



Review Article

Healthy Lifestyle Status among Non- Institutionalized Older People: A Literature Review

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ABSTRACT

Article history

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Introduction: Advances in medical and health sciences have led to increase in the number of older people. The most common non- communicable diseases can be prevented by following a healthy lifestyle. This study aimed to investigate the lifestyle of elderly people by reviewing the literatures and background of the previous researches in order to obtain a holistic view about lifestyle.

Methods: A fast literature review was conducted applying retrospective approach to identify the status of lifestyle among older people. For this purpose, the related references with keywords involving 'lifestyle', 'elderly people', 'aging', and 'multiple chronic conditions' were electronically searched in databases 'All Academic', 'ISI web of knowledge', 'PsycNET', 'Social Sciences Citation Index', and 'PubMed' from 2002 to 2015.

Results: 26 related articles were finalised and reviewed according to the study aims. The results showed that those people with an inappropriate lifestyle were more likely to die because of health difficulty reasons. Improving healthy lifestyle including dietary habits, weight control, physical activity, smoking cessation, managing stressful life events, and social capital were closely related with reduced risk of all-cause mortality.

Conclusion: It seems that the awareness about the relationship between healthy lifestyle and incidence of multiple chronic conditions among older people may be effective in understanding of the potential health consequences of their performance, and also in modifying lifestyle.

Keywords: Healthy Lifestyle, Older people, Non- Institutionalised

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Introduction

Development in health sciences and medicine has improved health and economic level of societies, which lead to increase in life expectancy and the growth of the elderly population (1). Aging is one of the phenomena involved in global health (2). Reports show that Asian developing countries are aging faster than other countries (3). According to the census in 2011, 8.2 per cent of Iranian population aged over 60

years, and it is expected to reach to more than 10% in 2025 (4). With regard to the growing status of elderly population and declining physical and mental abilities and higher frequency of chronic diseases in the elderly people, paying attention to the issues and needs of this age phase is necessary (2). Furthermore, increasing elderly population emerges some needs, outcomes and new problems in different societies and different

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sectors. Due to the increasing of older population and the related issues under the present circumstances, following the absence of planning and appropriate actions, the necessity of paying attention to the issues of this age group and the conditions and factors affecting their health, as an important part of the societies and communities, is more realized (5). Growing urbanization and industrialized lifestyle as well as change in the population age pyramid and the aging of today's young population will increase the prevalence of chronic diseases in the near future (6).

Healthy lifestyle is a way of life that provides, maintains and promotes the health, well-being and quality of life (7). Life style includes the following dimensions and components including proper nutrition, regular and adequate physical activity and recreation, not smoking, preventing alcohol consumption and other addictive motivating substances and drugs, doing regular periodic check-ups, sufficient management of stress, applying different relaxation methods and elderly people participation in social activities and being with family member and participation in other networks (8).

Every community needs to consider unique lifestyle techniques and utilise health instructions in order to have a healthy and longer life. Enhancing healthy behaviours and modification of lifestyle can greatly reduce the burden of diseases (9). Statistics on the main causes of death indicate that 53% of the causes are related to lifestyle and health behaviours (10).

Applying prevention approaches and suitable efforts to postpone these conditions in the elderly population seems to be an important issue in public health (11). Lifestyle modifications may increase the independence of the elderly people and prevent multiple chronic difficulties and reduce social and economic burden in societies (12).

Although applying healthy lifestyle should be initiated through all age groups especially in adolescents, it is never late to change the lifestyle and follow the good habits leading to health and happiness. Lifestyle in old age should be encompassed different economic, social, welfare and health care aspects being paid attention (13). United States Department of Health and Human Services emphasizes on regular exercise, not smoking, avoiding alcohol, good nutrition and age-appropriate immunization to promote health in the elderly population (14).

Studies conducted in Iran presented that the knowledge and attitudes of the elderly population about healthy lifestyle and their performance in promoting healthy lifestyles is very low. Lack of awareness or low awareness of this age group population in adopting healthy lifestyles can make them perform unhealthy lifestyle and may move in the opposite direction (15). According to the results of previous studies, health-promoting lifestyle helps to improve positive quality of life (14). To the best of our knowledge, there are no systematic reviews and/or meta-analyses that examined the overall effectiveness of published behavioural lifestyle interventions, or

identified potential strategies to promote or modify stress management skills, physical activity, eating habits and weight management. Therefore, this investigation was conducted to review the results of earlier studies to summarize the healthy lifestyle issues might improve the elderly life.

