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Research Article

THE STATUS OF HEALTHY BEHAVIOURS, RECREATIONAL ACTIVITIES, EATING HABITS, STRESS MANAGEMENT, MULTIPLE CHRONIC CONDITIONS, AND SOCIAL CAPITAL AMONG NON-INSTITUTIONALISED OLDER PEOPLE

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ABSTRACT
With regard to health promotion approaches amongst older people, healthy lifestyle may improve quality of life, productivity and reduce physical and mental problems. Thus, this study was conducted to assess the lifestyle of older people in Urmia-Iran. Quantitative method was used in this descriptive- analytic study to recruit 460 older people living in their home by applying Multi-Stage Cluster Sampling. Data was collected based on healthy lifestyle assessment questionnaire (Iranian version) and analyesed by using descriptive statistics. The average age of elderly was 68.74±7.67.Nearly all the participants (92.2%) were living with their family members. Interestingly, 66.5% were affected by chronic diseases. It was also found that two-thirds of the older people could cope with stressful situations. It is necessary to consider appropriate interventions especially educational strategies in order to promote healthy lifestyles for seniors who live alone, suffer from chronic disease, and have got low education.

Keywords: *Healthy Behaviours, Recreational Activities, Nutrition Habits, Stress Management, Multiple Chronic Conditions and Social Capital*

INTRODUCTION
In developing countries, the progress of medical sciences in many cases such as vaccination, infection control, environmental safety, maternity care and infant feeding (Nasirzadeh *et al.*, 2014), family planning approaches, have improved health, economic statues, and social welfare (De Groot *et al.*, 2004; Sadegi *et al.*, 2011). Therefore life expectancy has increased and the number of older people grows even faster (Srivastava *et al.*, 2014).
According to the census figures in 2011, 8.2% of Iran's population is over 60 years and this number is anticipated to reach more than10% in 2025 and by the year 2051 which 21-25 per cent of the population will be more elderly (Statistical Centre of Iran, 2011). Naturally, such an increase will lead to many implications for social and health policy and it is necessary to consider elderly as one of the vulnerable groups of community. Also, aging is a new phenomenon in Iran, thus it should be considered as one of the most important challenges in the future (Maeidfar, 2010). With the increasing number of the elderly, the prevalence of non-infectious diseases and related difficulties has increased (Azizi, 2003; Sanjeeva Rao Nallapu and Sai, 2014). Among the 10 main causes of death in America, four of them such as cardiovascular disease, stroke, diabetes and cancer are directly related to lifestyle of people (Azizi, 2002). Furthermore, in Iran these diseases are also a major cause of morbidity and mortality (Knoops *et al.*, 2004; Azizi, 2002). To reduce the incidence and burden of the chronic diseases, adherence to a healthy lifestyle is necessary (Azizi, 2002; Sargazi *et al.*, 2010). While applying the correct style of life should be began at the early stages of life, it would never late to change lifestyle and good habits that lead to a healthy life. Healthy lifestyle may play a potential role in disease prevention, improving quality of life, increasing life expectancy and improving physical and mental health (Hekmatpor *et al.*, 2012).
Lifestyle modification may also increase independence of older people. Individual behaviours are highly effective in improving or declining health status, as many diseases and health promotion approaches are supposed to be connected directly to these behaviours (Andrews, 2001).

Studies in England have shown that health promoting behaviours lead to create healthy aging and the improvement in quality of lives of older people (Davies, 2011; Taghdisi *et al.,* 2012). List of causes of death indicated that 53% of deaths are related to unhealthy lifestyle and behaviours (Habibi-Sola *et al.*, 2007). Moreover, an Iranian research showed that knowledge and attitude of older people toward healthy lifestyles and its function of healthy lifestyle are not enough. Lack of knowledge or awareness of these age groups may affect their adopting healthy lifestyles and therefore the performance of the elderly would be inappropriate (Samadi *et al.*, 2007).

Healthy living is a way of life that would provide, maintain and improve the health and wellbeing of life (Davies, 2011). Health and Human Services of America emphasizes that regular exercise, avoiding smoking and alcohol, nutrition and age-appropriate immunization may promote health behaviours among older people (Lee *et al.*, 2005; Taheri *et al.*, 2013). The most optimal healthy lifestyle includes exercise and a balanced diet alongside other proven methods for maintaining health, have an important role in increasing life expectancy by delaying or preventing diseases associated with aging (Olshansky *et al.*, 2002; Hayes *et al.*, 2013).

