

Knowledge of healthy lifestyle in Iran: a systematic review

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Abstract

Introduction: Lifestyle is a set of goals, plans, values, attitudes, behaviors, and beliefs manifested in the personal and family life of the individual and in her or his social interactions. It is an interdisciplinary concept that involves a health-oriented view of the physical, psychological, social, and spiritual domains of life. Despite their great importance, there is not much knowledge in Iran about healthy lifestyles. The present study is an attempt to address the knowledge of healthy lifestyle in Iran through a review of the literature on the subject.

Methods: The present systematic review searched Elsevier, SID, Pub Med, Magiran, IranMedex, and Google Scholar databases for relevant articles published between 2000 and 2014. We used various keywords for the searches, including knowledge, lifestyle, health, and Iran. As a result, 62 articles were included in the study.

Results: There has been a dramatic increase in the publication of articles on lifestyle in Iran over the past 10 years. The results obtained showed that 64% of the articles addressed physical health, 14% addressed psychological health, 10% addressed social health, and 12% addressed spiritual health. Most lifestyle studies conducted in Iran have focused on physical health, and a few have examined the psychological, social, and spiritual aspects of lifestyle. None of the studies has examined the knowledge map of healthy lifestyles in Iran.

Conclusion: Given the changes in the causes of mortality from infectious and chronic diseases that impose greater medication and treatment costs on the society, and since diseases caused by unhealthy lifestyles have become the leading cause of death, it is essential for health researchers to focus on the root cause of these diseases, i.e., lifestyle and human behaviors.

Keywords: lifestyle, health, knowledge map, Iran, systematic review

1. Introduction*1.1. Background*

Lifestyle is a set of goals, plans, values, attitudes, behaviors, and beliefs manifested in the personal and family life of the individual and in her or his social interactions. It is an interdisciplinary concept that involves a health-oriented view of the physical, psychological, social, and spiritual aspects of life; lifestyle is in interaction with the social structure and context and the cultural context and capital (1). Studies have shown that lifestyle changes could help

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prevent 90% of diabetes type II and 80% of cardiovascular disease (2). Metabolic syndrome is associated strongly with unhealthy lifestyle models (3, 4). In addition, the metabolic syndrome is associated with increased risk of cardiovascular disease and type 2 diabetes (5, 6). Lifestyle practices are relatively constant, and that is the way to achieve the objectives and specific lifestyle of a person, group, or society. The World Health Organization has indicated that lifestyle can be defined based on certain patterns and behaviors that result from the interaction between personal characteristics, social interactions, social-economic position, and the environment (7). The concept of lifestyle was proposed by Adler (8) and was further discussed by his followers and other scholars. Lifestyle is a relatively fixed way through which the individual seeks to achieve her or his goals; it is a way for achieving goals and is specific to every individual, group, or community. The World Health Organization views lifestyle in accordance with specific definable behavior patterns produced by the interaction between personal attributes, social interactions, and environmental and socioeconomic conditions (9). In the last few decades, the general concept of lifestyle has become extensively popular among the public, and healthy lifestyles have become the focus of research for social scholars, medical sociologists, and health researchers. Such lifestyles consist of behaviors through which individuals engage in proper diets, regular exercise, the avoidance of destructive behaviors and drugs, protection against accidents, the early detection of the physical symptoms of diseases, emotional and intellectual control, coping with stress and psychological problems, independence, adaptation, and the modification of interpersonal relationships at the social level (10). One of the objectives set by the World Health Organization is the promotion of healthy lifestyles in societies by 2020. Therefore, governments should develop and implement strategies that can help improve the personal and social lives of people on their agenda (11) with the goal of mitigating unhealthy lifestyle practices, such as poor physical activity, poor nutrition, and drug abuse (12). Thus, it is imperative for healthcare systems to focus on behavioral approaches and risk factors in addition to conducting clinical assessments.

