucosal lesion, the most common lesion were lingual varicosities which diagnosed in (18.5%)of the study sample, atrophic glossitis (13.2%), frictional keratosis (8.6%), traumatic ulcer (7.8%), recurrent minor aphthous ulceration (6.1%), fibroma (3.7%), lichen planus (2.8%) and leukoplakia (1.6%) consequently.

Conclusions: This study has provided information about the epidemiologic aspects of oral diseases and disorders in elderly patients that may prove valuable in the planning of future oral health studies in Basrah city and in Iraq because oral health is an important factor determining the quality of life in elderly individual.

Keywords: Oral diseases, oral disorders, elderly, prevalence.

الأمراض والاضطرابات الفموية لعينه من المرضى المسنين في محافظة البصرة

م.م. مهدي جميل نجم
كلية طب الأسنان – جامعة البصرة

الخلاصة

لا توجد دراسات منشورة عن مدى انتشار امراض و اضطرابات الفم لفئة كبار السن في جنوب العراق بصورة عامة ومحافظة البصرة على وجه الخصوص وعليه فقد اجريت هذه الدراسة والتي تهدف الى اكتشاف انتشار الأمراض والاضطرابات الفموية في المرضى المسنين الذين حضروا الى قسم التشخيص الفمي في العيادة الخارجية في كلية طب الأسنان - جامعة البصرة ومقارنته بنسب انتشار هذه الأمراض والاضطرابات في أجزاء أخرى من وسط وشمال العراق وبلدان أخرى حول العالم وتوفير قاعده بيانات للدراسات المستقبلية و

لتخطيط برامج مستقبلية لصحة الفم لكبار السن في محافظة البصرة والعراق لأن صحة الفم عامل مهم في تقرير نوعية الحياة في الفرد المسن.

اشتملت العينة على 242 مريض من كبار السن، 125 أنثى (51.6%) و117 ذكر (48.3%). مدى عمر سنوات المرضى من 60-85 سنة. كل مرضى هذه الدراسة حضروا الى قسم التشخيص الفمي في العيادة الخارجية لكلية طب الأسنان- جامعة البصرة طلبا للعلاج (من كانون الثاني 2012 الى مايس 2012). اظهرت النتائج ان الاضطراب الفموي الأكثر شيوعا في عينه المسنين المدروسه كان قلة افراز اللعاب ، الذي شخّص في (45.4%)، وكان هناك إختلاف إحصائي هام بين الذكور والإناث. كما اظهرت الدراسة ان من بين العينة المدروسة الكلية كان هناك 74 (30.5%) من المرضى المسنين يرتدون طقم أسنان كامل او جزئي ، وكان التهاب الفم الناتج من طقم الأسنان المرض الأكثر شيوعا بين الأمراض الفمويه المرتبطه بأرتداء الطقم حوالي (25.6%). كذلك اوضح الفحص السريري للعينة المدروسه ان (62.3%) من المجموع الكلي للعينة كان عنده على الأقل أذى متعلق بالغشاء المخاطي للفم، وكانت حوالي اللسان والتي شخّصت في (18.5%) من عينة المدروسه هي الأذى الأكثر شيوعا المتعلق بالغشاء المخاطي في الفم ، يليه التهاب اللسان الضموري (13.2%) ، تقرن الغشاء المخاطي الأحتكاكي (8.6%) ، تقرح رضحي (7.8%) ، تقرح قلاعي بسيط متكرر (6.1%) ، ورم ليفي (3.7%) ، حزاز مبسط (2.8%) ، واخيرا اللطاخ الأبيض (1.6%).

Introduction

Perhaps the most important change in the distribution of global population has been the growth in the proportion of elderly people.⁽¹⁾ The elderly constitute an important part of the general population. With increasing life expectancy in most parts of the world, the population of the elderly is increasing concomitantly. The world's population of persons aged 60 years and above increases by about a million every month and by the year 2035, it is projected that the elderly will constitute one in every four persons.⁽²⁾

Geriatric dentistry is a specialized multidisciplinary branch of general dentistry designed to provide dental services to elderly patients. Old age is not a disease in itself, but the elderly are vulnerable to long term diseases of insidious onset such as cardio vascular illness, diabetes, musculoskeletal and mental illnesses. They have multiple symptoms due to decline in the functioning of various body functions.⁽³⁾