Methods

Search Strategy

A comprehensive literature search was performed involving lifestyle interventions targeting older people. Five electronic databases were searched including 'All Academic', 'ISI web of knowledge', 'PsycNET', 'Social Sciences Citation Index', and 'PubMed'. The search strategy was expanded by combining "older people", "lifestyle", and "multiple chronic conditions" keywords. A bibliographic software package, Endnote, was used to manage the references, which were assessed and included in the review. Seven specific healthy lifestyle behaviours were of interest: stress management, sleep patterns, recreation and leisure, alcohol use and drug abuse, physical activity, eating habits, social functioning, and weight management. Moreover, lifestyle and related risk factors for chronic diseases were reviewed respectively.

Inclusion Criteria

In order to include a broad range of relevant disciplines, a literature review was carried by using clear and appropriate criteria (quantitative and qualitative approaches) to select or reject studies in July 2015. The studies entered into the review were limited by language, topic, and date of publication. Therefore, non-English language sources and studies published more than 12 years ago were excluded.

Results

Review of appropriate abstracts resulted in the identification of 26 relevant references (see Table1). Most of articles which retrieved were quantitative studies including descriptive, lifestyle interventions, and cross-sectional approach which each focused on measuring different aspects of life style. The results showed that those people with an unfavourable lifestyle were more likely to die for health difficulty reasons. Improving healthy lifestyle including dietary habits, controlling weight, physical activity, smoking cessation, managing stressful life events, and social capital were closely related with reduced risk of all-cause mortality.

Nasirzadeh et al. in a cross-sectional study found that 95% of the lifestyle was average, 4.5% was unfavourable and 0.5% was desirable. Moderate-income elderly, women and educated elderly had better life-style (16). Babak et al. conducted a cross-

sectional study examining lifestyle of the elderly in Esfahan and showed that 67.3% of the lifestyle was average and 31.7% was desirable. The results showed that status of healthy lifestyle among the elderly in the province of Isfahan was relatively moderate (17). Heshmati et al. also assessed lifestyle of the elderly in Kashmar and showed that 67.4% of the lifestyle was average and 32.6% was desirable. There was significant relationship between life style and the variables such as age, marital status and education level. In addition, there was significant relationship between age and applying preventive behaviours, physical activity, stress management and social relation (18).

Furthermore, a cross-sectional study carried out by Najimi et al. revealed that lifestyle of elderly pensioners was desirable. There was no significant relationship between healthy lifestyle of the elderly and sex. Moreover, there was a significant relationship between healthy lifestyle and knowledge and body mass index (19). Samadi et al. in a cross-sectional study investigated knowledge, attitude and practice of the elderly towards healthy lifestyle. Males had significantly more knowledge, social activities and positive attitudes than females (8). Likewise, descriptive and analytical research of Mahmoudi et al. naming "lifestyle assessment of older people living in Agh Qala" showed that 19% had undesirable lifestyle, 54% average and 27% had a desirable lifestyle. The result correspondingly showed that elderly lifestyle was relatively modest and healthy. There also was a statistically significant relationship between age and prevention domains including sports and recreation, stress and social relations (20).

Shamsaddini Lori et al. examined healthy lifestyle of the elderly in Shiraz. The results showed that lifestyle of elderly in Shiraz was desirable (21). A further cross-sectional study measured knowledge, attitude and practice of the elderly towards healthy lifestyle in Tehran displayed that the subjects had average knowledge and relatively good attitude and practice (22). Descriptive and analytical results of Taheri et al. in Tehran revealed that knowledge, attitude and practice of the elderly towards healthy lifestyle were low (23). Other descriptive and analytical study aimed to find the relationship between lifestyle status and health. The results showed that more than half of those surveyed had healthy life style (24).

Sargazi et al. aimed to assess the health promoting behaviours among the elderly patients in hospitals of Zahedan. The results indicated that the majority of health promoting behaviours had statistically significant relationship with education and place of residence, but there was no significant correlation with gender (11). Furthermore, a similar study among elderly patients in hospitals of Esfahan make known that subjects had not good health-promoting lifestyle. In regard to several health domains including physical activity, nutrition, and stress management the mean scores were below the acceptable levels. However, in the domains such as spirituality growth, and

interpersonal relationship the mean score was above the acceptable level. In general, patients did not have a health promoting life style. Significant correlations were found between health promoting life style and marital status, educational level and occupation (25).