1.2. Statement of the Problem

Given the multi-causal nature of healthy lifestyle practices, their definition targets a particular consistency in performing a set of health-related behaviors (13). A healthy lifestyle is a valuable source for reducing the spread and impact of health problems, promoting health, increasing adaptation to life stressors, and improving the quality of life. Having a life of quality and health with an acceptable longevity and free of disease and disability is a universal right for humans for which governments and health systems are responsible, and it is a prerequisite for sustainable development (14). For people, health is the product of the interaction between genetic heritage and the social, psychological, and ecological environment in which one lives. Each of these factors has its separate effects on the individual's health. In addition to the differences in her or his biological and genetic background, an individual is encircled by her or his habitat, consisting of the physical and ecological environment in which the person lives. People also are affected by their economic, social, and psychological environment. The habitat is constantly changing, and changes in the ways people work and their lifestyles affect their health dramatically, leading to changes in disease and mortality patterns. These changes are referred to as 'health transition. Considering the interactions between the physical, psychological, social, and spiritual dimensions of health, modern medicine perceives people as consisting merely of separate parts, and it overlooks the interactions between the existential dimensions. Also, it is less focused on the relationship between the physical and mental dimensions and the other factors that affect health. Thus, it tends to have similar prescriptions for different individuals and ignores the many side-effects of chemical drugs and the heavy medical costs and other financial burdens imposed on the government by hospital bed occupancy. Therefore, researchers are more interested in the prevention and promotion of health through improving lifestyles and eliminating the factors that have adverse health effects. Unhealthy lifestyles are one of the factors that affect the incidence of chronic diseases. Research has demonstrated that up to 90% of the cases of type 2 diabetes and 80% of cardiac diseases can be prevented by making lifestyle changes (1). With the changes in the causes of mortality from infectious to chronic diseases that impose great medication and treatment costs on the society, researchers have been drawn to the root cause of these diseases, i.e., lifestyle and human behaviors. The main causes of mortality include smoking, poor diets, and the lack of physical activity, and diseases caused by unhealthy lifestyle patterns have become the leading cause of mortality in the modern world (15). The World Health Organization has predicted that 70% to 80% of mortalities in developed countries and 40% to 50% in developing countries are caused by lifestyle-related diseases (16). This report identified five major globally-prevalent chronic diseases, i.e., obesity, cardiac arrest, diabetes, cancer, and osteoporosis. In Iran, chronic diseases, especially cardiovascular diseases and the metabolic syndrome index, are considered to be the main causes of mortality and disability, and they are related directly or indirectly to lifestyle and nutrition (17). Research has demonstrated that 90% of the cases of type 2 diabetes, 80% of cardiac diseases, and 33% of cancers could be prevented through lifestyle changes, including improved diets, weight control, physical activity, and abstinence from

smoking (1). The World Health Organization has indicated that many of the major risk factors that lead to death can be overcome through lifestyle changes (18). Dean Ornish from the University of California in San Francisco and the Preventive Medicine Research Institute studied the effects of diet and lifestyle choices on health and disease, and they posited that our telomerase and genes do not necessarily dictate our fate and can be changed by making healthy lifestyle choices. The members of the study group that had changed their lifestyles had a spectacular 10% increase in their telomerase length. Therefore, it can be surmised that genetics, lifestyle, and the environment work together to predict our health and that health services contribute to a meager 25% of our health (19). According to the results of a study, issues such as the structural weaknesses of health policy-makers who should be planning improvements in people's lives, inadequate attention to general health education, insufficient educational content on health promotion and improved lifestyle in the students' textbooks and families' neglecting of the Islamic teachings and their fading attention to the Islamic doctrine have widened the gap between the community and the Islamic lifestyle (20). Cockerham and Williams emphasized that health research should not be focused on the individual as an independent member of the community; rather, it should account for collective behavior patterns within a social context (21). Many scholars believe that the Western lifestyles based on materialistic thinking and consumerism, which have now also affected Iranian society in spite of the rich Islamic school on which it is founded and its many lifestyle-related recommendations. Cockerham's assertion about political and religious ideologies' having a significant effect on healthy lifestyle choices leads to the conclusion that, as the main intervening factor, Islam can help improve people's lifestyles. Health professions, which formerly used to focus on the treatment of diseases, are now concerned with the prevention of disease and the provision of health through improved lifestyle choices and the elimination of factors that have adverse health effects (22). As much as 53% of the causes of death are lifestyle-related (23). Poor lifestyle choices form a major factor affecting the incidence of chronic diseases, such as colon cancer, hypertension, chronic obstructive pulmonary diseases, hepatic cirrhosis, HIV, and cardiovascular diseases (24). Non-communicable diseases, in particular, have a close relationship with lifestyle. In other words, lifestyle is considered a major determinant of each individual's health and disease (25). Inevitably, the failure to improve people's lifestyles has irreversible future consequences. Lifestyle improvement necessitates changes in behaviors that form a large part of the individual's daily habits. If the overall quality of life does not improve with lifestyle changes, the persistence of this motivation will be hindered. Several studies have examined the relationship between lifestyle and the quality of life and its various dimensions (26). Modern healthcare services have gradually turned their attention from the assessment of mortality rates as an indicator of health outcomes toward wider scopes, such as the promotion of health, lifestyle, and the quality of life; in fact, lifestyle currently is considered to be the main indicator of health, with its improvement leading to the promotion of health by helping people cope with stressors and improve the quality of life (27). The World Health Organization has concluded that making lifestyle changes and modifications can overcome many major mortality risk factors (18). The present review study identified numerous recent studies conducted on lifestyle; however, they were scattered in different centers. As a sociological term, lifestyle is directly linked to a set of concepts. Therefore, an official organization or institution should identify the main research priorities, examine the void in studies conducted on this subject, and advise concerned institutions. A review of the literature showed that studies on this subject have been conducted in a scattered manner and that their results have not been nationally proposed as a package by any one particular organization or institution.