Older adults are more susceptible to oral conditions or diseases due to an increase in chronic conditions and physical/mental disabilities.⁽⁴⁾ Aging affects oral tissues, as any other part of the human body. However, many age related changes apparent in mouth and in the functions of the stomatognathic system are secondary to extrinsic factors, other than age per se.⁽⁵⁾

Only limited information on oral health in elderly patients in Iraq is available and there are no data or epidemiological studies on oral health in elderly patients in any southern city of Iraq so this study was conducted to assess oral diseases and disorders in elderly patients in Basrah city which was considered as the largest city in south of Iraq, to provide information about the epidemiological

aspects of oral diseases and disorders in elderly patients that may prove valuable in the planning of future oral health studies in Basrah city and in Iraq because oral health is an important factor determining the quality of life in elderly individual.

Subjects and method

Subjects: A total of 242 elderly patients, 117 males(48.3%) and 125 females (51.6%). the patient's aged 60 years and above who attend the oral diagnosis department, College of Dentistry, Basrah University seeking for dental treatment

(from January 2012-May 2012), they were examined to detect the oral health status including denture related lesions, hyposalivation ,burning mouth syndrome and oral mucosal lesions.

Methods : An interview was conducted to collect information using a questionnaire which was completed by each patient and the examiner. The questionnaire include: Age , gender, socio-economic status, general medical status of the patients, systemic diseases, drugs used, oral hygiene ,the type and length of time of denture wearing, habits, alcohol and tobacco consumption.

The questioner include the following questions to help to identify people with, or at risk of developing salivary gland hypofunction:

Does the amount of saliva in your mouth seem to be too little, too much or you do not notice it?

Do you have any difficulties swallowing?

Does your mouth feel dry when eating a meal?

Do you slip liquids to aid in swallowing dry food? ⁽⁶⁾ .

After that a clinical examination was performed by the researcher using artificial light, mouth mirror, and sterile gauze ; the diagnosis was made based on history, clinical feature and laboratory investigations, according to the WHO guidelines.⁽⁷⁾ Some of the mucosal changes were diagnosed solely by clinical examination (e.g. traumatic ulcer, aphthous ulcer, etc.). When clinical feature were not diagnostic, a biopsy were performed to establish an accurate definite diagnosis (e.g. fibroma, lichen planus, leukoplakia,etc).

Results

The study sample consisted of 242 elderly patients and there were 117 (48.3%) males and 125 (51.6%) females. The patients age range between 60-85years, The patients were divided into three age groups (60-69 years,70-79 years and 80 years and older). The mean age of the total sample 72.5years and the mean age of males 71years and for females 72.5 years. The table (1) shows the age distribution by gender of the sample.

The most common systemic disease among the patients in the study sample was hypertension (49.1%), The second most common systemic disease was diabetes mellitus (44.2%). Many cases had more than one systemic diseases in the same patients. Table (2) shows the frequency of systemic diseases in the study sample.

Hyposalivation was the most common oral disorder in the study sample, which observed in 110 (45.4%) and there was significant statistical difference between males and females ($p < 0.05$). Burning mouth syndrome were observed in 38 (15.7%). as shown in table (3).

Among the total study sample 74 (30.5%) of patients were wear denture 29 males and 45 females (who either wear of partial or complete dentures) , and 35 (47.2%) of denture wearer patients had at least one denture related lesions. Denture stomatitis was the most common denture related lesions in denture wearer patients (25.6%) followed by angular cheilitis (18.9%) and epulis fissuratum (2.7%) ,there were a significant statistical difference between males and females in both of denture stomatitis and angular cheilitis ($p < 0.05$) as shown in table (4).

The clinical examination revealed that (62.3%) of total elderly patients had at least one oral mucosal lesion, the most common lesion were lingual varicosities which diagnosed in (18.5%) of the study sample, atrophic glossitis (13.2%), frictional keratosis (8.6%), traumatic ulcer (7.8%), recurrent minor aphthous ulceration (6.1%), fibroma (3.7%), lichen planus (2.8%) and leukoplakia (1.6%) consequently as shown in table (5).

