

Prevalence of chronic diseases in the old people who refer health centers Ahvaz Jundishapur University

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ABSTRACT

The present research studies the prevalence of chronic diseases in the elderly who refer to urban and rural health centers under the coverage of Ahvaz Jundishapur University and determines it by nutrition, physical activity, smoking, and drug use. Its statistical sample size is 418 of all people over 60 years old who are eligible for the research population and who are within the research clusters and residents of selected urban and rural centers in the counties covered by Ahvaz Jundishapur University of Medical Sciences. Its tool is a questionnaire the researcher prepared, which has the required validity and reliability. The research design is descriptive-analytical (cross-sectional) and it used statistical models including Chi-square to analyze the data. Data were analyzed using SPSS version 16 computer software. The results showed no statistically significant relationship between the prevalence of chronic diseases in the elderly and factors such as nutrition, smoking, and drug use. However, physical activity revealed a significant relationship with the prevalence of chronic diseases in the elderly. Aging problems in Iran, because of the population structure, have not yet shown themselves seriously, but they will appear soon. Therefore, a comprehensive plan can be made to design healthcare facilities by understanding the health and disease status of old people.

Keywords: Chronic diseases, Nutrition, Physical activity, Smoking, Drug use

Introduction

Aging has been a biological process and a vital phenomenon for all humans. It results from a complex interaction of physiological, psychological, social, and environmental factors that affect the function of cells, tissues, and body systems and will ultimately lead to aging and senility [1]. A small number of the world's population reached old age and senility in the past, but today life expectancy has increased and the number of people reaching old age is increasing, because of improved nutrition and health status, access to health services, increased awareness, development of medical knowledge, and expansion of technology, including diagnostic and therapeutic facilities [2]. As the World Health Organization reports, the world's old population will reach 1,968,153,000 in 2050, 60% of which will be in developing countries [3]. Iran in the 1970s was one of the youngest populations in the world [4], but demographic indicators indicate that the old population in Iran is also increasing because of improved living conditions and improved

health [5]. As researchers estimate, 30-25% of the country's population in 2032 will be over 50 years old [4]. Aging and the transition of the population towards aging, as an important event in biomedical science, are supposedly an important phenomenon in the economy, society, and culture that require planning at a macro level [6]. A review of existing studies shows that most countries have not yet given sufficient attention to aging as an important issue in the healthcare system in most countries because of health, economic, and social problems [7].

The old population is increasing with the increase in life expectancy and improvement in health care. As the United Nations report, the world's old population will increase from 350 million in 1975 to 1.1 billion in 2025, and the growth rate of the old population is much faster than the growth of the total world population, most of whom live in developing countries. As the latest census in 2012 shows, about 8.2 percent of the country's population is old. Predictions are that more than 10 percent of the country's population by 2026 will be old and between 21 and 25 percent of the country's population by 2052 will be old. The

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percentage of the old population in Khuzestan Province has increased from 5.38 to 6.14 percent between 2007 and 2012, based on population and housing census data. The phenomenon of aging is a natural process that begins from the time of fetal life and continues until death. Aging, from a biological perspective, is a natural and penultimate stage in the process of birth to death and it is, from a social perspective, a period of life when a person is unable to continue his life and needs the help of others. It is, from a physical perspective, a natural process toward a decline in the function of some tissues [8].

The old population in Iran and all countries of the world is increasing. The unfavorable nutritional status of the old people provides the basis for the occurrence of many diseases, including osteoporosis, diabetes, cardiovascular diseases, and high blood pressure, imposes huge health costs on governments, and creates many problems in the economic, social, and health fields. Studies on old people living in nursing homes in some Iranian cities have shown that these people were deficient in energy and protein [9]. Obesity is an important risk factor for the occurrence of many cardiovascular diseases [10]. Other studies in other parts of the world show that some old people under study had a BMI (height (2 m)/weight (kg)) less than 18.5 and were thin, most of whom were women. Old people with low BMIs cited the inability to cook, lack of money for food, being single, and loss of appetite as reasons for their poor nutritional status [11]. Malnutrition, as another study showed, was much less prevalent in old men than in obese men [12]. A study in Spain found that obesity was much more common in women with a BMI greater than 25 than in men [13].

If old people cannot perform their daily activities, they should continue their lives using assistive devices and with the help of caregivers. Health and treatment planning of the societies is based on their citizens' needs. Measuring activities of daily living helps to understand the needs of society and make important decisions in the health and treatment system. Appropriate and accurate tools should measure daily activities because inappropriate tools collect unnecessary information and, consequently, planning does not occur well. Many studies since 1982 have measured the physical ability of old people for daily activities. A national survey on the care of chronic patients in the United States in 1984 showed that the number of old people with impairments in one or more activities of life was 3 million. Another study in the United States in the same year, 1984, showed that the number of old people with mobility problems was 6 million. Finally, the 1984 US Income and Participation Study estimated the number of old people with mobility problems at 1.5 million. This raises the question of why the number of old people in a given year and a given country varies across studies. Is the use of different measurement tools responsible for these results, or are there other factors in these studies that contribute to the difference in the number of old people?