1.3. Study Objectives

Problem identification is the key to leadership in human societies. Addressing the issue of lifestyle practices from both a material and a spiritual perspective is absolutely essential. Given the growth in chronic diseases in the recent decade in developing countries, such as Iran, which has led to increased health problems such as obesity, cardiovascular diseases and diabetes, modifying the various aspects of lifestyle in all the classes of the society are necessary (28).

2. Material and Methods

In our systematic review, we searched Elsevier, SID, Pub Med, Magiran, IranMedex, and Google Scholar databases for articles published between 2000 and 2014. We used various keywords, such as knowledge, lifestyle, health, and Iran. We identified 62 articles that ultimately were included in the study.

2.1. Inclusion and Exclusion Criteria

Given the extensive range of studies conducted on lifestyle, the selection criteria used for the articles were:

- 1) The research being set in Iran
- 2) The article being published in credible scientific and research journals
- 3) The research having focused on healthy lifestyle practices in Iran

- 4) The article being published in Persian or English

2.2. Qualitative Assessment

In the qualitative assessment of each article, the title, abstract, methods, results, and discussion were fully reviewed. The search was conducted for articles published by 2014 using the noted keywords and standard search strategies, and 110 articles were identified. The title and abstract of the articles that involved the keywords were reviewed, and 70 articles were selected for inclusion in the next stage. Similar articles published on multiple websites were merged. Articles that did not meet the study's inclusion criteria were excluded, and the remaining 62 articles were studied extensively.

3. Results

We selected 62 articles for inclusion in the study. There has been a dramatic increase in the number of lifestyle-related articles published in Iran in the past decade. The results obtained showed that 64% of these articles discussed physical health, 14% discussed psychological health, 10% discussed social health, and 12% discussed spiritual health. As suggested by the numbers, most of the articles were concerned with physical health, and only a few were focused on the psychological, social, and spiritual aspects of the knowledge of lifestyle. Moreover, none of the studies examined the knowledge map of healthy lifestyles in Iran. The search began in the selected databases using the study's keywords. The article's abstracts were reviewed first, and, then, due to the large number of articles that were identified, only the titles related to healthy lifestyles were selected for inclusion in the study. Initially, we selected 150 relevant articles based on the study's inclusion and exclusion criteria. After excluding duplicate articles, 110 articles were included in the next stage, during which the full texts of the articles were examined, resulting in the selection of 70 articles. After some reassessments, 62 articles were chosen for the final analysis. Table 1 shows a summary of the most important results obtained from these articles.