Moreover, Taira et al. in a study named 'healthy sleep and a healthy lifestyle among the elderly of Okinawa in Japan' demonstrated that there was relationship between healthy sleep and healthy lifestyle among the participants in different areas. The study revealed that those in good sleep health group took short naps, a significantly fewer number fell, and a significantly greater number exercised regularly or walked. A significantly greater number of this group maintained regular eating habits over a 10- year span, and consumed more seaweed and fish. Participation rate in senior citizens' clubs was higher, reflecting high emotional adaptability (26).

A further cross-sectional study by Singh et al. entitled 'profile of the lifestyle of the elderly in urban areas of India' discovered that the majority of older people (57.75%) had not drug abuse, unhealthy diet (54.75%) and physical inactivity (52.25%) and interestingly association of exercise with gender was found. It can be concluded that health issues require the promotion of healthy lifestyle (27).

Further cross-sectional study entitled 'lifestyle factors and mortality of the elderly in Lokno, India' showed that the majority of participants were married and most of them were vegetarians. More than two-third of men were addicted to alcohol, while the women's alcoholism was rampant addiction to tobacco. Most women spend their leisure time in religious ceremonies, while most men engaged in social activities. Besides emotional problems (75%), senile cataracts (64.5%) were the common illness followed by osteoarthritis (56%). Among the elderly 39.4% had complained of insomnia problems and hypertension had affected 30% of them. About 35% of the participants reported psychological problems (28). In addition, similar study in India showed that 52.3% of women and 44.5% of men suffered from chronic diseases. The most common chronic diseases were hypertension, diabetes, and arthritis. Among illiterate women, housewives, and widows, increasing the burden of disease were associated with lifestyles such as 'no exercise', 'unhealthy diet', 'lack of preventive behaviours', and 'emotional problems' (29). Noosorn et al. descriptive study results with the aim of "health promoting behaviours among seniors with chronic illness living alone" discovered a significant relationship between living alone and high alcohol consumption, and difficulties in the management of stressful life events. Those living alone were 2.73 times more likely to report alcohol use to hazardous levels than those living with a caregiver, and 2.43 times more likely to report problems in managing stressful life events than those living with caregiver. With regard to health-related behaviours, those living alone were somewhat more likely to be socially isolated, have high-fat diets, and engage in low levels of regular physical exercise. There were no significant

differences between the two groups regarding smoking tobacco, using fruit and fibre, access to health information, oral health care and regular physical check-up(30).

Lifestyle and related risk factors for diseases among older people were broadly studied. The results of a research indicated that there may be different causes in the incidence of cancers among older people. Less risk factor for rectal cancer in women 75 and older has been identified. Regarding to breast cancer several patterns were identified. Alcohol consumption was associated with the risk at a young age and a history of hysterectomy related to risk at older age. For ovarian cancer, it was identified few significant associations in either age groups. Colon cancer cases had a higher body mass index and were less likely to report estrogen or aspirin use than non-cases, yet these associations were consistent in both age groups. Few risk factors were identified for rectal cancer in women ≥ 75 years of age. For breast cancer, notably different patterns were revealed, with alcohol consumption associated with risk in the younger group and previous hysterectomy associated with risk only in the older group (31). The results of a cohort study entitled "healthy lifestyle and Mediterranean diet in reducing mortality in the elderly," showed that Mediterranean diet, moderate alcohol use, physical activity, and non-smoking were associated with a reduced risk of all-cause mortality. Lack of following the patterns of a healthy lifestyle was associated with a relative risk of 60% of all deaths (32).

A similar methodology in Greece revealed a positive correlation between the prevalence of hypercholesterolemia and smoking habits, while there was inverse association between hypercholesterolemia and alcohol consumption with Mediterranean diet and other factors (33). Furthermore, the interventional study of Clark et al. entitled 'the interventional impact of healthy lifestyle on promoting health of older people, who live independently' showed that participants who had undergone intervention compared to control group reported favourable tolerance in body pain, joy and vitality, social functioning, mental health, life satisfaction, depressive symptoms, and quality of life (34). Moreover, further research with the aim of 'the impact of health education for the elderly on knowledge, attitude and practice of older women' showed that the scores of before and 6 months after intervention were 29.16 ± 5.86 , 34.26 ± 6.32 respectively. This significant difference demonstrates the positive impact of life style education on attitude, behaviour and knowledge of individuals in respect to their lifestyle including preventive behaviour, physical activity, social relation, and nutrition. These results were even more magnificent comparing the literate and illiterate subjects (3). A quasi-experimental study aimed to evaluate the effectiveness of training programs of healthy lifestyle on promoting physical activity of the elderly in Arak, Iran. The results displayed a significant difference between daily activities before and after the educational intervention. The average

age of elder was 67.61 ± 5.02 years and the majority of them were men (60%). In terms of daily activity indicators, before educational intervention 8 per cent were completed dependent, 20 per cent related dependence and 71.7 per cent independent respectively. After educational intervention, 10% reported themselves as related dependency and 90% independent for daily activities. Wilcoxon test showed a significant difference between before and after the educational intervention (13).