Table (1) Age and gender distribution of the sample

Age group	male		female		total	
	N	%	N	%	N	%
60-69	91	37.6	83	34.2	174	71.9
70-79	24	9.9	37	15.2	61	25.2
80 and older	2	0.8	5	2	7	2.8
total	117	48.3	125	51.6	242	100%

Table (2) Number and percentage of systemic diseases in the study sample

Systemic disease	N	%
Hypertension	119	49.1
Diabetes mellitus	107	44.2
Arthritis	73	30.1
Ischemic heart disease	23	9.5
Asthma	18	7.4
Other diseases	8	3.3

Table (3) Distribution of the oral disorder in the sample

	male		female		total		X ²
	N	%	N	%	N	%	
Hyposalivation	43	17.7	67	27.6	110	45.4	X ² =6.92 d.f=1 p<0.05
Burning mouth syndrome	15	6.1	23	9.5	38	15.7	N.S

Table (4) Distribution of denture related diseases in patients wear dentures in the study sample

	male		female		total		X ²
	N	%	N	%	N	%	
Denture stomatitis	12	16.2	7	9.4	19	25.6	X ² =6.61 d.f=1 p<0.05
Angular cheilitis	9	12.1	5	6.7	14	18.9	X ² =4.56 d.f=1 p<0.05
Epulis fissuratum	1	1.3	1	1.3	2	2.7	N.S
Total	22	29.7	11	14.8	35	47.2	

Table (5) Distribution of the oral mucosal lesions in the sample

Type of mucosal lesion	male		female		total		X ²
	N	%	N	%	N	%	
Lingual varicosities	27	11.1	18	7.4	45	18.5	N.S
Atrophic glossitis	12	4.9	20	8.2	32	13.2	N.S
Frictional keratosis	14	5.7	7	2.8	21	8.6	N.S
Traumatic ulcer	7	2.8	12	4.9	19	7.8	N.S
Recurrent aphthous ulcer	9	3.7	6	2.4	15	6.1	N.S
Fibroma	3	1.2	6	2.4	9	3.7	N.S
Lichen planus	2	0.8	5	2	7	2.8	N.S
Leukoplakia	3	1.2	0	0	3	1.6	N.S
Total	77	31.8	74	30.5	151	62.3	N.S

DISCUSSION

Oral disorders

This study show that hyposalivation and dryness of the mouth is the most common oral disorder in the study sample (45.4%), because xerostomia is the most common side effect of most of the drugs specially antihypertensive drugs and our study show that hypertension is the most common systemic disease in the study sample which observed in (49.1%) of the study sample.

The result of hyposalivation of our study was comparable to that found by Rabiei et al ⁽⁸⁾ in elderly population in Rasht ,Iran(42.1%). But less than that reported by Al-Aswad ⁽⁹⁾ in elderly people in Baghdad, mid part of Iraq (72%), Desai and Priyadarshini ⁽¹⁰⁾ (57.9%) in old age population in Jaipur, India. And more than that reported by Pajukoski et al ⁽¹¹⁾ of elderly people sample in Helsinki, Finland (57%).

Burning mouth syndrome was diagnosed in(15.7%) of the study sample which is in agreement with the finding of Rabiei et al ⁽⁸⁾ of elderly population in Rasht ,Iran(16.7%), and comparable to that found by Desai and Priyadarshini ⁽¹⁰⁾ (11.9%) in old age population in Jaipur, India and Pajukoski et al ⁽¹¹⁾ in elderly people in Helsinki, Finland (13%). But less than that reported by Al-Aswad ⁽⁹⁾ in elderly people in Baghdad (42%).

The variation in findings of oral disorders could be explained due to : racial factor, geographic factors ,different of sample size, medications used, cultural levels, food types and socioeconomic factors.

Denture related lesions

Among the total study sample (30.5%) of patients were wear denture either wear of partial or complete dentures and (47.2%) of them had at least one denture related lesions which is comparable to that reported by Reichart et al⁽¹²⁾ in aging German population (33%) .But less than that reported by Mozafari et al ⁽¹³⁾ in elderly population in Mashhad ,Iran(91.5%).

Denture stomatitis was the most common denture related lesions in denture wearer patients which observed in (25.6%) and this was comparable to that found by Al-Aswad ⁽⁹⁾ in elderly people in Baghdad, mid part of Iraq (30.2%). But less than that reported by Mozafari et al ⁽¹³⁾ in elderly population in Mashhad ,Iran(54.6%). And more than that reported by Mujica et al ⁽¹⁵⁾ in an elderly venezuelan population (18%).