Table 1. Summary of the articles' results

Article Title	Statistical Population	Methods and Year of Publication	Results
Comparison of quality of life and mental health among two groups of military and non-military personnel	341	Descriptive-Comparative, 2008	The military university personnel had a higher mental health status compared to the non-military university personnel due to the implementation of preventive mental health promotion programs and a greater job security
Effect of intervention to change lifestyle on reduced marital conflict	80	Interventional (Control-Case), 2004	The intervention used to change lifestyle reduced marital conflicts with respect to personal issues, financial management, conflict resolution and sexual relationship
Comparison of the effectiveness of two interventions to change lifestyle in increasing marital adjustment	260	Experimental, 2006	Both interventions (i.e. marriage counseling and lifestyle changing) were effective in reducing marital conflict
Healthy lifestyle characteristics among adults in the US	153000	Descriptive, 2000	Four elements of a healthy lifestyle led to a better health, including 30 minutes of exercise 5 days per week, eating five servings of fruit per day, weight loss, and abstinence from smoking
Lifestyle in scientific medical research		Descriptive, 2013	A healthy lifestyle incorporates physical, mental, social and spiritual health
The relationship between lifestyle and students' general health	1300	Correlation, 2005	There is a significant relationship between general health and exercise, diet, smoking, compliance with the rules of safety and stress management
The concept of lifestyle and its scope in sociology		Review, 2007	Lifestyle includes the personal, social, material and spiritual dimensions of the human life

4. Discussion

In this study, we fully reviewed 62 articles to provide a picture of the studies conducted on healthy lifestyle in Iran. Each of these articles addressed the subject from their own specialized perspective. Studies conducted on lifestyle and mental health have posited that the promotion of mental health and the implementation of prevention programs, as well as improving job security and transparency in promotional prospects, have led to enhanced mental health among workers and employees (29). In a study conducted by Ahmadi et al., interventions for changing lifestyle were shown to have reduced marital conflicts with respect to personal issues, financial management, conflict resolution, and sexual relationships. Family counseling is a method of intervention for conflict resolution and lifestyle modification that was found to be effective in reducing marital conflicts (30, 31). In another study, Ghorbanalipour et al. concluded that providing group training on lifestyle changes was effective in increasing marital satisfaction (32). Most of the studies were concerned with lifestyle and physical health, some of which will be further examined in this section. The phenomena of modernization, technological advances, increased urban density, lifestyle changes, and the tendency toward bad habits have led to an unprecedented increase in the prevalence of non-communicable diseases, including cardiovascular diseases as the most common cause of mortality and disability throughout the world. In one study, the implementation of a family-oriented empowerment model was deemed practical for patients with myocardial infarction and was found to lead to lifestyle improvements or changes for both the patients and their families (33). In another study, Abedi et al. confirmed the effectiveness of lifestyle changes in reducing the risk factors associated with cardiovascular diseases in sedentary, postmenopausal women in Ahwaz (34). In a study conducted on the relationship between lifestyle and chronic obstructive pulmonary disease, Rouhafza et al. concluded that lifestyle was a factor that affected the health of these patients and found that managing and improving the patients' lifestyle and performing pulmonary rehabilitation comprised effective steps in the treatment of this condition and that lifestyle should be an integral part of treatment programs targeting these patients (35). In a study on the relationship between lifestyle and primary hypertension in Sabzevar, Najjar et al. found a significant relationship between this condition and diet, sleep patterns, smoking, physical activity, and Body mass index (36). In their study on nutrition, lifestyle and exercise in postmenopausal women in Sabzevar, Yousefzadeh et al. found that training women about the vital role of consuming dairy products, performing daily exercise and adhering to a healthy lifestyle is effective in preventing the incidence of many postmenopausal complications (37). In another study conducted on the relationship between lifestyle prior to the diagnosis of gastric cancer in patients admitted to Aras clinic of Ardabil in 2006, most of the patients were found to suffer from poor nutrition and a lack of physical activity and exercise (38). In another study conducted in 2005 in district 17 of Tehran municipality on the relationship between lifestyle in adolescent girls and the prevention of osteoporosis showed that 57.7% of them had a poor lifestyle (39). Studies conducted on lifestyle and social health have indicated that, in the course of achieving social capital and a healthy community, the empowerment of families and the modification of their lifestyle practices in accordance with religious teachings can be considered an appropriate solution to the challenges of leading a healthy life in the modern world. Muslims can use their religious teachings and advice as a factor affecting changes in their lifestyle (20). Self-care is a major dimension of a healthy lifestyle. Individuals with high self-care capabilities value their health and make an effort to avoid illness, and when they do get sick, they try to recover their health as quickly as possible. Self-care capabilities vary among members of a population depending on their marital status and social class and are significantly related to various parameters, such as social capital, cultural capital, economic capital, BMI, physical attractiveness, the value of health, feelings of powerlessness, and body management (40).

