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Prevalence of Chronic Diseases in Elderly Living in Yazd Nursing Homes, and Its Relations with Oral Soft Tissue Lesions (OSTL)

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ABSTRACT

Introduction: oral as the mirror of body could have a vital role in general health. According to aging of Iranian population, having knowledge about prevalence of systemic disease of geriatric population could be helpful in selection of correct approach in community health. The purpose of this study was to determine Prevalence of medical condition and relation to oral soft tissue lesions of geriatric in Yazd.

Methods: In this cross-sectional descriptive study, all of the nursing homes in Yazd, were Studied. Of 327 residents, 267 person older than 65 years old who could and want to cooperate with examiner, entranced to the study. Demographic data, systemic disease, drugs, oral habits like smoking, drinking alcohol and denture use were extracted. Qualified elderly were examined for oral soft tissue lesions. Data were analyzed by SPSS 17 and chi square test. p-value less than 0.05 was considered statistically significant.

Results: The most prevalence of systemic disease of the geriatric population were gastrointestinal disease (67%), Psychiatric disorders (54.3%), cardiovascular diseases (41.9%) and metabolic disease (15.7%) respectively. There was a significant relation between psychiatric disease and oral soft tissue lesions.(p=0.007).

Conclusion: According to attained results, Prevalence of oral soft tissue lesions were higher in the elderly with neuropsychiatric disorders.

Keywords: Aged, Nursing Homes, oral soft tissue lesion

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Introduction

The medical advances in the last decades, especially the early diagnosis of diseases and new treatments, have improved the quality of life of people with chronic illness and increased their life expectancy(1).According to the WHO reports, the proportion of the elderly to the population will increase from 10.5% in 2007 to 21.8% in 2050(2). The rate of growth of the elderly population in developing countries is higher than in developed countries, and currently more than half of the world's elderly populations live in developing countries(3, 4). According to Iran National Organization for Civil Registration, the population growth rate for people over 60 years old in 2011-2050 is predicted to be more than 26% and it is expected that by the year 2050 about 33% of the population will be over 60 years(5).in spite of oral precancerous and cancerous lesions, oral lesions could interfere with daily function like eating, speaking and mastication. The prevalence of these lesions in general population has been reported 9.7% in Malaysia , 15.5% in Turkey (, 25% in Italy 4 and 61.6% in Slovenia(6). The elderly population will double by 2025 and by 2050 it will reach 2 billion(7). With the aging of the population, disability and mortality due to chronic diseases will increase(8, 9); in addition, aging is associated with many diseases that can affect quality of life(10).

The elderly are the largest health care recipient in every country. The health issues of the elderly are quite different from those of young and middle-aged people, and their health care costs are twice as high for young people(11). Also, medication consumption in elderly is more than other age groups(10). Due to demographic structure of Iran, the aging problems have not been seriously shown. Therefore, by identifying the state of health and common diseases in the elderly, comprehensive planning for of health care facilities can be done(12).

Demographic changes in the population are one of the most important factors for planning in health care centers. One of the most important factors in demography is the aging that health systems are monitoring and analyzing annually (13). The elderly population itself needs more attention, but older people living in nursing homes need even more attention. On the other hand, awareness of the health status of this group is important for targeted planning. The question is whether there are any relationship between systemic disease and oral mucosal lesions. Therefore, the present study was conducted to evaluate the prevalence of systemic diseases and its association with OSTL in elderly population in Yazd.

Methods

In this descriptive cross-sectional study, 327 elderly residents of the nursing homes of Yazd province (Yazd, Taft, and Mehriz) were selected by census method. After obtaining the necessary permissions from nursing homes management and participants,the study was conducted. The ethical committee of yazd shahid sadoughi approved this study .No (186436).Age over 65 years was considered as the inclusion criteria. Demographic characteristics as well as information about diseases and drugs, oral habits like smoking and drinking alcohol and use of dental prosthesis were extracted from medical records in nursing homes and were recorded in an information form. Data collection tool was a pre-designed information form approved according to the related and similar studies. Then form was completed using medical record of the elderly living in nursing home approved by internal medicine specialist. In the next stage, all the elderly were oral examined by the researcher and lesions were recorded by type of lesion.