Several factors could determine lifestyle of people. Different studies have shown that education may increase people's understanding of the benefits and barriers of the healthy lifestyle. In addition, higher level of education leads to greater financial resources and higher socio-economic status. Higher education is also associated with appropriate behaviours and optimal nutritional practices (Salehi *et al.*, 2009).

In a study by Souri *et al.*, on the lifestyle of old people such as eating habits, obesity, inactivity and smoking it was found that 76% of participants had an unhealthy habit, 16% were obese and 63% had no physical activity.

Women were more obese than men (Babak *et al.*, 2011). Another study by Zar and Noorshahi (2007) also showed that nutritional status of elderly in Shiraz was not appropriate and healthy, active elderly had better nutritional status than inactive elderly. Surprisingly, further study about institutionalised older people in Isfahan showed that most of participants had their healthy lifestyle was at a suitable level (Najimi and Moazemigoudarzi, 2012).

In a study by Pig *et al.*, (2013) among Spanish seniors indicated that most of them did not have access to adequate nutrition, 43% had trouble to chew, 65.5% were dependent on others, most of them were visited at home and the only exercise was walking (Puig *et al.*, 2013). In a study by Singh *et al.*, (2013) about lifestyle of Indian older people, it was found that the majority of seniors(58%) did not report drug abuse, 55% had unhealthy diet, and 535% had no physical activity and males were more active than females (Singh *et al.*, 2013).

Thus, given the foregoing studies, and the lack of studies previously done on the lifestyle of elderly in western north of Iran, this study seems necessary for further emphasis on the importance of a healthy lifestyle, identification of approaches to its improvement and observance.

MATERIALS AND METHODS

Ethics Statement: This study has been approved by Ethical Review Committee of the Tabriz University of Medical Sciences (approval number: 5/4/3777-17/07/2014).

Study Design and Participants: Quantitative method was used in this descriptive- analytic study to recruit 460 older people living in their home by applying Multi-Stage Cluster Sampling. For this purpose, ten regions were randomly selected from four districts of the city.

Based on inclusion criteria, 12 participants were randomly chosen by home visiting from each region. If such a person was not available, another household from the right direction and present addresses was investigated.

2.3. Data Collection. Healthy lifestyle assessment questionnaire (Iranian version) was used to collect data including demographic characteristics and main section which consists of 46 questions (15 questions in the area of prevention, 5 questions in the area of physical activity, sport, entertainment, 14 questions in the area of healthy diet, 5 questions in the area of stress management, and 7 questions in the area of social and interpersonal relationships).

Reliability of the applied questionnaire has been assessed and approved (cronbach's alpha coefficient= 0.76) by Eshaghi *et al.*, (2009). Furthermore, the respondent's point of views about the study questionnaire was appraised by a panel of experts.

RESULTS AND DISCUSSION

Results

Socio-demographic characteristics of the participants and the results of healthy lifestyle assessment questionnaire items are shown in table 1-7.

Table 1: Frequency of demographic characteristics of older people (n=460)

Characteristics/Frequency and percentage					
Gender					
Women			Men		
192(41.7 %)			268(58.3 %)		
Age groups					
60-69		70-79		80 and over	
270(58.5 %)		135(29.3 %)		55(12 %)	
Education					
Illiterate	Primary	Guidance	Diploma	Upper-diploma	BA and upper
241(52.4%)	129(28%)	34(7.4%)	30(6.5%)	11(2.4%)	15(3.3%)
Living with family					
Yes			No		
424(92.2%)			36(7.8%)		
Chronic disease					
Yes			No		
306(66.5%)			154(33.5%)		
BMI					
Less than 18.5		18.5-24.9		25-29.5	More than 30
2(0.4%)		103(22.4%)		211(45.9%)	144(31.3%)
Waist circumference					
Normal			Abnormal		
220(48%)			240(52%)		

The mean age was 68.74±7.67 years and by sex, male and female, was 70.13±8.29 and 66.80± 6.25 years, respectively and their mean weight and body mass index was73.50±12.90 and 28.23±4.53, respectively. 58.3% of the elderly were males. 351 (76.3%) had wives and 109 (23.7%) were single. 270 (58.69%) of those surveyed were the young elderly (60-69years), 135 (29.34%) were aged (70-79 years) and the rest were elderly (80 years and older) cases.