In his study on the role of spirituality and religion in health, Dabaqi posited that religious faith and spirituality are negatively related to poor health behaviors, such as smoking and drug abuse. Various aspects of faith are linked to reduced depression and suicide and mortality rates and increased longevity, marital satisfaction, well-being, and happiness and an improved immune system function (41). The results of a study by Azartal et al. showed that adopting a health-promoting lifestyle that enables "psychological growth" and "stress management" was significantly related to the overall quality of life, at least among students (42). The researchers' concept of a healthy lifestyle was comprised of physical, psychological, social, and spiritual dimensions (43). Sammie et al. found a significant relationship between students' general health and their lifestyles, including exercise, diet, smoking, compliance with the rules of safety, and stress management (44). In another study, family-oriented and individual-oriented education had the effect of reducing BMI and improving lifestyles (45). In a study conducted on the relationship between lifestyle and health-related quality of life in female high school students in Mashhad, Naghibi et al. found that, of the 18 dimensions of quality of life, "psychological health" and "physical health" had the highest and "social acceptance" the lowest correlation with lifestyle. Moreover, a significant positive correlation was observed between all the dimensions of lifestyle and quality of life (46). In their study, Majdi et al. found a

statistically significant relationship between the parents' cultural and economic capital and their adolescent children's lifestyle. Adolescents' lifestyle can therefore be argued to be affected by their cultural and economic backgrounds (47). The results obtained by Samimi et al. showed a significant relationship between general health and lifestyle with respect to exercise, smoking, diet, stress, and compliance with the rules of safety (48). In another study, Nour Bakhsh et al. compared lifestyle and mental health in female teachers and housewives in Bashiriyeh and concluded that greater happiness and mental health were related to an improved lifestyle (49). Rozmus et al. investigated health promotion and high risk behaviors in male college students in Southern Alabama and found that 32% of the participants were overweight, 25% had the experience of drunk driving, 12% smoked cigarettes, 27% smoked marijuana, and 34% were sexually active. They found a relationship between gender and health, between drinking and abstinence from drinking and between an exciting life and physical and mental health (50). In another study, Nasrin Barouq et al. found that exercise, physical activity, smoking, and obesity were among the factors contributing to hypertension, and they emphasized the need for performing interventions to change lifestyles in the region (51).

Despite the increasing number of publications on lifestyle over the past years, there are no scientific publications presenting concentrated policies and measures that can help address and resolve the existing health inequities. The results of studies conducted in Iran showed that the significance of this issue is well understood. However, only a few of the reviewed articles dealt with lifestyle and health components, and none addressed the knowledge of practices that help promote lifestyle, the application of the knowledge, its role, and the links it has to other fields of knowledge. Despite the large number of studies conducted on this subject, they have not discussed the issue from the perspective of sociologists and social scholars, as most have been conducted by researchers in health and medical sciences and therefore lack a discussion of all the lifestyle indicators that only sociological studies can fully cover (52). Future studies should therefore be focused on the knowledge of lifestyle and the lifestyle changes this knowledge can affect, and they should seek to identify and utilize the findings of cultural and psychological studies, and more particularly, of social psychology studies. Most studies conducted in Iran have focused on lifestyle, and only a few have examined the health components that affect lifestyle. The review of articles showed that each researcher had dealt with the subject of lifestyle from her or his own specialized perspective and that no organization or institution had addressed lifestyle as a multi-dimensional and multi-causal term in a multi-sect oral manner, which necessitates the conducting of further studies. This subject should be discussed and analyzed as a national and social problem. Given the highlighted role of underlying factors in the development of social inequalities and the differences between countries, there is a gap of knowledge and evidence on the matter in Iran. For instance, religion and ethnicity are factors that are considered important in some countries, such as Iran, but not in others (53). Studies should therefore be designed according to the structural features of each class of the society and health improvement plans should be devised accordingly. There should be a greater focus on the knowledge of lifestyle in different scientific and research institutions, especially in educational centers. Scientific institutions are expected to draw a knowledge map for lifestyle and extract all the components that affect health. Policy-makers are strictly recommended to not use obsolete methods for dealing with new phenomena, and to base their policies and plans and their implementation on modern techniques and studies in order to affect lifestyle components, because the process of lifestyle formation and change are by no means simple. Many factors can lead to the emergence of one style of living in the society and then change its direction and cause its gradual decline. These factors are extensively affected by social and cultural changes and changes in the motivations, intentions, and behavioral patterns of each individual in the society. Although, initially, lifestyle is based on personal choices and identities, once publicized, it cannot be analyzed out of its social and cultural context. At the micro level, the personality and biological and psychological characteristics of the individual, family, friends, school, and university affect the individual's daily life and lifestyle. At the macro level, the city and the larger world the individual inhabits, the media, the highly active social and political atmosphere in which the individual is involved and the cultural climate of the society in which he or she lives affect lifestyle and its changes. Politicians and governments should thus not be indifferent to lifestyle changes and should encourage researchers to conduct studies on the subject.