A qualitative study with the aim of affecting factors on healthy lifestyle of older people's attitudes in Shabestar, Iran also showed that three key factors affecting the elderly healthy lifestyle were 'aspects of a healthy lifestyle', 'social support', and 'facilitating factors in adopting a healthy lifestyle'. Descriptive concepts of healthy lifestyle initiated as safety precautions, social engagement, spirituality and daily life habits. Descriptive concepts of social support included family, friends, and official's media. Finally descriptive concepts related to facilitator factors included meeting the needs of elderly and elderly self-efficacy (15).

A further qualitative study entitled 'lifestyle of the older people who received home care in Spain revealed that most of participants did not have access to safe water and adequate nutrition, while 43.3% of them had difficulty chewing and 65.3% were dependent on others, most of them were visited at home, and the only physical activity was walking around. Chewing problems affected 42.3% of the elderly care recipients indicating a large number of the elderly participants have difficulty in eating certain foods. It is noted that those reporting problems of mastication tended to consume less fruit and vegetables. The vast majority of the care recipients (96.1%) eat three to four meals a day, so that in principle the frequency of their food intake is adequate. Only 38.5% of the participants were overweight. 73% drank fewer than five glasses of water a day. In the case of alcohol consumption, 46.2% reported consuming wine daily with their meals, the men consuming more alcohol than women. 65.4% did not leave the home with any great frequency to participate in leisure activities; only 15% went out on a daily basis. 92.3% of cases did not go out with a partner or in larger groups of elderly individuals, indicating that social relations occurred primarily in the home. (35).

The last qualitative study with the aim of healthy lifestyle in Romanian and Latvia indicated that nutritional habits in Latvia and Romania were slightly different in both countries. Older people in everyday life did not consume fresh food and healthy bread and cereals. Daily physical activity was influenced by the type of housing. 55% of the elderly in Latvia and respectively 51% in Romania believe that they are well informed about a healthy lifestyle from the points of view of physical exercises, healthy food, and social and psychological feeling of comfort. 41% of the Romanian elderly and 23% of the Latvian elderly said they were partially informed about a healthy lifestyle

from the point of view of physical exercises. The Latvian elderly feel to be better informed than the Romanian elderly about physical exercises. 78% of the Romanian elderly and 61% of the Latvian elderly are well informed about healthy food, while 16% of the Latvian elderly and only 1% of the Romanian

elderly feel uninformed. The Romanian elderly also feel to be better informed about the social and mental feeling of comfort as an element of healthy lifestyle (36).

Table 1. Summary of previous studies about lifestyle among elderly people

Authors	Journal Name/Date	Title of Research	Target Group and Number of Samples	Key Findings
NasirZadeh et al.	Journal of science and today s world 2014	Lifestyle Status in Iranian Elderly People from Faridan	179 Elderly People	Average, unsuitable and desirable for 95, 4.5 and 0.5 per cent, respectively.
Babak et al.	Isfahan medical school 2011	Lifestyle Evaluation in Elderly People in Isfahan	1124 Elderly People	67.3% of the lifestyle was average and 31.7% was desirable.
Samadi et al.	Journal Qazvin Univ Med Sci 2007	Awareness, Attitude and Practices of Elderly People Regarding Healthy Lifestyle in Aging Period of Qazvin	750 Elderly People	The elderly have a low level of knowledge, attitude and performance toward healthy.
Nanbakhsh et al.	Journal of Tehran Medical school 2011	Effects of Health Trainings on Elderly Women's Awareness, Attitude and Practices in Urmia	200 Elderly People	Increasing in Average Awareness, Attitude and Practices.
Heshmati et al.	Journal Res Dev Nurs Midwifery 2012	Lifestyle in Elderly People of Kashmar	267 Elderly People	A high percentage of elderly hasn't desirable life style
Sargazi et al.	Journal of Zabol medical school 2010	Health Promoting Behaviors Investigation among Elderly Patients in Zahedan Hospitals	300 Elderly People	There was a statistically significant relationship among the most of health promoting behaviours.
Shamsadini Lori et al.	Journal of Health Based Research 2015	A Survey about Lifestyle in Shiraz	110 elderly	Desirable lifestyle
Rashidi et al.	The Journal of Urmia Nursing and Midwifery Faculty 2015	Factors related to the health promoting life style among geriatric patients.	300 geriatric patients	Older people had not good health-promoting lifestyle.
Ramazankhani et al.	Journal of health in the field 2013	Awareness, Attitude and Practices in Elderly People Regarding Healthy Lifestyle in Tehran	450 Elderly People	Mean scores in each of the three fields for men was more than women. Our findings show significant relation between age, sex, income and marital status of subjects with their knowledge, attitude and practice.
Johari et al.	Journal disabilstud 2010	Evaluation of the Relationship between Lifestyle and Health among the Elderly Visiting Tehran's Parks	40 Elderly People	The health status of more than half the subjects was very good.
Taheri et al.	Trop Med Surg 2013	Awareness in Elderly People About Healthy Lifestyle in Tehran	412 Elderly People	The elderly have a low level of knowledge, attitude and performance towards healthy life style.