In terms of education, older people were illiterate. About 66% of the elderly participants in this study were suffered from at least one disease and the most common chronic diseases reported as hypertension (31%), coronary heart disease (17.8%), high blood cholesterol and triglycerides (10%), diabetes (9.5%).

Table 2: Applying healthy behaviours in older people (n=460)

Accidents in the past year			
Yes			No
Home	Out of home		----------
28(6.1%)	29(6.3%)		403(87.6%)
Physician referral in the past year			
I did not referred as I had no problems	I was referred, I had mild discomfort	I was referred, I had severe problems	Despite the problems, I did not referred
80(17.4%)	152(33%)	202(43.9%)	26(5.7%)
Condition of teeth			
Their own	Dentures		Have not teeth
77(16.7%)	376(81.7%)		7(1.5%)
Memory improvement exercises			
Often	Sometimes		Never
59(12.8%)	56(12.2%)		345(75%)
Wearing comfortable clothes and shoes			
Often	Some times		Never
448(97.4%)	7(1.5%)		5(1.1%)
Doing personal hygiene			
Often	Some times		Never
444(96.5%)	10(2.2%)		6(1.3%)
Self-care approaches to managing musculoskeletal difficulties			
Often	Some times		Never
438(95.2%)	16(3.5%)		6(1.3%)
Prevention and management of communicable disease			
Often	Some times		Never
436(94.8%)	18(3.9%)		6(1.3%)
Prescription drug use			
Often	Some times		Never
364(79.1%)	84(18.3%)		12(2.6%)
Compliance with physician recommendations			
Often	Some times		Never
398(86.5%)	51(11.1%)		11(2.4%)
Tobacco use			
Often	Some times		Never
84(18.2%)	46(10%)		330(71.7%)
Alcohol use			
Often	Some times		Never
4(0.9%)	15(3.3%)		441(95.9%)
Drug and substance abuse			
Often	Some times		Never
15(3.3%)	16(3.5%)		429(93.3%)
Using condom to prevent STDs			
Often	Some times		Never
4(0.9%)	9(2%)		447(97.2%)

Table 3: Engaging in physical and recreational activities (n=460)

Daily exercise		
Often	Some times	Never
228(49.6%)	113(24.6%)	119(25.9%)
Doing household tasks		
Often	Some times	Never
341(74.1%)	77(16.7%)	42(9.1%)
Recreation and Leisure		
Often	Some times	Never
166(36.1%)	124(27%)	170(37%)
Daily time spend exercising		
0 min	10-25 min	30-60 min
129(29%)	315(68.5%)	16(3.5%)
Daily TV Watching		
0-2 h	2h and more	
329(71.5%)	131(28.5%)	

Table 3 exposed that of 460 participants, 18.2% used cigarettes, 0.9% alcohol and 3.3% often consumed illegal drugs. 76.9% of older people have received health services in the last year due to discomforts and difficulties. Also the findings of the present study indicated that about 90% of participants did their own chores independence of others. Accidents in the past year were reported 12.4 %.

Table 4: Distribution of study subjects according to their stress management (n=460)

Sleep disturbances in the past year		
Often	Some times	Never
137(29.8%)	147(32%)	176(38.3%)
Hurry sickness and stressful circumstances		
Often	Some times	Never
160(34.8%)	189(41.1%)	111(24.1%)
Applying self-relaxation techniques when faced with stressors		
Often	Some times	Never
312(67.8%)	83(18%)	65(14.1%)
Financial hardship in the past year		
Often	Some times	Never
99(21.5%)	112(24.3%)	249(54.1%)

About half of elderly subjects performed regular exercise. Approximately, less than one-third of the elderly watched television more than 2 hours per day. Also the findings of the present study indicated that about 90% of participants did their own chores independence of others.