5. Conclusions

Health is a concept that necessitates the promotion of a healthy lifestyle. The significant role of lifestyle is in the effect it exerts on the quality of life and the prevention of diseases. Lifestyle modifications and improvements are essential for maintaining and promoting health. The promotion of community health is an important pillar of progress in all societies. Given the financial burden imposed by diseases, health problems take up a substantial part

of families' income and ultimately the national income. It is therefore essential to pay a greater attention to health-promoting lifestyles and their determinants.

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Conflict of Interest:

There is no conflict of interest to be declared.

Authors' contributions:

All authors contributed to this project and article equally. All authors read and approved the final manuscript.

References

- 1) EbrahimAbad H. Interdisciplinary approach to lifestyle, Looking to Iranian society. *Interdisciplinary Studies Journal in Humanities*. 2013; 5(4): 33-54.
- 2) Shojaeizadeh D, et al. Comparison of factors affecting Lifestyle in type II diabetic patients and healthy individuals Shahid Rajai Hospital Tonekabon in 2005. *J Shaheed Sadoughi Univ Med Sci*. 2008; 16(2)
- 3) Eckel RH, Grundy SM, Zimmet PZ. The metabolic syndrome. *Lancet*. 2005; 365(9468): 1415-28. PMID: 15836891.
- 4) Levesque J, Lamarche B. The metabolic syndrome: definitions, prevalence and management. *J Nutrigenet Nutrigenomics*. 2008; 1: 100-8. doi: 10.1159/000112457, PMID: 19776619.
- 5) Ford ES. Risks for all-cause mortality, cardiovascular disease, and diabetes associated with the metabolic syndrome: a summary of the evidence. *Diabetes Care*. 2005; 28: 1769-78. PMID: 15983333.
- 6) Wilson PW, Agostino RB, Parise H, Sullivan L, Meigs JB. Metabolic syndrome as a precursor of cardiovascular disease and type 2 diabetes mellitus. *Circulation*. 2005; 112: 3066-72. PMID: 16275870.
- 7) Andrews GR. Promoting health and function in an ageing population. *BMJ*. 2001; 24(7288): 728-9. PMID: 11264216, PMCID: PMC1119908.
- 8) Kattryn T, Dominic U. *The Psychology of lifestyle*. London: Routledge. 2008.
- 9) Park JI. *General health: textbook of community medicine*. Trans. Shojaei Tehrani H. Tehran, Iran: Samat Publications; 2004.
- 10) Dayan H. *Healthy living advice*, translation by Ali Ahmadi Abhari Elahe Myzayy. Tehran: Publication Library April 1997.
- 11) Monahan FD, Phipps W. *Phipps' medical-surgical nursing*. 8th ed. St. Louis: Mosby; 2007.
- 12) Parsa S, Soltani R. *Maternal and child health*. Tehran: Sanjesh Publication. 2002.
- 13) Chaney D. *Cosmopolitan art and cultural citizenship*. *Theory, Culture and Society*. 19. 2002; 1(2): 157-74.
- 14) National document the development of Health, Ministry of Health and Medical Education, Aslams Republic of Iran, March 2004.
- 15) AmirKhani M, et al. [Health status, risky health behaviors of students based on academic year 2006-7]. *Isfahan: Isfahan University of Medical Sciences*. 2008; 3(7): 24.
- 16) Kaplan NM. Hypertension curriculum review: lifestyle modifications for prevention and treatment of hypertension. *J Clin Hypertens (Greenwich)*. 2004; 6(12): 16-9. PMID: 15599122.
- 17) Akbari I. Community nutrition as a healthy key. *Proceedings of the 8th Congress of Nutrition*.
- 18) Borhani F, Abszadeh A, Kohan S, Golshan M, Dortajrubary A. Relationship between body mass index and lifestyle among young people in the city of Kerman. *Journal of Nursing Research*. 2007; 2(6): 65-72.
- 19) Ornish D, Lin J, Chan JM, Epel E, Kemp C, Weidner G, et al. Effect of comprehensive lifestyle changes on telomerase activity and telomere length in men with biopsy-proven low-risk prostate cancer: 5-year follow-up of a descriptive pilot study. *Lancet Oncol*. 2013; 14(11): 1112-20. doi: 10.1016/S1470-2045(13)70366-8, PMID: 24051140.
- 20) Dalvand A, et al. Explanation of lifestyle-oriented health On Islamic culture. *Journal of Research in Health Sciences*. 2012; 1(14): 332-43.
- 21) Cockerham WC. Health lifestyle theory and the convergence of agency and structure. *J Health Soc Behav*. 2005; 46(1): 51-67. PMID: 15869120.
- 22) Phipps C. *Fundamental of nursing*. Philadelphia: Lippincott. 2001: 50-2.
- 23) Montgomery J. *Health care low*. New York: Oxford University Press. 1997: 75.