Table 1. Summary of previous studies about lifestyle among elderly people (continue)

Authors	Journal Name/Date	Title of Research	Target Group and Number of Samples	Key Findings
Taqdisi et al.	Iranian Journal of Aging 2012	Factors Affecting Healthy Lifestyle in Elderly People Views in Shabestar, Iran	15 Elderly People	Three Key Factors of “Healthy Life Dimensions, Social Support, and Lifestyle-Selection Facilitating Factors” Were Recognized.
Hekmat Pour et al.	Journal of Daneshvar Medicine 2012	Effects of Healthy Lifestyle Training on Physical Activities Improvement in Elderly People of Arak, Iran	60 Elderly People	Significant Relationship between Daily Activities, Before and After Trainings
Najimi et al.	Journal health SystRes 2012	Lifestyle Evaluation in Elderly People of Isfahan	250 Elderly People	Significant Relationship between Awareness Score and Healthy Lifestyle in Different Areas
Mahmoudi et al.	sari Islamic Azad University 2012	Lifestyle Evaluation in Elderly People of Agh Ghala, Iran	310 Elderly People	19% had undesirable lifestyle, 54% average and 27% had a desirable lifestyle
Taira et al.	Psychiatry and Clinical Neurosciences 2002	Healthy Sleep and Lifestyle in Elderly People from japan	109 Elderly People	Significant Relationship between Healthy Sleep and Healthy Lifestyle in Different Issues of Elderly People
Knoops et al.	JAMA 2004	Healthy Lifestyle and Mediterranean Diet in Mortality Reduction of Elderly People in Countries European	2339 Elderly People	Diet, Alcohol, Physical Activities and Smoking Have Relationship to All Causes of Mortality.
Polychronopoulos et al.	Lipids in Health and Disease 2005	Diet, lifestyle factors and hypercholesterolemia in elderly men and women from Cyprus	150 Elderly People	Adherence to a Mediterranean diet and healthful lifestyle is associated with reduced odds of having hypercholesterolemia among elderly people
Poynter et al.	Cancer Epidemiol Biomarkers Prev. 2013	Reproductive, lifestyle and anthropometric risk factors for cancer in elderly women	41,836 women	Etiologic differences may exist in cancers occurring in the very elderly. Few risk factors were identified for rectal cancer in women. For breast cancer, notably different patterns were revealed, with alcohol consumption associated with risk in the younger group and previous hysterectomy associated with risk only in the older group.
Puig et al.	Journal Gerontology Geriatric Research 2013	Lifestyle in Elderly People Receiving Home Care Services in Spain	26 Elderly People	Many of them had not access to adequate nutrition, %42.3 of them were with chewing problems, %65.3 were dependent on others, most of them were visited at home and just walk as their exercise
Singh et al.	Scholars Journal of Applied Medical Sciences 2013	Lifestyle in Elderly People, Background in India`s Downtowns	400 Elderly People	The majority (57.75 per cent) was not addicted, 55 per cent had of poor diet and 52.3 were with lack of physical activity. Men had more exercises than women

Table 1. Summary of previous studies about lifestyle among elderly people (continue)