One common disease of old age is high blood pressure, which is a risk factor for many vascular disorders such as stroke, heart failure, and renal dysfunction [14]. Isolated systolic hypertension

and wide pulse pressure are the most common symptoms of old age [15]. As the population in developed countries increases, cardiovascular diseases have become the most common cause of mortality, morbidity, and disability in old age [16]. Therefore, blood pressure control is essential to reduce cardiovascular diseases and mortality in old people. Heart failure is also a costly disease with high mortality and poor prognosis [17-19]. Although studies have shown that smoking and ischemic heart disease are more common in men, the prevalence of hypertension is higher in women than in men [20]. Therefore, determining the prevalence of chronic diseases and their associated factors among old people in a society can provide the basis for more systematic planning to improve their health and quality of life.

However, an appropriate and practical tool should measure the disabilities of old people and clients with mobility problems. As the number of old people increases, disability in the society increases. Changes in aging are accompanied by health problems and a decrease in activities. Barrett (2000) conducted a study on the information of caregivers of old people. His findings showed that 50% of caregivers do not have sufficient information about their daily activities and do not even know the way to this information. This prevents caregivers from providing adequate and appropriate care to them [21]. Likewise, one of the best ways to evaluate the health status of old people is to examine their activity levels, which can provide the necessary information for appropriate planning that meets their needs to the staff of health and treatment centers. Moreover, correct and appropriate measurement of daily activities leads to decisions in determining the costs of caring for old people in care centers and hospitals and their health insurance conditions. The lack of a correct scale or tool for measuring daily activities, or in other words, determining the degree of dependency of the clients, causes the treatment and care plan and related costs to not be determined principally and logically. Because each old person has different degrees of ability and limitations in performing daily activities. Therefore, measuring the "daily activities" of old people and clients is an important predictive factor for planning their health and treatment services.

The old people are the largest consumers of health services in a country and this demand is increasing. Their health problems are completely different from those of the young and middle-aged and their medical costs are twice as high as those of the young [22]. Likewise, the average drug use in them is higher than in other groups [23]. The problems of aging in Iran, because of the demographic structure, have not yet shown themselves seriously, but they will soon appear. Therefore, a comprehensive plan can be made to design healthcare facilities by knowing the health and disease status of old people. The present research studies the prevalence of chronic diseases in old people who refer to urban and rural health centers under the coverage of the Jundishapur University of Ahvaz and determines it by nutrition, physical activity, smoking, and drug use.

Materials and Methods

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The present study is descriptive-analytical (cross-sectional). Its population consists of old people over 60 years of age living in selected urban and rural centers of the counties covered by Ahvaz Jundishapur University of Medical Sciences, including Andimeshk and Masjed Soleiman counties (north), Baghmalek and Izeh counties (east), Bavi and Karun counties (south), and Hoveyzeh and Dasht-e Azadegan counties (west). As the census of the beginning of 2015 shows, these counties had 74,731 people over 60 years of age, of whom 418 were under survey. Since we considered the permissible error rate d of 0.05 and the level of type I error α of 0.05 and the results of previous research based on which 80% of old people have at least one chronic disease, we determined $P = 0.8$. We estimated the sample size to be 246 people. Therefore, since the sampling method is a multi-stage cluster method, the final sample size was 1.7×246 people by applying a design effect coefficient of 1.7.

Sampling was carried out in several stages. The first stage of sampling aimed to obtain information, examine the health status, and identify diseases of the old people in 4 spatial layers of the north, south, east, and west of the 5 regions covered by the Jundishapur University of Ahvaz. Therefore, two counties were randomly selected from each: Andimeshk and Masjed Soleiman counties from (north), Baghmalek and Izeh from (east), Bavi and Karun from (south), and Hoveyzeh and Dasht-e Azadegan counties from (west). The second stage randomly selected several of the clusters considering each rural and urban health center in the selected counties as a cluster. The third stage randomly selected several health centers from each selected cluster (rural). The fourth stage was to determine the number of necessary samples from the selected urban centers and health centers by determining the share of each center and health center in the total old population. Then, the aforementioned questionnaire was completed by the old people in the building or household by inviting them to the health unit based on the household number or building number and according to systematic sampling. If none of the family members were old in a household or building, we selected the number of the adjacent household or building.

The data collection tool is a questionnaire. The content validity method was used to validate it. Thus, the researcher prepared and organized a questionnaire according to the research objectives and gave it, after studying various books and publications, to 5 respected professors of the faculty. The questionnaire "Surveying the prevalence of chronic diseases in the old people" was completed for 30 old people as a pilot study after applying their opinions and making the necessary amendments. The questionnaire was reviewed and amended again. Finally, we obtained the number 0.7 by calculating its reliability.

The data was analyzed with SPSS software.

Results and Discussion

Table 1 presents the results of demographic information.

