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Published

2017

Journal Title

International Journal of Educational and Psychological Researches

Version

Version of Record (VoR)

DOI

[10.4103/2395-2296.179074](https://doi.org/10.4103/2395-2296.179074)

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Impact of cultural factors on the elderly utilization from healthcare services provided by Isfahan University of Medical Sciences' Hospitals - 2014

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ABSTRACT

Aim: As we know, due to the undesirable structural and functional changes arise from aging, old people need more healthcare services than other groups in society. Many factors affect utilization of health services in this age group. Cultural factors can be named as the most important since they play a basic role in determining people's lifestyle and ultimately in the health protection behaviors. Therefore, this paper is aimed at investigation of cultural factors, affecting old people benefit of health services in Isfahan province in 2014. **Methods:** This study was descriptive analytic, conducted in later 2014. The research population consisted of people aged over 60 years who had been admitted in 12 hospitals affiliated to Isfahan University of Medical Sciences. Two hundred seventy-five people were selected and entered into the research using random sampling method. Data gathering tool was a researcher-made questionnaire in three scopes, and finally the data analyzed at two levels of descriptive level (including frequency, percentage, mean and standard deviation (SD) and inferential level (including statistical tests comparing independent group means, correlation coefficient test, and multivariable regression) in SPSS 22 software. **Result:** The results showed that the level of utilization for people who had routine exercises and juggling was 0.3 units of SD upper than others. Meanwhile, by increasing exercise frequency, level of religious beliefs and opinions and the having a proper and healthy diet, the utilization of healthcare services decreases by -0.198 , -0.150 and -0.196 , respectively. In fact, 5.5% of changes in health services utilization variable are explained by the research independent variables. **Conclusion:** The study showed that doctors' recommendations on physical activities, reasonable increase in exercise frequency, access to rich and healthy food, and religious beliefs can affect old people's utilization of health services; but they cannot explain all variances of it. Therefore, according to complexity of health related issues, other involved variables should be identified and investigated.

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Key words: Cultural factors, elderly people, hospitals, utilization of health services

Introduction

Today, senility has become a major global challenge because of the world's growing aged population; so that according to the World Health Organization (WHO) statistics in 2000, number of the elderly in Southwest Asian countries like Iran was about 7% of their population

and this number will increase by 15% until 2030.^[1] Based on the ageing proportion index in 2011, Iran's old urban and rural population was estimated about 4.35% and 4.34%, respectively.^[2] Also, the amount of population aging index in Iran's urban and rural areas was estimated

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How to cite this article: Keyvanara M, Karimi S, Mohamadi M, Bahrami S. Impact of cultural factors on the elderly utilization from healthcare services provided by Isfahan University of Medical Sciences' Hospitals - 2014. *Int J Educ Psychol Res* 2017;3:121-7.

Access this article online

Quick Response Code:



Website:
www.ijepjournal.org

DOI:
10.4103/2395-2296.179074

4.5% and 51.6%.^[3] According to the provincial level report of United Nations Population Fund regional office in Iran, 6.5% of Isfahan population was considered old, in year 2011.^[4] A population index states that if more than 12% of a population is over 60 years, it will be considered as a graying population.^[5]

Aging process is a series of undesirable structural and functional changes that will get worse by passing years. These undesirable changes prevent performing motor skills, decrease people adaptation to the surrounding environment, and also make changes in people's social and mental life.^[6] So it is clear that people's need for healthcare services will raise with aging; in fact, it can be stated that elderly is one of the predisposing factors to benefit health services. In all countries, there are several unmet needs around the health related problems, and understanding the reasons for healthcare services utilization or lack of utilization can help responsible organizations to find the ways for improving people's quality of life.^[7]

Utilization of healthcare services can be considered in two dimensions: First one is service recipient point of view (patients) and the other one is service providers' dimension. It can be stated that the second dimension is more objective and tangible because it is evaluated based on the volume of provided services; while the first dimension is more subjective and is based on service recipients' opinions.^[8] This paper investigates the utilization, based on the second dimension (utilization or nonutilization and its frequency).