Authors	Journal Name/Date	Title of Research	Target Group and Number of Samples	Key Findings
Noosorn et al.	European scientific journal 2013	Health Promoting Behaviours in Elderly People Living Alone with Chronic Diseases in Thailand	572 Elderly People	Those living alone were 2.73 times more likely to report alcohol use to hazardous levels than those living with a caregiver, and 2.43 times more likely to report problems in managing stressful life events than those living with caregiver.
Srivastava et al.	International Journal of current Research	Factors Affecting Lifestyle and Mortality in Elderly People of India	100 Elderly People	Emotional problems and cataracts were the most common diseases in elders, with osteoarthritis as the next one.
Sanjeeva Rao Nallapu et al.	Journal of clinical and diagnostic Research 2014	Investigation of Diseases Related to Elderly People Lifestyle in India	1026 Elderly People	The most common chronic diseases were hypertension, diabetes and arthritis. in illiterate women, housewives and widows, diseases severity had relation with all area of lifestyle
Clark et al.	Journal Epidemiol Community Health 2012	Intervention Impact of Healthy Lifestyle on Health Promotion in Independent Elderly People from California	460 Elderly People	Participants in intervention group showed favourable changes in body pain, joy and happiness, social activities, mental health, life satisfaction and depressive symptoms and their quality of life.
Eglite et al.	Economic Science for Rural Development 2009	Healthy Lifestyle in the Elderly's View in Romania and Latvia	255 Elderly People	In both countries, the elderly not very often use fresh food in their everyday life, or healthy. Daily physical exercises of the elderly are impacted by the type of their housing. The family and social environment are important for their social and physiological feeling of comfort.

Discussion

The findings of this review showed that the elderly had not generally desirable health-promoting lifestyle. Due to the high costs of health care, the need for change in therapeutic approach to disease prevention approach should be emphasized. In this regard, we emphasize the importance of health promotion, including encouraging a healthy lifestyle, creating supportive environments for health, reorient health services and public health policies. Given that the major cause of mortality and morbidity in modern societies is related to improper lifestyle and change in unhealthy behaviors take long time. This requires careful planning and continuing education in order to achieve the improvement of the health and reduce chronic diseases and different complications of not having a healthy lifestyle in a broad level. In Davies et al. study health promoting behaviors lead to healthy aging and improving the quality of life in older people (37). In this study the key components of healthy lifestyle interventions may improve awareness about a healthy lifestyle and encourage older people to change

their unhealthy behaviors that ultimately reduce the risk of chronic disease and its complications.

Banegas et al. study showed that a diet rich in fruits and vegetables had a favorable impact on health related quality of life as well as control and weight loss. Lack of use or less use of salt in the diet, more physical activity and limit or avoid consumption of alcohol were of effective factors in the treatment of high blood pressure (38). Spencer et al. study indicated that if more people become convinced to maintain healthy lifestyle, a significant reduction in the incidence of heart disease will be seen (39). In Taira et al. study there was a relationship between healthy sleep and a healthy lifestyle in elderly people (26). In Fernandez study, sleep disorder was one of the fixed signs of depression (40). In Noosorn et al. study there was relationship between living alone with high alcohol consumption and difficulties in managing stressful life events (30). In Jiuán study, one of the potential risks threatening health in old age was loneliness and isolation (41). Taghdisi et al. identified three key factors affecting the elderly healthy lifestyle as "aspects of a healthy lifestyle", "social support" and "facilitating factors in adopting a healthy lifestyle

"(15). In Chalise et al. study, the most important sources of social support in the elderly named spouse support, children living with their parents and the support of friends, relatives, and neighbors (42).

Finally, it should be noted that many factors may affect their lifestyle, which seem different in every community. Every society needs to improve lifestyles and follow health advices to live healthy and longer. Undoubtedly, promoting healthy behaviors and modification of people's lifestyle may greatly reduce the diseases. Based on comparing the results of retrieved reviewed literatures, it can be concluded that every society should measure the lifestyle in its elderly people and conduct the needed actions accordingly.

Suggestions

Although in old age it is hard to increase the education level but to raise their awareness about healthy lifestyles appropriate educational programs can be designed by policy-makers and health officials in this matter.

Conclusion

Despite considerable intention to and subsequent self-care behaviors toward OA, there is less evidence of (intention to) some activities among older adult patients, such as swimming and effective use of cane. These areas of particular concern in this population are critically important to be explicitly addressed with so many effective ways to manage.

Conflict of interest

The authors declare that there is no conflict of interest.