- 24) Black JM, Hawks J, Keene A. Medical-Surgical Nursing: Clinical Management for Positive Outcomes. Philadelphia: Elsevier - Health Sciences Division. 2001: 5223.
- 25) Tashiro J. Exploring health promoting lifestyle behaviors of Japanese college women: perceptions, practices, and issues. *Health Care Women Int.* 2002; 23(1): 59-70. PMID: 11822559.
- 26) Covinsky KE, Wu AW, Landefeld CS, Connors AF, Phillips RS, Tsevat J, et al. Health status versus quality of life in older patients: does the distinction matter? *Am J Med.* 1999; 106(4): 435-40. PMID: 10225247.
- 27) Rafifar S, Ahmadzadasl M, Esmaily M, Dzhpasand S, Parsinia S, Khosronjad M, et al. [Health promotion]. Tehran: Mehrravash. 2005: 123-5.
- 28) Hutchinson JW, Greene J, Hansen S. evaluation active duty risk-taking: military home, education, activity, drugs, sex, suside and safety method. *Mil Med.* 2008; 173(12): 1164-7. PMID: 19149332.
- 29) Fathi-Ashtiani A, JafariKandovan G. Comparison of lifestyle and quality of life. Mental health of the employees of two universities and its relationship with military and non-military dependence. *Journal of Military Medicine.* 2011; 13(1).
- 30) Ahmadi K, Fathi-Ashtiani A, Etemadi A, Mirzamani S. The influence of methods of lifestyle changing on reduction of spouses' incompatibility. *Iranian Journal of Psychiatry and Clinical Psychology.* 2006; 45: 101-8.
- 31) Ahmadi K, NavaeiNejad S, Etemadi A. The comparison of effectiveness of two intervention methods of changing lifestyle and solving the family problem in reducing marital incompatibility. *Newest and Research Services.* 2003; 5(17).
- 32) Ghorbanalipour M, Farahani H, Borjali A, Leila M. Determining the effectiveness of group training for changing lifestyle. *Psychological Studies College of Education and Psychology of University Zahra.* 2008; 4(3).
- 33) VahedianAzim A, Alhani F, Ahmadi F, Kazemnejad A. Effect of family-centered empowerment model on the lifestyle of patients with myocardial infarction. *Journal of Critical Care Nursing.* 2009; 2(4): 127-32.
- 34) Abedi P, et al. Studying the effect of lifestyle on hazardous cardiac factors in postmenopausal women in Ahvaz. *Journal of Research Health System.* 2011; 17(1).
- 35) Roohafza H, et al. Studying the relationship between lifestyle and chronic pulmonary occlusion. *Journal of Guilan University of Medical Sciences.* 2005; 15(59): 32-7.
- 36) Najjar L, et al. Relationship between life style and primary hypertension in Sabzevar city. *Asrar, Sabzevar University of Medical Sciences.* 2004; 1: 29-30.
- 37) Yousofzadeh S. Evaluation of nutrition, lifestyle and exercise in postmenopausal women Sabzevar city. *Journal of asrar, Sabzevar University of Medical Sciences.* 2004; 1.
- 38) Jafari B. Evaluation of lifestyle before the diagnosis of gastric cancer patients admitted to the Aras clinic in the city of Ardabil in 2006. Master's thesis, Tehran University of Medical Sciences, College of Nursing and Midwifery. 2006.
- 39) Zare L. Evaluation of lifestyle adolescents in relation to the prevention of osteoporosis in district 17 of Tehran 2005. Master Thesis, Tehran University of Medical Sciences.
- 40) AbbasZadeh M, AlizadehAghdam M, BadriGargari R, dadhyr A. Study of Effective Factors Social and cultural their life style caring citizens. *Journal of Social and Cultural Studies.* 2011.
- 41) Dabbaghi P. Studying the role of spirituality and religion in health. *Journal of Paramedical forces of the Islamic Republic of Iran.* 2009; 4(1).
- 42) Azizi F. Lifestyle in medical, scientific research. *Journal of the Medical School, Shahid Beheshti University of Medical Sciences.* 2013; 37(3): 139-44.
- 43) Tal A, Tavassoli E, Sharifirad G, Shojaeizadeh D. Studying the lifestyle which promotes health and its relationship with quality of life among students of bachelor course of faculty of healthcare of Isfahan University of medical sciences. *Journal of Research Health System.* 2011; 7(4).
- 44) Samimi R, Masroor D, Hosseini F, Tamadonfar M. The relationship between lifestyle and general health of students. *Journal of Iran Nursing.* 2006; 19(48).
- 45) BahramiNejad N. Comparison of the effect of family-oriented and individual-oriented education on reduction of body mass index. *Journal of Scientific research, Zanjan University of Medical Sciences.* 2008; 16(62): 67-76.
- 46) Naghibi F, Golmakani N, Ismaili H, Moharreri F. Studying the relationship between lifestyle and health-related quality of life among adolescent girls in Mashhad high schools. *Iranian Journal of Obstetrics Gynecology and Infertility.* 2013; 16(61): 9-19.