The form was prepared using the viewpoints of professors in the field of elderly care, clinical epidemiology, social medicine and elderly nursing. Systemic diseases were investigated in four groups of metabolic diseases (diabetes, kidney and endocrine problems), cardiovascular (heart disease and blood pressure), neuropsychiatric disease as well as gastrointestinal disease. Data were analyzed using SPSS17 software, descriptive statistics and Chi-square test and its

confidentiality was observed. p-value less than 0.05 was considered statistically significant.

Results

Among 327 elderly people living in nursing homes, 267 people aged over 65 were enrolled in the study. In the nursing home of Yazd, Taft and Mehriz respectively 50, 171 and 46 elderly were examined. Demographic characteristics of the elderly persons showed in table 1. The mean age of the participants was 83.26 ± 7.67 years; the lowest age was 65 and the highest age was 100. The frequency of these diseases were gastrointestinal disease (67%), neuropsychiatric (54.3%), cardiovascular (41.9%) and metabolic disease (15.7%) respectively. The relation of some demographic variables with OSTL is presented in Table 2. There was a significant difference in the age group of 90-100 in terms of cardiovascular disease. (p<0.0001)(Table3). The most common systemic disease in men was psychiatric disease and the most common systemic disease in women was gastrointestinal, the difference was statistically significant in terms of gastrointestinal diseases (p <0.0001). (Table 2)

According to Chi-Square test results, among 42 subjects with metabolic disease, 33.3% (n=14) had OSTL. (p = 0.824)

Out of 112 patients with cardiovascular disease, 40.2% (n=45) had oral lesions (p = 0.119). Of the 179 (67%) patients with gastrointestinal diseases, 33% (n=59) had oral lesions (p = 0.36) and among 145 (54.3%) patients with neuropsychiatric diseases 42.1% (n=61) had oral lesions (p = 0.007). Finally, it was found that there was only a significant relationship between neuropsychiatric diseases and OSTL. (Table 3)

The frequency of gastrointestinal and psychiatric diseases in the elderly living in nursing homes in Taft was significantly higher than other centers (p<0.0001). (Graph1).

Table 1. Demographic characteristics of the elderly persons

Demographic variable		No.	%
Age group	65-80	8	32.2
	80-89	107	40.1
	90-100	74	27.7
Gender	Men	90	33.7
	Women	177	66.3

Table 2. Frequency of systemic diseases in the elderly by age group and gender

Demographic data			Metabolic	Cardiovascular	neuropsychiatric	Gastrointestinal
Age group		65-80	15(17.4)	18(20.9)	47(54.7)	59(68.6)
		80-89	19(17.8)	44(41.1)	57(53.3)	70(65.4)
		90-100	10.8(8)	50(67.6)	41(55.4)	50(67.6)
	p-value		0.392	0.0001	0.958	0.891
Gender		Man	18(20)	38(42.2)	50(55.6)	47(52.2)
		Woman	24(13.6)	74(41.8)	95(53.7)	132(74.6)
	p-value		*0.213*	*1.000*	*0.796*	*0.0001*

Chi -Square test

Table 3. Frequency of systemic diseases in the elderly living in nursing homes and its relation with oral lesions

Disease	Frequency	Percentage	number of lesions	Percentage of lesions	P-value
Metabolic	42	15.7	14	33.3	0.824
Cardiovascular	112	41.9	45	40.2	0.119
neuropsychiatric	145	54.3	61	42.1	0.007
Gastrointestinal	179	67	59	33	0.360