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References

- Golmakani E, Usefi MR, Tabatabaeichehr M, Ghanei zare F, Moayyed L, Hasan zadeh E, et al. Fall in elderly: A literature review. *Journal of North Khorasan University of Medical Sciences*. 2013; 5(5): 1159-63. [Persian]
- Fotoukian Z, Mohammadi Shahboulaghi F, Fallahi Khoshknab M. Analytical on empowerment interventions in older people with chronic disease: A review literature. *Journal of Health Promotion Management*. 2013; 2(4): 65-76. [Persian]
- Nanbakhsh F, Mohaddesi H, Amirabi A, Hajshafiha M, Broomand F, Bahadori F. The effect of health education on elderly weomen life quality. *Payavard*. 2011; 5(1): 47-57. [Persian]
- Statistical Centre of Iran: National Population and Housing Census. 2011. Available from: www.amar.org.ir/Portals/1/Iran/90.pdf. Accessed at 26 March 2015
- Mirzayi M, Shams Ghahfarakhi M. Demographics of elderly in Iran based on censuses 1956-2006. *Iranian Journal of Aging*. 2007; 2(3): 326-31. [Persian]
- Azizi F. Changes of lifestyle for the prevention of non-communicable diseases. *Iranian Journal of Endocrinology and Metabolism*. 2002; 4(2): 81-4. [Persian]
- Eshaghi R, Farajzadegan Z, Babak A. Healthy lifestyle assessment questionnaire in elderly: translation, reliability and validity. *Payesh*. 2010; 9(1): 91-9. [Persian]
- Samadi S, Bayat A, Taheri M, Joneid B, Rooz – Bahani N. Knowledge, attitude and practice of elderly towards lifestyle during aging. *The Journal of Qazvin University of Medical Sciences*. 2007; 11(1): 83-4. [Persian]
- Mohseni M. *Medical sociology*. Tehran: Tahoory publications; 2006. [Persian]
- Habibi Sola A, Nikpor S, Rezayi M, Haghani H. Relationship between health promoting behaviors with the activities of daily living and activities of daily living with tools in elderly of Tehran. *Iranian Journal of Aging*. 2007; 5(2): 332-39. [Persian]
- Sargazi M, Salehi SH, Naji A. Healthy promoting behaviors of elderly admitted to hospital in Zahedan. *Journal of Rostamineh*. 2012; 4(2): 73-83. [Persian]
- Heidari M, Shahbazi S. Survey of effect an educational program based on self-care of quality of life in the elderly. *Iranian Journal of Nursing*. 2012; 25(75): 1-8. [Persian]
- Hekmatpou D, Shamsi M, Zamani M. The effect of healthy lifestyle education programs on promotion of physical activity in elderly of Arak. *Bimonthly Official Publication Medical Daneshvar*. 2012; 19(98): 33-42. [Persian]
- Habibi A, Neekpoor S, Seyedolshohada M, Haghani H. Health promotion behaviors and quality of life among elderly people: A cross sectional survey 2006. *Journal of Ardebil Medical Sciences*. 2008; 8(1): 29-36. [Persian]
- Taghdici M, Doshmangir P, Dehdari T, Doshmangir L. Influencing factors on healthy lifestyle from viewpoint of elderly people:

- qualitative study. *Iranian Journal of Aging*. 2013; 7(4): 47-58. [Persian]
16. Nasirzadeh M, Gholami L, Jalilian F, Aligol M, Hafezi Bakhtiari M, Mahboubi M, et al. Status of lifestyle in Iranian elderly population. *Journal of Science and Toady's World*. 2014; 3(2): 114-16.
17. Babak A, Davari S, Aghdak P, Pirhaji O. Assessment of elderly lifestyle in Isfahan, Iran. *Journal of Isfahan Medical School*. 2011; 29(149): 1064-73. [Persian]
18. Heshmati H, Asnashari R, Khajavi S, Charkazi A, Babak A, Hosseini S, et al. Life style of elderly in Kashmar, Iran 2012. *Journal of Gorgan Bouyeh Faculty of Nursing and Midwifery*. 2014; 11(1): 39-50. [Persian]
19. Najimi A, Moazemigoudarzi A. Healthy lifestyle of the elderly in Isfahan. *Journal of Health System*. 2012; 8(4): 581-87. [Persian]
20. Mahmudi GH, Niazazari K, Sanati T. Evaluation of life style in the elderly. *Journal of Family Health*. 2012; 1(3): 45-50. [Persian]
21. Shamsadini Lori A, PourMohammadi K, Keshtkaran V, Ahmadi Kashkoli S, PourAhmadi MR. A Survey on the level of the elderly lifestyle in Shiraz. *Journal of Health Based Research*. 2015; 1(1): 75-84. [Persian]
22. Ramezankhani A, Mohammadi G, Akrami F, Zeinali M. Knowledge, attitude and practice of the elder residents of Tehran city about healthy lifestyle. *Journal of Health in the Field*. 2013; 1(1): 1-5. [Persian]
23. Taheri M, Mohammadi M, Paknia B, Mohammadbeigi A. Elderly awareness on healthy lifestyle during aging. *Tropical Medicin and Surgery*. 2013; 1: 139.
24. Johari S, Mosalla nezhad Z, Falsafian R. Evaluation of the relationship between lifestyle and health among the elderly visiting Tehran's parks. *Middle Eastern Journal of Disability Studies*. 2014; 4(3): 10-14.
25. Rashedi S, Bahrami M. Factors related to the health promoting life style among geriatric patients. *Journal of Nursing and Midwifery Urmia University of Medical Sciences*. 2015; 13(2): 90-8. [Persian]
26. Taira K, Tanaka H, Arakawa M, Nagahama N, Uza M, Shirakawa S. Sleep health and lifestyle of elderly people in Ogimi, a village of longevity. *Psychiatry and Clinical Neurosciences*. 2002; 56(3): 243-44.
27. Singh JP, Singh PN, Kariwal P, Singh AK, Kasturwar NKB, Srivastava A. Geriatric life style profile in an urban slum, central India. *Scholars Journal of Applied Medical Sciences*. 2013; 1(4): 344-47.
28. Srivastava MR, Srivastava JP, Bhardwaj P, Sachan B, Gupta P, Choudhary S. A study on lifestyle and morbidity profile of geriatric population in luck now. *International Journal of current Research*. 2014; 6(5): 6614-18.
29. Sanjeeva Rao Nallapu S, Sai TSR. Estimation of lifestyle diseases in elderly from a rural community of Guntur district of Andhra Pradesh. *Journal of Clinical and Diagnostic Research*. 2014; 8(4): 1-4.
30. Noosorn N, Saengngern S. Health promoting behaviors among older people living alone with chronic disease in the lower northern region of Thailand. *European Scientific Journal*. 2013; 9(6): 214-26.
31. Poynter JN, Inoue-Choi M, Ross JA, Jacobs DR Jr, Robien K. Reproductive, lifestyle and anthropometric risk factors for cancer in elderly women. *Cancer Epidemiology, Biomarkers & Prevention: a Publication of the American*. 2013; 22(4): 681-7.
32. Knoop KTB, Groot CPG, Kromhout D, Horng MS. Healthy lifestyle and Mediterranean an diet decreases mortality in the elderly. *Journal of Clinical Outcomes Management*. 2004; 292: 688-9.
33. Polychronopoulos E, Panagiotakos DB, Polystipioti A. Diet, lifestyle factors and hypercholesterolemia in elderly men and women from Cyprus. *Lipids in Health and Disease*. 2005; 4: 17.
34. Clark F, Jackson J, Carlson M, Chou CP, Cherry BJ, Jordan-Marsh M, et al. Effectiveness of a lifestyle intervention in promoting the well-being of independently living older people. *Journal of Epidemiology and Community Health*. 2012; 66: 1082.
35. Puig M, Ávila NR, Canut MTL, Farras JF. Lifestyle of the elderly receiving home care Spain. *Journal of Gerontology and Geriatric Research*. 2013; 121(2): 2-4.
36. Eglite A, Vintila M, Grinfelde A, Kantike I. Healthy lifestyle in the elderly s view in Romania and Latvia. *Economic Science for Rural Development*. 2009; 19: 97-102.
37. Davies N. Promoting healthy ageing: The importance of lifestyle. *Nursing Standard*. 2011; 25 (19): 43-9.
38. Banegas JR, Guallar-Castillon P, Rodriguez-Artalejo F, Graciani A, Lopez-Garcia E, Ruilope LM. Association between awareness, treatment, and control of hypertension, and quality of life among older adults in Spain. *American Journal of Hypertension*. 2006; 19(7): 686-93.

39. Spencer CA, Jamrozik K, Lawrence-Brown M, Norman PE. Lifestyle still predicts mortality in older men with established vascular disease. *Preventive Medicine*. 2005; 41(2): 583-8.
40. Fernández Fernández C, Caballer Garcia J, Saiz Martínez PA, García-Portilla González MP, Martínez Barrondo S, Bobes García J. Depression in the elderly living in rural area and other related factors. *Actas Españolas de Psiquiatría*. 2006; 34(6): 355-61.
41. Jiu Tan S, Kuan Tambyah S, Keng Kau A. The influence of value orientations and demographics on quality-of-life perceptions: evidence from a national survey of Singaporeans. *Social Indicators Research*. 2006; 78: 33-59.
42. Chalise HN, Kai I, Saito T. Social support and its correlation with loneliness: a cross-cultural study of Nepalese older adults. *International Journal of Aging & Human Development*. 2010; 71(2): 115-38.