Angular cheilitis was diagnosed in(18.9%) of study sample this is lower than that of several other studies done by

Mozafari et al ⁽¹³⁾ in elderly population in Mashhad ,Iran (2.5%) ,Espinoza et al. ⁽¹⁴⁾ in an elderly people in Santiago, Chile (2.9%) and Mujica et al ⁽¹⁵⁾ in an elderly venezuelan population (5%).

Epulis fissuratum was diagnosed in (2.7%) and this is much less than that reported by Mozafari et al ⁽¹³⁾ in elderly population in Mashhad ,Iran (30.2%).

In our study there were a significant statistical difference between males and females in denture stomatitis ($p < 0.05$) and this in agreement with that reported by Al-Aswad ⁽⁹⁾ in elderly people in Baghdad, mid part of Iraq (and Mozafari et al ⁽¹³⁾ in elderly population in Mashhad ,Iran.

The variation in the results of denture related lesions may explained due to: duration of denture wearing, denture status, habits, educational levels, diet, socioeconomic levels, smoking, medication used, systemic diseases and different of sample size.

Oral mucosal lesions

The prevalence of oral mucosal lesions in our study was (62.3%) which is comparable to that reported by Mujica et al ⁽¹⁵⁾ in an elderly venezuelan population

(57%) and Espinoza et al. ⁽¹⁴⁾ in an elderly population in Santiago, Chile (53%). But less than that found by Mozafari et al ⁽¹³⁾ in elderly population in Mashhad ,Iran(97.8%) and Motalebnezhad⁽¹⁶⁾ in elderly people in Tehran ,Iran (84%). And more than that reported by Al-Aswad ⁽⁹⁾ in elderly people in Baghdad, mid part of Iraq (48%).

lingual varicosities which diagnosed in (18.5%) of the study sample which is comparable to that reported by Rabiei et al ⁽⁸⁾ in elderly population in Rasht ,Iran(22.7%). But less than that reported by Mozafari et al ⁽¹³⁾ in elderly population in Mashhad ,Iran(40.4%) Atrophic glossitis was seen in (13.2%) of all patients and this is comparable to that reported by Rabiei et al ⁽⁸⁾ in elderly population in Rasht ,Iran(25%). But less than that reported by Mozafari et al ⁽¹³⁾ in elderly population in Mashhad ,Iran(41.9%).

Frictional keratosis was seen in (8.6%) of the study sample which was more than that reported by Mozafari et al⁽¹³⁾ in elderly population in Mashhad ,Iran(2.9%).

Traumatic ulcer was diagnosed in (7.8%) of all patients which was comparable to that found by Mozafari et al ⁽¹³⁾ in elderly population in Mashhad ,Iran(5.4%) and more than that reported by Al-Aswad ⁽⁹⁾ in elderly people in Baghdad, mid part of Iraq (2.5%) and Mujica et al ⁽¹⁵⁾ in an elderly venezuelan population (3%)

Recurrent minor aphthous ulceration was seen in (6.1%) of the elderly study sample which is more than that reported by Mozafari et al ⁽¹³⁾ in elderly population in Mashhad ,Iran(0.4%) and Mujica et al ⁽¹⁵⁾ in an elderly venezuelan population (1%).

Fibroma was diagnosed in (3.7%) of study sample which was comparable to that that found by Mozafari et al ⁽¹³⁾ in elderly population in Mashhad ,Iran(2.4%) But less than that reported by Mujica et al ⁽¹⁵⁾ in an elderly venezuelan population (7%) and Domingo et al ⁽¹⁷⁾ in elderly Spanish population (53.3%).