Two-thirds of the older people could cope with stressful situations. According to our survey, the prevalence of sleep disorders in the elderly aged more than 60 years was 61.8%. The results of the present study showed that 78.5% of the elderly felt valued in their lives and 78.5% were not living under financial pressure. It was revealed that 85.8% of the elderly in the face of stress do something to feel comfortable.

Table 5: Prevalence of multiple chronic conditions and other difficulties amongst older people (n=460)

Diseases/ Frequency and percentage
Hypertension143 (31%)
Cardiovascular disease 82(18%)
High Blood Cholesterol and Triglycerides 46(10%)
Diabetes 44(9.5%)
Musculoskeletal difficulties 17 (4%)
Chronic kidney disease 15(3%)
Gastro-intestinal problems 13(3%)
Neurological problems 12(3%)
Lung diseases 5(1%)
Hearing Impairment 3(0.7%)
Thyroid diseases 3(0.7%)
Depression 2(0.4%)

Table 6: Distribution of study subjects according to their nutrition habits

Methods of cooking			
Boiling	Barbequing		Frying
421(91.5%)	13(2.80%)		26(5.7%)
Types of oil and fats selecting for cooking			
Hydrogenated fats	Vegetable oil	Animal fats and oils	Others
180(39.1%)	228(49.6%)	49(10.7%)	3(0.7%)
Daily intake of fluids			
Normal		Abnormal	
390(84.8%)		70(15.2%)	
Meat consumption			
Chicken or Fish	Red meat		Both
201(43.7%)	95(20.7%)		164(35.7%)
Daily consumption of bread and cereals			
High	Normal		Low
85(18.5%)	230(50%)		145(31.5%)
Daily consumption of milk and dairy			
High	Normal		Low
91(19.8%)	233(50.7%)		136(29.6%)
Daily consumption of proteins			
High	Normal		Low
22(4.8%)	311(67.6%)		127(27.6%)
Daily consumption of fruit and vegetables			
High	Normal		Low
100(21.7%)	254(55.2%)		106(23%)
Whole-grain rye bread consumption			
Often	Sometimes		Never
38(8.3%)	59(12.8%)		363(78.9%)
Not serving tea after every meal			
Often	Sometimes		Never
122(26.5%)	107(23.3%)		231(50.2%)
Chop, mince, grind, blend, mash or puree foods to a texture			
Often	Sometimes		Never
85(18.5%)	204(44.3%)		171(37.2%)
Sugars, added sugars and sweeteners intake			
Often	Sometimes		Never
53(11.5%)	310(67.4%)		97(21.1%)
Consumption of high-fat foods			
Often	Sometimes		Never
87(18.9%)	205(44.6%)		168(36.5%)
Daily sun exposure(at least 15 minutes)			
Often	Sometimes		Never
321(67.8%)	93(20.2%)		55(12%)

Regarding to nutritional habits such as oil consumption revealed that 49.6% of older people used vegetable oils, 84.8% fluid intake were normal and recommended basis, consumption of white meat (43.7%), bread and cereal consumption less than the amount suggested (31.5%), milk and dairy products less than the recommended amount (29.6%), fruits and vegetables less than the recommended amount (23%), and meat and beans less than the recommended amount (27.6%). Non-compliance with consumption of sugars and sweeteners one-fourth, non-compliance with consumption of high-fat foods about one-third, lack of exposure daily sun (at least 15 minutes) was reported 12%.

Table 7: Distribution of study subjects according to their social capital

Creating good relationship with spouse		
Often	Sometimes	Never
292(63.5%)	57(12.4%)	111(24.1%)
Creating good relationship with children		
Often	Sometimes	Never
390(84.8%)	62(13.5%)	8(1.7%)
Creating good relationship with relatives		
Often	Sometimes	Never
275(59.8%)	164(35.7%)	21(4.6%)
Outdoor participation		
Often	Sometimes	Never
111(24.1%)	154(33.5%)	195(42.4%)
Creating good relationship with friends		
Often	Sometimes	Never
265(57.6%)	68(14.8%)	127(27.6%)
Marital sexual relationship		
Often	Sometimes	Never
50(10.9%)	233(50.7%)	177(38.5%)
Counselling with sexual health centres		
Often	Sometimes	Never
6(1.3%)	25(5.4%)	429(93.3%)

Discussion and Conclusion

In this study, 76.3% of participants were married and lived with their family or children, and only 7.8% of them lived alone. The study carried out by Zahmatkeshan *et al.,* in Bushehr, Iran showed that 70.3% of the elderly participants were married and lived with their family or children and 9.2% of them lived alone (Zahmatkeshan *et al.,* 2012).