Table 1. Demographic information of the subjects

Demographic variables		Percentage
Residence	City	61.2
	Rural	38.8
Age	60-75 years old	64.6
	>76 years old	35.4
Gender	Female	55.3
	Male	44.7
	Fars	2.7
Ethnicity	Bakhtiari	53.4
	Arab	43.4
	Other	0.4
Marital status	Single and divorced	2.2
	Married	68.9
	Widow	28.9

Table 2. Distribution of the frequency of chronic diseases by type of chronic disease in old people in urban and rural health centers under the coverage of Ahvaz Jundishapur University in 2016

Disease Name	Disease status	Percentage
Chronic Headache	Yes	20.2
Diabetes	Yes	21.7
Blood Pressure	Yes	45
Blood Fats	Yes	31
Urinary Kidney	Yes	33
Respiratory	Yes	18.3
Musculoskeletal	Yes	51.3
Osteoporosis	Yes	13.3
Gastrointestinal	Yes	46
Cancer	Yes	0.5
Vision	Yes	57.2
Hearing	Yes	27
Sleep Problems	Yes	26.4
Anxiety	Yes	14.4
Depression	Yes	15.9

Table 3. Nutrition*, Prevalence Crosstabulation

		Prevalence of chronic disease		Total	
		No	Yes		
Nutrition	Desirable	Count	30	222	252
		% within nutrition	11.9%	88.1%	100.0%
	Undesirable	Count	11	155	166
		% within nutrition	6.6%	93.4%	100.0%
Total	Count	41	41	377	
	% within nutrition	9.8%	9.8%	90.2%	

As the $P (.76)$ shows, this study shows no significant relationship between nutrition and the prevalence of chronic diseases (**Table 3**).

Table 4. Physical activity *, Prevalence Crosstabulation

		Prevalence of chronic disease		Total	
		No	Yes		
Physical activity	Undesirable	Count	7	152	159
		% within Physical activity	4.4%	95.6%	100.0%
	Desirable	Count	34	225	259

	% within			100.
	Physical activity	13.1%	86.9%	%
	Count	41	377	418
Total	% within			100.
	Physical activity	9.8%	90.2%	%

As the P (0.004) shows, this study reveals a significant relationship between physical activity and the prevalence of chronic diseases (Table 4).

Table 5. Cigarette consumption *, Prevalence Crosstabulation

			Prevalence of chronic disease		Total
			No	Yes	
History of Cigarette consumption	No	Count	32	333	365
		% within the History of Cigarette consumption	8.8%	91.2%	100.0%
	Yes	Count	9	44	53
		% within the History of Cigarette consumption	17.0%	83.0%	100.0%
Total	Count	41	377	418	
	% within the History of Cigarette consumption	9.8%	90.2%	100. %	

As P (.52) shows, this study found no significant relationship between the history of Substance use and the prevalence of chronic diseases (Table 5).

Table 6. Substance Use*, Prevalence Crosstabulation

			Prevalence of chronic disease		Total
			No	Yes	
History of Substance Use	0	Count	0	1	1
		% within the History of Substance Use	0.0%	100.0%	100 %
	No	Count	39	368	407
		% within the History of Substance Use	9.6%	90.4%	100. %
Yes	Count	2	8	10	
	% within the History of Substance Use	20.0%	80.0%	100. %	
Total	Count	41	377	418	
	% within the History of Substance Use	9.8%	90.2%	100. %	

As P (.52) shows, this study reveals no significant relationship between the history of substance use and the prevalence of chronic diseases (Table 6).

Conclusion

Although aging is a continuous process in human life, it is not exactly clear at what age it begins and when we can consider a person old. Conventionally, people aged 60 and above are the old people of a country. Some other sources consider 65 years of age as the defining boundary [24]. The phenomenon of the increasing old population is supposedly one of the most important economic, social, and health challenges of the 21st century [25]. As the United Nations estimates, the world's old population will increase from 350 million in 1975 to 1.1 billion in 2025 and the growth rate of the old population is much faster than the growth of the total world population, most of whom live in developing countries. The probability of developing one or more chronic diseases increases with age so most people over 60 years of age suffer from at least one chronic disease [26]. Approximately 80% of the old people suffer from a chronic disease, making them more vulnerable than others [27-30]. Cardiovascular diseases, stroke, cancers, diabetes, musculoskeletal diseases, and mental illnesses are more common in old age [31]. As Woo *et al.* on old people in South Korea show, the most common chronic diseases included hypertension, arthritis and diabetes, osteoporosis, and arthritis were more common in women and 46.8% of them had more than two diseases simultaneously [32]. Siam in Gilan in a study on 170 people in a nursing home found that gastrointestinal and pulmonary diseases were more common in men and cardiovascular diseases were more common in women [33]. The results showed that physical activity was significantly associated with the prevalence of chronic diseases in old age. As Arab Ameri reports, physical activity status can be an influential factor in the incidence of gastrointestinal diseases. The prevalence of blood pressure and heart in Zahra Roshani's study disease was lower in people who had regular physical activity. The present study observed no statistically significant relationship between the prevalence of chronic diseases in old people and factors such as gender, education, occupation, nutrition, body mass index, smoking, and drug use. Many diseases of old people have their roots in previous eras and most of them can be prevented by modifying lifestyles. Therefore, the necessary training should be included in the educational materials of the target groups covered by the province.

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