Various models have been traced to explain utilization of healthcare services. Andersen described the basic model of healthcare services utilization in the form of a behavioral model.^[9] According to Andersen's behavioral model,^[10] using health services can be affected by the three sets of factors: Predisposing factors (such as illness, aging, etc.), features providing benefit conditions (such as insurance, etc.), and ultimately needs (such as sense of inability).^[10,11]

Among all complex dimensions of healthcare services utilization, culture can be considered as one of the most effective factors and in many cases, as a barrier to this utilization. In fact, culture is a set of beliefs and opinions that affects people's lifestyle and knowledge and redirect their behaviors related to illnesses and treatments.^[7] In fact, culture plays an important role, as a base in determining of everyday life and people's lifestyle.^[12]

Cultural differences can be due to the races, geographical distances, and various climate regions, economic factors, religions, languages-dialects, educational levels, and etc.

In our country, culture is also affected by emigration strongly. Over past three decades, on average, one million people have moved within the country borders (and more frequent from rural to urban areas) annually. Tehran, Isfahan and Khorasan Razavi provinces were the host of most Iranian immigrants in these years.^[4] Regardless to emigration reasons, cultural differences resulted from emigrations have a considerable impact on people's access to public services such as health-related services.

In addition to mentioned cultural variety factors; beliefs, attitudes, and knowledge can affect people's lifestyle.^[13] In general, lifestyle can affect people's health status strongly. The lifestyle improving health causes promoting health and well-being and further sense of satisfaction, personal persuasion, and self-actualization.^[14] Lifestyle importance is because of its effect on life quality and diseases prevention.^[15] A study conducted by the WHO about health behaviors in 35 countries showed that about 62% of life quality and people's health depended on life style and personal behaviors.^[16] Health promotion and health supply of society people are one of the important elements of communities' development. Health professions which previously focused on diseases treatment, now pay attention to prevention and health supply through lifestyle improvement and eliminating the factors which somehow have a negative effect on human health level.^[17]

Variables such as physical activity level, religious beliefs, and nutrition are directly affected by people's lifestyle and consequently by their culture. Considering the importance of nutrition, exercise, and religious beliefs in old people's physical and mental health promotion.^[18-20] This paper investigates cultural factors, affecting old people utilization of health services (based on the volume and frequency), provided in Isfahan University of Medical Sciences' hospitals in 2014. The reason for selecting Isfahan as the sampling location was its high rate of immigration from neighbor provinces.

Methods

The present research was a descriptive analytic study that determined cultural factors effect old people's utilization of health services in Isfahan province as a destination for within country emigrants (such as people from Chaharmahal vs. Bakhtiari, Yazd, Kohgiluyeh vs. Boyer Ahmad, Lorestan, Khuzestan). The research population was the elderly, who had been hospitalized at university hospitals of Isfahan (Al Zahra, Ayatollah Kashani, Feyz, Jesus son of Mary, Ayatollah Beheshti, Hazrat Nor and Ali Asghar, Imam Musa Kazem, Amin, Hazrat, Sydalshhda, Shahid Chamran, and Farabi; - Imam Hossein Hospital

was eliminated from the statistical population because of its specialty in the field of children and infants) in second half of 2014. Two hundred seventy-five people were selected as the sample and entered the research using random sampling method. Inclusion criteria were being 60-year-old and more, hospitalized in one of the hospitals affiliated to Isfahan University of Medical Sciences and their willingness to participate in the present research; and exclusion criteria were people's disability in answering the questions, even with telephone follow-up after discharging and unwillingness to participate in the research.