About 66% of the elderly participants in this study suffered from at least one disease and the most reported common chronic diseases were hypertension (31%), coronary heart disease (17.8%), high blood cholesterol and triglycerides (10%), diabetes (9.5%). In the study by Tootoonchi *et al.,* (2004) 78% of the subjects reported at least one disease (Tootoonchi, 2004), while this amount in other studies was 82% (Wolff *et al.,* 2002). Moreover, about one-third of respondents reported cardiovascular problems. A further study by Hosseini *et al.,* in Babol, Iran revealed that 29.6% of respondents had cardiovascular disease and 24% of older people suffered from hypertension (Hosseini *et al.,* 2008). Differences frequencies in comparison to other studies were perhaps due to less or no access to health care and also weak screening for hypertension in the elderly (Tootoonchi, 2004). Furthermore, ethnic, economic, social differences, and data collection methods could be the reason of differences.

The results of the present study showed that 58.7% of participants still feel like working on their own. In some countries, a movement is created for using young elderly in proper jobs. Obviously, under such circumstances, they feel valued and have the opportunity to establish social relationships with others, otherwise they will sense barrenness.

The results of the present study indicated that about 77.2% of the participants had body mass index (BMI) higher than normal. The results of another study by Dorosti *et al.*, (2007) showed that BMI of the participants was estimated 61.2% higher than normal (Dorosti and Alavi-Naeini, 2007). Since BMI is an important factor influencing the health status of the elderly, it may be concluded that with weight control as the most important component of health aspects, morbidity and mortality rate would be controlled.

The data analysis also demonstrated that 49.6% of sample performed regular exercise. The results of Sargazi and colleagues research on elderly patients of hospitals in Zahedan, Iran showed that 26.3% of respondents did regular exercise (Sargazi *et al.*, 2010). Of factors related to differences in the frequencies can be noted to illness of the elderly studied and access to sports facilities.

Approximately, less than one-third of the elderly watched television more than 2 hours per day. In a study in Spain, it was shown that older people spend more time watching TV (Dorosti and Alavi-Naeini, 2007). The findings of the present study indicated that about 90% of participants did their own chores independent of others. In 2003, researchers from the United Arabic Emirates examined the health status of elderly population. They showed that the rates of functional independence in the daily-life activities of the elderly such as the ability to walk independently (83%) in this country were similar to those of the United States (Andrew-Margolis *et al.*, 2003).

In a meta-analysis study by Robertson *et al.*, conducted in 2002-2004, it was presented that exercise programs can have various effects on muscle strength, ability and performing routine tasks independently and enhance the quality of life (Robertson *et al.*, 2004). Regarding to social capital, 292(63.5%) of the participants abled to create good relationship with their spouses.

It has been have expressed that spouses, children, siblings and friends can be the most important sources of social supports toward the elderly (Chalise *et al.*, 2010). Findings of a study discovered that social collaboration activities may prevent loneliness and depression in the elderly. Social activity also can be reduced due to the loss of physical performance, social relationships, and low self-esteem (Allahyari and Mirgholikhani-tehrani, 2014).

The present study also disclosed that 79.1% of the participants used drugs only with a prescription. Ben Nathen (2001) stated that in spite of follow-up of patients for prescription drugs, it is estimated that more than 30% of prescription drugs for elderly are not used according to the instructions (Ben-Natan and Noselozich, 2011). Moreover, 57.7% of the elderly over the past three months had begun to self-medication (Davati *et al.*, 2007). The main reasons for self-medication and the lack of reference to doctor may be due to previous use of the drug and reliefs from symptoms, similar physician's prescription and minor symptoms.