Oral lichen planus diagnosed in(2.8%) of the study sample which is similar to that reported by Espinoza et al. ⁽¹⁴⁾ in an elderly population in Santiago, Chile (2.1%) and comparable to that found by Mujica et al ⁽¹⁵⁾ in an elderly venezuelan population (1%) and Mozafari et al ⁽¹³⁾ in elderly population in Mashhad ,Iran(0.9%)

Leukoplakia were diagnosed in (1.6%) of study sample which is similar to that reported by Espinoza et al. ⁽¹⁴⁾ in elderly population in Santiago, Chile (1.7%). But more than that reported by Al-Aswad ⁽⁹⁾ in elderly people in Baghdad, Iraq (0.5%) and less than that reported by Mujica et al ⁽¹⁵⁾ in an elderly venezuelan population (13%). These variations could be explained due to: Racial factor , Geographical factors, , Different of sample size, Sex distribution of the sample, Specific cultural habits like smoking and use of alcohol, Variation in criteria of examination, Socioeconomic factors, Cultural levels, Medication used, Systemic diseases, use of dentures, Food type and the number and type of the lesion included in the study,

References

1. Ship, J. Oral health in geriatric patients. Hamilton: BC Decker Inc, 2006.
2. Kalk, W.D, de Baat and J.H. Meeuwissen. (1992)."Is there a need for Gerodontology? " International Dental Journal, 42: 209-216.
3. Arthur, A. Weiner (1985).The psychophysiologic etiology of anxiety in the geriatric dental patient, special care in dentistry. Geriatric Dentistry. 5 (4):174-177

4. Little, J.W. (2004). Special medical concerns in the dental management of older adults. *Gen Dent*. 52(2):152-156
5. Anastassia, E. Kossionio and Anastasios, S. Dontas (2007). The stomatognathic system in the elderly. Useful information for the medical practitioner. *Clinical Interventions in Aging*, 2(4):591-597
- 6- Navazesh, M., Christensen, C., Brightman, V. (1992). Clinical criteria for the diagnosis of salivary gland hypofunction. *J Dent Res*; 71(7):1363-69.
- 7- WHO. Oral health surveys, basic methods, Criteria for the examination of the oral mucosa and soft tissues. 4th edition 1997. England, 1-66.
- 8- Rabiei, K.E., Masoudi rad H., Shakiba, M. and Pourkay, H. (2010). Prevalence of oral and dental disorders in institutionalized elderly people in Rasht, Iran. *Gerodontology*; 27: 174-177
- 9- Al-Aswad F. (2009). Oral findings and health status among elderly Iraqi patients, (aged 65 and above). *J Bagh college Dentistry*; vol 21(1):53-56.
- 10- Desi, V. and Priyadarshini, S. (2012). Oral manifestations in geriatric patients. *Indian Journal of Medicine and Health care*; vol 1(7):195-200.
11. Pajukoski, H., Meurman, J.H., Halonen, P. and Sulkava, R. (2001). Prevalence of subjective dry mouth and burning mouth in hospitalized elderly and outpatients in relation to saliva. *Oral Surg Oral Med Oral Pat Oral Radio Endo*. Dec; 92(6):641-9.
- 12- Reichart, P. (2000). Oral mucosal lesions in a representative cross-sectional study of aging Germans. *Commun Dent Oral Epidemiol*; 28: 390-398.
- 13- Mozafari, M., Dalirsani, Z., Delavarian, Z., Amirchaghmaghi, M., Shakeri, M., Esfandyari, A. and Falaki, F. (2012). Prevalence of oral mucosal lesions in institutionalized elderly people in Mashhad, Northeast Iran; *Gerodontology*. Jun; 29(2):e930-4
- 14 - Espinoza, I., Rojas, R. Aranda, W. and Gamonal J. (2003). Prevalence of oral mucosal lesions in elderly people in Santiago, Chile. *J Oral Pathol Med*; Nov; 32(10):571-5.
- 15- Mujica, V., Rivera, H. and Carrero, M. (2008). Prevalence of oral soft tissue lesions in an elderly Venezuelan population. *Med Oral Patol Oral Cir Bucal*; May 1; 13(5):E270-4.
- 16- Motalebnezhad, M. and Shirvani, M. (2002). Oral mucosal lesions in elderly population (Tehran Kahrizak geriatric institute). *J Babol Uni Med Sci*; 4: 28-33.
- 17- Domingo, S., Bagán, J., Jiménez, Y., Poveda, R., Murillo, J., Díaz, J., Sanchis, J., Gavaldá, C. and Carbonell, E. (2008). Benign tumors of the oral mucosa: A study of 300 patients; *Med Oral Patol Oral Cir Bucal*. Mar 1; 13(3):E161-6.