Data collection tools were researcher-made questionnaires, designed in the three subsets applying both Andersen's behavioral model^[1] and nutritional model of National Health and Nutrition Examination Survey.^[21] The first part of these questionnaires was related to background variables; second part includes cultural variables (such as nationality, dialect, language, religion, resident place, emigration, smoking, exercise, diet, traditional medicine, and home remedy); and finally the third part includes dependent variables (such as utilization of hospital services, clinical or diagnostic services and physician visits, and their frequency). The tool reliability was confirmed by 15 experts and professors, and its validity was estimated by Cronbach's alpha test ($\alpha = 0.74$). The gathered data entered in the SPSS 22 software (IBM Company), and then the analysis was performed at two levels of descriptive level (including frequency, percentage, mean and standard deviation [SD]) and inferential level (including statistical

tests comparing independent group's means, correlation coefficient test and multivariable regression).

Findings

According to demographic data, 46.2% of respondents were women and 53.8% were men. Regarding marital status, 0.7%, 72%, and 1.1% were respectively single, married, widow, and divorced. Most of them had between 2 and 5 children and 72% were elderly couples. Considering employment status, 56.4% of respondents were unemployed and 17.1% employed.

A comparison between means of dependent variables based on cultural predictive variables showed that there is no significant difference between utilization and its frequency regarding to the cultural variables such as immigration and smoking at confidence level of 95% ($0.05 < \text{significance level}$). In other words, the percentage utilization and its frequency will not be different among those who immigrate and those who do not immigrate as well as those who smoke and those who do not smoke at the confidence level of 95%. The observed difference in these two sample means may reflect high variance in one of the groups. But the results show that the mean of utilization and its frequency regarding to the exercise is statistically significant at a confidence level of 95%. It means that elders who exercise more are not the same as their peers with less or no physical activity in utilization and its frequency; in the other hand aged people with physical

Table 1: Comparison of services utilization and its frequency among elders considering predictive variables

Variable	Group	Utilization		t	Significant	Utilization frequency		t	Significant
		Frequency	Mean±SD			Frequency	Mean±SD		
Immigration	Yes	78	3.82±0.84	0.288	NS ^a	78	17.03±12.07	1.495	NS ^a
	No	197	3.85±0.83			197	14.81±10.74		
Sports	Yes	134	3.98±0.87	2.762	0.006**	134	13.50±10.40	2.841	0.005**
	No	141	3.70±0.77			141	17.28±11.57		
Smoking	Yes	52	3.88±0.89	0.391	NS ^a	52	14.94±10.91	0.359	NS ^a
	No	223	3.82±0.82			223	15.56±11.23		

**P<0.01, *NS: Not significant, SD: Standard deviation

Table 2: Correlation between predictive cultural variables and healthcare services utilization

Dependent/independent variable	Utilization				Utilization frequency			
	Spearman correlation	Significant	Error level	n	Spearman correlation	Significant	Error level	n
Familiarity with persian language	0.106	0.079	0.05	274	-0.056	0.356	0.05	274
Role of religious beliefs in life	-0.084	0.165	0.05	274	0.021	0.727	0.05	274
Rate of feeling comfort in community	0.056	0.352	0.05	275	0.092	0.126	0.05	275
Proper daily diet	0.109	0.071	0.05	275	-0.190**	0.002	0.01	275
Use of traditional and herbal medicine	0.050	0.410	0.05	275	0.021	0.723	0.05	275

**P<0.01

activities are more fortunate to use healthcare services than others who have scheduled and frequent plan for doing physical activities[Table 1].

The results of Spearman test show that there is not a significant statistical relationship among the predictive cultural variables (familiarity with Persian language, role of religious beliefs in life, rate of feeling comfort in community, proper daily diet, and use of traditional and herbal medicine) and healthcare services utilization as the dependent variable at confidence level of 95%. These relations are also true for utilization frequency except having a proper daily diet with a coefficient of -0.190 [Table 2].