It was reported that 76.9% of older people have received health services in the past year due to discomforts and difficulties. In a study of 266 patients 50 years and older living in Iceland, 81.3% in the past year had been examined by a medical doctor (Balajadia *et al.*, 2008). Furthermore, the findings exposed that of 460 participants, 18.2% used cigarettes, 0.9% alcohol and 3.3% often consumed illegal drugs. In Hong Kong, the prevalence of drug use in elderly has been reported 19% (Abdullah *et al.*, 2008). And also American national study during 2005 and 2006 to estimate the prevalence of drug use among the elderly and middle-aged Americans showed that 60% of participants had the history of alcohol use, 2.6% marijuana, and 0.4% cocaine (Blay *et al.*, 2009). In Sargazi *et al.*, study, 12.6% of respondents used cigarettes and 0.3% alcohol respectively (Sargazi *et al.*, 2010).

Analysis of obtained data related to nutritional habits revealed that 49.6% of old people used vegetable oils, 84.8% reported that their fluid intake was normal and in recommended amount. Furthermore, the consumption of white meat (43.7%), bread and cereal (31.5%), milk and dairy products (29.6%), fruits and vegetables (23%), and meat and beans (27.6%) were less than the recommended amount. The findings of other study showed that only 2.3% of the elderly gained enough vegetables (Sargazi *et al.*, 2010). Almost 56% of participants were not using the recommended amount of milk and dairy products, 45.7% took sufficient amount of meat, and 57.7% of them had low-fat diet. Moreover, the results of a study presented that among 400 studied old subjects, 69.8% followed a low-fat diet (Habibi- sola *et al.*, 2008).

According to our survey, the prevalence of sleep disorders in the elderly aged more than 60 years was 61.8%. A research amongst older people was carried out in Jahrom, Iran found that 70.3% of participants suffered from sleep difficulties. A further study reported that the prevalence of insomnia was 57% and 50% in the United States and Italy respectively (Turabi *et al.*, 2013).

The results of the present study showed that 78.5% of the elderly felt valued in their lives and 78.5% were not living under financial pressure. In a survey about life satisfaction among older people that was conducted by Markids and Martin (1979), it was found that the financial capabilities of the elderly play an important role in the satisfaction of life. The reason may be that if the elderly have strong financial backing, the cost of living would not put pressure on them (Gholizadeh and Shirani, 2010).

With regard to stress management skills, the results also revealed that 85.8% of the elderly in the face of stress do something to feel comfortable. In other study amongst elderly patients with cancer, half of the patients believed that God's protection would heal and improve cancer and eliminate their anxieties. They also stated that faith and trust in God may be an effective factor in comforting and reducing stress (Hamilton *et al.*, 2010).

Overall, it is necessary to consider appropriate interventions especially educational strategies in order to promote healthy lifestyles for seniors who live alone, suffer from chronic disease, and have got low education. It is also recommended that the health care providers should apply facilitating backgrounds of health promoting behaviours through health programs such as proper diet, regular exercise, and periodic physical monitoring of older people.

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Conflict of Interests

The authors declare that there is no conflict of interest.

REFERENCES

Abdullah A, Lam T, Chan S, Leung G, Chi I, Wnh W and Chan S (2008). Effectiveness of a mobile smoking cessation service in reaching elderly smokers and predictors of quitting. *Journal BMC Geriatric* **8** 25-32.

Andrews GA (2001). Promoting health and functioning in an aging population. *BMJ* **322** 728–729.

Andrew Margolis S, Earlv TC and Lewis Reed DR (2003). The health status of community based elderly in the united Arab Emirates. *Archives of Gerontology and Geriatrics* **37** 1-12.

Allahyari T and Mirgholikhani Tehrani N (2014). Survey Social factors affecting depression among elderly Nursing home kahrizak. *Social Sciences* **74** 28-33.

Azizi F (2003). Prevention of non-communicable diseases. *Tehran University Medical Journal* **27** 261-263.

Azizi F (2002). Changes of lifestyle for the prevention of non-communicable diseases. *Iranian Journal of Endocrinology & Metabolism* **4** 81-84.

Babak A, Davari S, Aghdak P, Aghdak P and Pirhaji O (2011). Assessment of elderly lifestyle in Isfahan, Iran. *Journal of Isfahan Medical School* **29** 1064-1074.