- 47) Magdy A, Sadrnabavi R, Behravan H, Hvshmd M. Mashhad youth's lifestyle and its relationship with parents' economic and cultural capital. *Journal of Social Sciences, College of Literature of Human Sciences, Ferdowsi University of Mashhad.* 2010; 7(2): 131-61.
- 48) Samimi A, et al. The relationship between lifestyle and general health of medical students. 2003.
- 49) Noorbakhsh A, et al. The comparison between lifestyle, psychological health and happiness of female teachers and housewives in Bashrooyeh city. *Journal of Science and Research at the contribution, Khorasgan Islamic Azad University.* 2006; 26: 37-62.
- 50) Rozmus C, Evans R, Wysochansky M, Mixon D. An analysis of health promotion and risk behaviours of fresh man college students in a rural southern setting. *J Pediatr Nurs.* 2005; 20(1): 25-33. PMID: 15834356.
- 51) Baroogh N, et al. The relationship of lifestyle with developing high blood pressure among 24-65 years old residents of Kowsar neighborhood in Qazvin in 2007. *Research Journal, Shahid Beheshti University of Medical Sciences.* 2010; 15(5): 193-8.
- 52) Ashtyaqy M, Moslemi Petrudy R. Study the relationship between lifestyle and health. The first National Conference on Student Social factors affecting health, Tehran 2010.
- 53) Heidarian M, et al. Relationship Among Poverty & Life Quality. *Payesh.* 2011; 14(11): 491-5.