According to research findings, the most important independent variables (cultural factors) which have a significant relationship with dependent variable (healthcare services utilization) include doing sports, having religious beliefs, and the frequency of exercise in the week. Based on Table 4, adjusted determination coefficient is 0.055; in fact, 5.5% of changes in healthcare services utilization can be explained by dependent variables of the research. Other changes of healthcare services utilization are not investigated due to its complex and multidimensional nature health-related behaviors which are influenced by other factors. In addition, explained regression model being done based on variance analysis test is linear and significant, because the amount of F-test for significance of the effect of independent variables on healthcare services utilization equals 6.248 with significance level

of $P = 0.000$. Also, the amount of significance of each variable's effect and coefficient sign (positive-negative) was investigated for this effect (increase or decrease) using standard β coefficient. The results of multivariable regression analysis in Table 3 shows that variables such as doing exercise, having religious beliefs in life, and number of times allocated to sports have entered into equation with beta coefficient of 0.324, -0.150 , and -0.198 . Regarding beta coefficients, it can be observed that exercise and walking variables explain the most and variable of religious beliefs explain the least changes on healthcare services utilization; the effects of these two dependent variables are respectively, increasing and decreasing. Since exercise has been evaluated nominally, it was changed into a dummy variable before entering into regression equation; therefore, the results show that services utilization of those who walk and exercise is 0.3 SD units more than those who do not; but an increase in the number of times allocated to exercise during the week leads to less services utilization frequency. This amount equals -0.198 in regression equation. As a result, two variables of religious beliefs in life and the number of times allocated to exercise have a weakening (decreasing) effect on dependent variable, while exercise (not as a planned and scheduled one) has an increasing effect.

In addition, the results show that the most important independent variables (cultural factors) which have a significant relation with a dependent variable (frequency of healthcare services) include having proper daily diet and

Table 3: Statistical determinants of the amount and direction of effects in each independent variable on utilization of healthcare services and the this utilization frequencies (n=275)

Dependent variables	Standard beta coefficients in multi-regression models		Probability	t statistics
	Utilization	Utilization frequency		
Exercise and walking	0.324		0.001	3.312
Religious beliefs and opinions	-0.150		0.011	2.545
Frequency of sports time in a week	-0.198		0.045	2.017
Proper daily diet		-0.196	0.001	3.281
Exercise and walking		-0.138	0.022	2.312
Variance analysis		$F=9.618$ $P=0.000$		$F=6.248$ $P=0.000$

Table 4: Results of multivariable regression model evaluation using stepwise method for determination of effective factors on utilization of healthcare services

Multivariable regression model	Regression model coefficient (r)	Determination coefficient (r ²)	Adjusted determination coefficient	Predictive variables
Multivariable model of benefit	0.255	0.065	0.055	Exercise Religious beliefs and opinions Number of times doing exercise in the week
Multivariable model of the numbers of benefiting	0.258	0.067	0.060	Proper daily diet Exercise

exercise. According to Table 4, adjusted determination coefficient equals 0.060; in fact 6% of changes in the frequency of healthcare services can be explained by the research independent variables. In addition, explained regression model being done based on variance analysis test is linear and significant, because the amount of F-test for significance of the effect of independent variables on healthcare services utilization equals 9.618 with significance level of $P = 0.000$. The results of multivariable regression analysis in Table 3 shows that variables of proper and adequate daily diet, as well as exercise, have entered into equation with beta coefficient of -0.196 and -0.138 with proper and adequate daily diet having the most significant role in explaining dependent variable. Moreover, these two variables have a decreasing effect on dependent variable; in other words, having an appropriate daily diet and doing exercise and walking will decrease the frequency of healthcare services proportionately.

Discussion

Results show that the healthcare services utilization of those who walk and exercise is 0.3 SD units more than those who do not. This can be explained by the chronic diseases the elderly face with, specialists' recommendations for increasing mobility, and also fear from deterioration. In fact, the elderly try to avoid worsening health status through disease management methods such as temporal physical activities, while they have to use healthcare services regularly in order to maintain their existing health status. Buchner's study also showed that although exercise plays a protective role for risks of falling in aged people, but it does not improve their walking ability, balance, and physical conditions. In fact, beside the positive effects of physical activities on decreasing services utilization by some groups of elderly; in aged people with middle to acute disease, short-term physical activities do not reduce their healthcare services utilization.^[22] Moreover, Holland *et al.* in their 12 months survey found out that physical activity had a positive effect on health of those who suffered mild depression at lower ages; however, evidence of health promotion in aged people with more acute disease was not remarkable.^[23]