Balajadia R, Wenzel L, Huh J, Sweningson J and Hubbell FA (2008). Cancer- related knowledge, attitudes, and behaviours among Chamorro on Guam. *Cancer Detection and Prevention* **32**(l1) 4-15.

Ben Natan M and Noselozich I (2011). Factors Affecting Older Persons' Adherence to Prescription Drugs in Israel. *Nursing & Health Sciences* **13** 164-169.

Beydon MA and Wang Y (2008). Do nutrition Knowledge and beliefs modify the association of socio-economic factors and diet quality among US adults? *Preventive Medicine* **46** 145-153.

Blay S, Fillenbaum G, Andreoli S and Gastal F (2009). Correlates of lifetime alcohol misuse among older community residents in Brazil. *International Psychogeriatrics* **21**(2) 384–391.

Chalise HN, Kai I and Saito T (2010). Social support and its correlation with loneliness: A Cross-cultural Study of Nepalese Older Adults. *International Journal of Aging and Human Development* **71** 115-38.

Champion VL, Skinner CS, Glanz K, Rimer BK and Lewis FM (2008). *Health Behavior and Health Education: Theory, Research and Practice* (San Franciso, Jossey – Bass) **50**.

Davati A, Jafari F, Samadpor M and Tabar K (2007). Preview of drug abuse in the elderly in Tehran. *Journal of Medical Council of Iran* **25** 450-456.

De Groot LC, Verheijden MW, De HS, Schroll M and Van Staveren WA (2004). Lifestyle, nutritional status, health, and mortality in elderly people across Europe: a review of the longitudinal results of the SENECA study. *Journal of Gerontology Series A: Biological Sciences and Medical Sciences* **59**(12) 1277-84.

Dorosti AR and Alavi Naeini AM (2007). Correlation of elderly nutritional status with cardio-vascular disease and diabetes. *Tehran University Medical Journal* **65** 68-71.

Eshaghi R, Farajzadegan Z and Babak A (2010). Healthy lifestyle assessment questionnaire in elderly: Translation, Reliability and validity. *Payesh* **9**(1) 90-99.

Gholizadeh A and Shirani A (2010). The relationship between individual, familial, social and economic factors with life satisfaction of elderly in Isfahan. *Applied Sociology* **21** 69-82.

Habibi Sola A, Nikpor S, Rezayi M and Haghani H (2007). Relationship between health promoting behaviours and assistive devices in activities of daily living among older people. *Iranian Journal of Ageing* **5** 332-339.

Habibi Sola A, Nikpor S, Seyedolshohadaei M and Haghani H (2008). Survey of health promoting behaviors and quality of life in elderly. *Journal of Ardebil Medical School* **8** 29-36.

Hamilton JB, Crandell JL, Carter JK and Lynn MR (2010). Reliability and Validity of the Perspectives of Support From God Scale. *Nursing Research* **59** 102-109.

Hayes LD, Grace FM, Sculthorpe N, Herbert P, Ratcliffe JWT, Kilduff LP and Baker JS (2013). The effects of a formal exercise training programme on salivary hormone concentrations and body composition in previously sedentary aging men. *Springer Plus* **2**(18) 2-5.

Hekmatpor D, Shamsi M and Zamani M (2012). The effect of healthy lifestyle education programs on promotion of physical activity in elderly of Arak. *Journal of Shahed University* **19** 1-11.

Hosseini SR, Zabihi A, Savadkohi S and Bijani A (2008). Prevalence of chronic diseases among elderly population in Amirkala. *Journal of Babol University of Medical Sciences* **10** 68-75.

Knoops KT, de Groot LC, Kromhout D, Perrin AE, Moreiras Varela O and Menotti A (2004). Mediterranean diet, lifestyle factors, and 10-year mortality in elderly European men and women: the HALE project. *JAMA* **292**(12) 1433-9.

Lee TW, Ko IS and Lee KJ (2005). Health promotion behaviors and quality of life among community–dwelling elderly in Korea. *International Journal of Nursing Studies* **49**(2) 129-137.

Maeidfar S (2010). *Iran Social Issues (Sociology of Vulnerable Groups)*. Print one.

Najimi A and Moazemigoudarzi A (2012). Healthy lifestyle of the elderly in Isfahan. *Journal of Health System Research* **8**(4) 581-587.