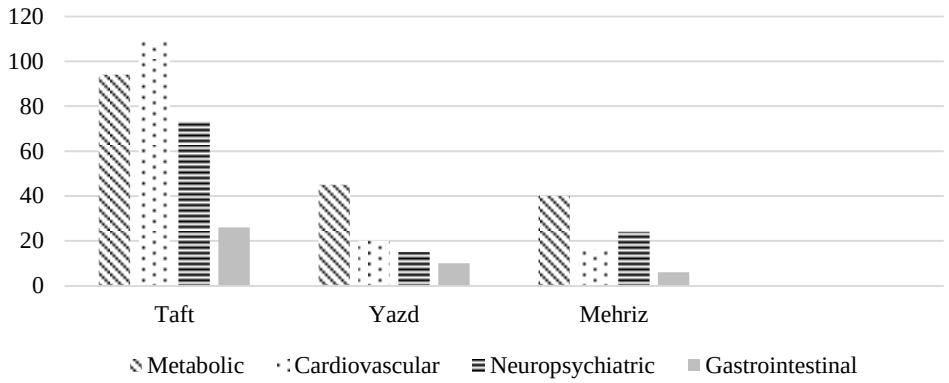

Diagram 1. Frequency of Systemic diseases in the elderly living in nursing homes

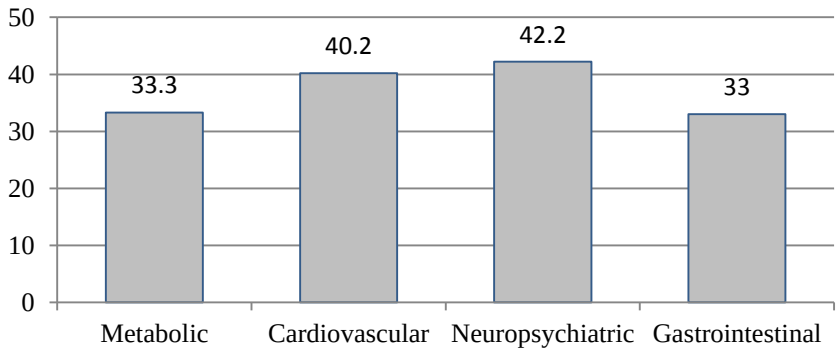

Diagram 2. Percentage of oral lesions in the elderly living in nursing homes in terms of systemic disease

Discussion

Demographic changes are one of the most important factors for health care centers. One of the most important demographic factors is aging that health systems are monitoring and analyzing annually (13). According to a study done by Maleki et al.(14) the most reported systemic disease in the elderly living in the nursing home were cardiovascular, respiratory, digestive and renal diseases. The prevalence of systemic diseases in the study of Habibi et al.(15) on 410 elderly patients were 58.5% cardiovascular disease, 14.4% diabetes, 60% arthritis and 26.8% digestive disease. In the study of Rivera et al. (16), there was no specific discrimination for lesions, contrary to the current study. In the study of Baharvand et al. (17), which was conducted to investigate dry mouth and burning mouth in elderly residents of Tehran nurseries, the most common systemic diseases in the elderly with these symptoms were cardiovascular, psychiatric, endocrine disorder, gastrointestinal and respiratory respectively.

According to the study of Hosseini et al. (12) on the elderly of Babol the highest frequency of

disease was related to cardiovascular (29.6%) and digestive disease (28.5%). In study of Sarajlija et al. (18), cardiovascular disease and respiratory disease had the highest frequency. In these studies, the majority of the studied populations were men smokers, since proven complications of smoking are cardiovascular and respiratory diseases, therefore, the differences in the results were justified. In the study of Fernandez-Feijoo et al. (1), the most common systemic disease among patients referred to the dental clinic was cardiovascular disease, but since the samples were not just the elderly, the results are not comparable with the present study.

The prevalence of neuropsychiatric disease among the elderly in this study was more than many other studies and it was similar to the study of Baharvand et al. (17). In Baharvand's study (17), the highest frequency was related to psychiatric disease (41.9%) and then cardiovascular diseases (39.5%). In Hosseini's study (12), the frequency of mental illness was 21.5% that was significantly higher in women than in men. In the present study, the most common systemic disease in men was neuropsychiatric disorders and in women was gastrointestinal disease.