On the other hand, the frequency of times allocated to sports during the week can decrease service utilization between the elderly which shows the better health conditions in people who do physical activities weekly and regularly. The results of this research are consistent with Wolin *et al.* study on the role of physical activities and sports on individual perception from quality of life;^[24] as well as The American College of Sports Medicine^[3]

surveys which have identified the important role of sports and active life style in improved mobility, positive participation to life, and prevention of different diseases in the elderly.^[25]

According to Cyarto *et al.*, physical activity is an important factor in functional capacity improvement of the elderly.^[26] Since paresis, lack of flexibility and motor control problems are effective factors on poor balance and consequently falling, implementation of a physical readiness program can be effective in prevention of falling, because of exercise and physical activity impact on muscle strength, flexibility, and motor control which consequently decreases individuals' therapeutic needs.^[27] Duncan *et al.* study shows that active elders perform better than their inactive peers in controlling balance during functional or experimental tests.^[28] Even, elders with good and optimal physical readiness were similar to youth in pattern of muscle activation at the time of confusion or imbalance.^[18] The results of this research also show that walking has a direct effect on health in older ages. A meta-analysis research performed by De Vries *et al.* showed that physical therapy has a positive effect on mobility and physical function of elderly patients with disabilities. In the mentioned study, researchers referred to the effects of short-term and long-term exercise interventions on physical function.^[29] Moreover, two surveys obtained significant results and stated that long-term multidimension interventions can be the best methods for improvement of mobility and increasing physical function in elderly patients with disabilities.^[30,31] Increasing the level of physical activity as an underlying factor for promotion of general health in communities and decreasing health problems such as cardiovascular diseases, osteoporosis, and etc, can be recommended.^[32] Results of present study are consistent with the above mentioned studies.

Also results show that the frequency of utilization will decrease 0.1 unit of SD by raising in the level of religious beliefs which can be explained regarding to religious people's beliefs about faith to divine destiny even in disease and their effort to relief through praying which will consequently bring more mental relaxation. Reyes-Ortiz *et al.* found that 62% of people pray in critical and stressful situations and mentioned religious healing and relief as an important factor.^[33] In Salehi *et al.* study, people with higher religious practices represented better mental health.^[34] According to a study by Paragament, religion can have positive effects in filling life gaps and making a sense of life.^[19] Results of a research performed by Pardini *et al.* confirm the positive relationship between religious faith and health conditions.^[35] Our results are consistent with the above-mentioned studies.

Moreover, the findings show that the most important independent variable which has a significant relationship with dependent variable (frequency of health services utilization) is having a proper daily diet. Nutrition is an important determining factor in elder patients' health and therefore, nutritional interventions and programs are essential for this group.^[36,37] Furthermore, Eshaghi *et al.* referred to nutritional disorders in their study and recommended more investigations as well as proper programs for improvement of nutritional status of elders.^[38] Numerous studies have confirmed the role of nutrition on health problems such as cancers, cardiovascular diseases, and dementia.^[39] Our results are in common with studies done regarding elders' nutrition.

Conclusion

Given that there is a significant relation between physical activities and utilization of healthcare services, it can be said that medical recommendations by physician on physical activities will have positive effects on elders' sensitivity to have higher mobility. Moreover, reasonable increase of the frequency of sport activities as well as having a proper diet will decrease elders' need to use health services. Improving elders' access to rich nutrients and strengthening their religious beliefs can decrease their use of health services. Of course, it should be noted that given the complexity of healthcare topics, investigation of other factors such as economic, social, structural (centralization or decentralization), and so on can predict elders' utilization of healthcare services in a more consideration.

Acknowledgment

The author would like to thank for all the Management and Health Information School professors of Isfahan University of Medical Sciences.

Financial support and sponsorship

It is driven from a master thesis titled "factors affecting elderly people utilization of health care services provided by Isfahan University of Medical Sciences." Its also approved as a research project and was supported financially.

Conflicts of interest

There are no conflicts of interest.

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