Nasirzadeh M, Gholami L, Jalilian F, Aligol M, Hafezi Bakhtiari M, Mahboubi M and Karami Matin B (2014). Status of Lifestyle in Iranian Elderly Population. *Journal of Science and Today's World* **3** 114-116.

Olshansky SJ, Hayflick L and Carnes BA (2002). Position Statement on Human Aging. *Journals of Gerontology, Series A: Biological Sciences and Medical Sciences* **57** 292-297.

Puig M, Avila NR, Canut MTL and Farras JF (2013). Lifestyle of the elderly receiving home care Spain. *Journal of Gerontology & Geriatric Research* **121**(2) 2-4.

Robertson MC, Campbell JA and Gardner MM (2004). Preventing Injury and increasing quality of life in older people: A meta-analysis of individual. *Journal of the American Geriatrics Society* **14** 118-121.

Sadeghi F, Koldi A and Sahaf R (2011). Experiences of elderly and their families about aging-friendly society in Tabriz. *Iranian Journal of Ageing* **6** 41-51.
Salehi L, Eftekhar-Ardebili H, Mohammad K, Taghdisi MH and Shojaeizadeh D (2009). Factors affecting fruit and vegetable consumption in the elderly. *Iranian Journal of Ageing* **4** 34-44.
Samadi S, Bayat A, Taheri M, Joneid B and Rooz Bahani N (2007). Knowledge, attitude and practice of elderly towards lifestyle during aging. *Journal of Qazvin University of Medical Sciences* **11**(1) 83-84.
Sanjeeva Rao Nallapu S and Sai TSR (2014). Estimation of lifestyle diseases in elderly from arural community of Guntur district of Andhra Pradesh. *Journal of Clinical and Diagnostic Research* **8**(4) 1-4.
Sargazi M, Salehi SH and Naji A (2010). Healthy promoting behaviours of elderly admitted to hospital in Zahedan. *Journal of Zabol University of Medical Sciences* **5** 37-45.
Singh JP, Singh PN, Kariwal P, Singh AK, Kasturwar NKB and Srivastava A (2013). Geriatric life style profile in an urban slum, central India. *Scholars Journal of Applied Medical Sciences* **1**(4) 344-347.
Srivastava MR, Srivastava JP, Bhardwaj P, Sachan B, Cupta P and Choudhary S (2014). A study on lifestyle and morbidity profile of geriatric population in lucknow. *International Journal of Current Research* **6** 6614-18.
Statistical Centre of Iran (2011). National Population and Housing Census. Available: www.amar.org.ir/Portals/1/Iran/90.pdf (Retrieved 26 March 2015).
Taghdisi MH, Doshmangir P and Doshmangir L (2012). Factors affecting in healthy lifestyle of the elderly in Shabestar. *Iranian Journal of Ageing* **7** 1-16.
Taheri M, Mohammadi M, Babak Paknia B and Mohammadbeigi A (2013). Elderly Awareness on Healthy Lifestyle during Aging. *Tropical Medicine & Surgery* **1** 1-5.
Tootoonchi P (2004). Chronic diseases and senile changes in the elderly population, Tehran, Iran. Payesh. *Journal of the Iranian Institute for Health Sciences Research* **3**(3) 219-225.
Turabi S, Shahriari L, Zahedi R, Rahmanian S and Rahmanian K (2013). The prevalence of sleep disorders and their management in the elderly in Jahrom City. *Journal of Jahrom University of Medical Sciences* **10** 35-41.
Wolff JL, Starfield B and Anderson G (2002). Prevalence, expenditures and complications of multiple chronic conditions in the elderly. *Archives of Internal Medicine* **162**(20) 2269-76.
Zahmatkeshan N, Bagherzade R, Akaberiyan SH, Yazdankhah Fard M, Mirzaei K, Yazdanpanah S, Khoramrudi R, Gharibi T, Kamali Dasht Arjani F and Jamand T (2012). Assessing Quality of life and Related factors in Bushehr Elderly people. *Journal of Fasa University of Medical Sciences* **2**(1) 53-58.
Zar A and Norshahi M (2007). Comparison of nutritional status in elderly men active and passive of Shiraz. *Iran Journal of Elderly* **2**(3) 210-216.