33% of the elderly with metabolic disease, 40.2% with cardiovascular disease, 42.1% with neuropsychiatric disease, and 33% with gastrointestinal disease had OSTL. The only significant relationship was between OSTL and neuropsychiatric disease. Several studies have examined the relationship between systemic disease and oral lesions (16, 19). Mozafari et al., in Mashhad in 2012, concluded that neuropsychiatric and cardiovascular diseases affect the frequency of oral lesions (13). According to a study by Stromberg et al in Sweden in 2012, there was a significant relationship between oral lesions and cardiovascular disease (20). In some studies, the association between digestive and metabolic disorders, especially diabetes and oral lesions, has been shown (20, 21). Since in this study, a quantitative scale for the diagnosis of psychiatric was not used, and the questionnaires was completed according to the patient's statement, medical records or the use of related drugs and due to the high average age of the samples, diseases such as Alzheimer were more likely to find. The prevalence of Alzheimer was 54.3%, which was the highest among similar studies.

In the present study, four most frequent diseases in samples were reported in terms of elderly care centers. Frequency of psychiatric disorders in the center of Taft was more than other two centers. Since psychiatric hospital of Yazd province is located in Taft and in the vicinity of the Taft nursing home, it is possible that people with periodic psychiatric disorders were referred to Taft nursing home. It should be noted that people with more than one systemic disease or oral lesion were placed in all the relevant groups.

In the current study, the mean age of the elderly was 83.26 ± 7.67, which was considerably higher than the study of Isfahanizadeh (23), which average age of residents of the nursing homes in Tehran was 64.3 years old. The highest frequency of systemic diseases was in the age group of 90-100 years old and was related to cardiovascular diseases, which was statistically significant compare with other age groups. Since one of the risk factors for heart disease is aging, these results are logical. The high incidence of gastrointestinal diseases in the elderly can be attributed to the complications of the use of pain killers due to chronic pain. Frequency of gastrointestinal problems in the elderly was close to the study of Hosseini et al. (12) with a prevalence of 57%. In the study of Katsoulis et al. (22) on 139 elderly, the most frequent diseases were respectively cardiovascular, musculoskeletal and psychiatric diseases.

In a study by De Jong et al. (23), on 4087 adults referring to the dental clinic, the most frequent diseases were blood pressure and chronic bronchitis. 37.2% of patients had at least one systemic disease. The frequency of cardiovascular, endocrine and neuropsychiatric diseases was directly related to the age of the patients.

Due to the low number of periodic examinations by dentists for the elderly living in

nursing homes, it is recommended that doctors in the centers periodically assess the oral health of individuals as part of the their general health (24). The results of a study by Pardis et al. (25) showed that due to the high frequency of oral lesions in the elderly and its role in their quality of life, the special attention of dentists to the oral health of this group is necessary. Ghanei et al. (6). In his epidemiologic study stated the prevalence of oral mucosal lesions was 19.4% and they were more popular in males and young adults (30-40 yrs) but in our study just elderly persons took part in the study.

Unluer et al. (26) conducted a study among the elderly living in nursing homes in Turkey that 68.4% of the elderly suffered from at least one systemic or chronic disease.

According to a study by Peiman et al. (7) on elderly in the city of Ilam, the highest incidence of systemic diseases was related to cardiovascular disease (37%).

The results of the studies mentioned above are not consistent with the results of the present study, in which most common chronic diseases in elderly were gastrointestinal and neuropsychiatric diseases. Since the most common side effects of using medications are gastrointestinal problems, the use of various medications by the elderly is associated with a higher incidence of gastrointestinal disease. Also, in many studies, gastrointestinal disease has not been studied as a separate subgroup.

Conclusion

Gastrointestinal and neuropsychiatric diseases were the most commonly observed systemic disorders in the elderly living in nursing homes in Yazd province, respectively.

There was a significant statistical relationship between OSTL and neuropsychiatric diseases.

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This study is based on a student's dissertation (No. 564) that was approved by the Ethics Committee of Yazd Shahid Sadoughi University of Medical Sciences, with letter No (186436).The authors of this article greatly appreciate the elderly and nursing staff of the nursing homes for their contribution.

Conflict of interest

There is no conflict of interest.

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