



Lifestyle of The Elderly and Its Predictive Factors

Farahnaz Mohammadi Shahboulaghi¹, Zeinab Karbalaee², Azam Zarghi³, Akram Ghanbari Moghaddam⁴, Mojtaba Mohammadi^{5*}

¹ Associate Professor of Iranian Research Center on Aging , Nursing Department, University of Social Welfare and Rehabilitation Sciences ,Tehran, Iran.

²MSc of Nursing, Faculty of Nursing, University of Social Welfare & Rehabilitation Sciences, Tehran, Iran.

³Msc . Faculty of Nursing & Midwifery, Sabzevar University of Medical Sciences,Sabzevar,Iran.

⁴Iranian Research Center on Healthy Aging, Sabzevar University of Medical Sciences, Sabzevar, Iran.

⁵ Iranian Research Center on Healthy Aging, Sabzevar University of Medical Sciences, Sabzevar, Iran.

DOI: 10.5455/ jrmds.20186136

ABSTRACT

Lifestyle of the elderly affects their psychological and physical health significantly and causes some changes in communication patterns or their social activities. Therefore, we decided to investigate its predictive factors. This study is a descriptive-analytical paper and the studied population was all the elderly living in Tehran and lacking any cognitive disorders. There were 400 old people aged 60 years or over than, which had been randomly selected from five areas of Tehran (north, south, center, east and west). Data collection tool was a questionnaire including two parts namely demographic and life style of the elderly (exercise, nutrition, interpersonal relationships, prevention, and stress management) which were filled out by interview. The results of the current research represent that 95% of the old people who live in Tehran have a medium life style, 1% of them have a favorable situation and 4% of them are in an unpleasant condition. Moreover, it is found that there is a statistically significant relationship between lifestyle and job, education, coexistence type, suffering from chronic disease ($P=0.000$) and place of residence ($P=0.006$). The results of multi-factorial linear regression analysis showed that as people get older, their lifestyle score will decrease meaningfully ($P=0.000$). With regard to the relationship detected between lifestyle and some factors such as education, coexistence type, suffering from chronic disease and job among the old people, it is recommended that the health-care administrators pay more attention in their educational programs toward the key role of related and predictive factors in promoting lifestyle and, subsequently, improve the health of the elderly using continuous and scheduled educations concerned with healthy lifestyle.

Key words: Lifestyle, The elderly, Tehran

HOW TO CITE THIS ARTICLE: Farahnaz Mohammadi Shahboulaghi,Zeinab Karbalaee, Azam Zarghi, Akram Ghanbari Moghaddam, Mojtaba Mohammadi*, Lifestyle of The Elderly And Its Predictive Factors, J Res Med Dent Sci, 2018, 6 (1):219-225, DOI: 10.5455/ jrmds.20186136

Corresponding author: Mojtaba Mohammadi
e-mail✉Mohammadiuswr@gmail.com

Received: 15/10/2016

Accepted: 20/03/2017

INTRODUCTION

According to the report by UNESCO, the relative population of the elderly will increase from 10.5% in 2007 to 21.5% in 2050. In Iran, the population of this group has reached 8.26% in 2012 (1). In recent years, the elderly issue has become as one of the sensitive and argumentative topics whether

in scientific and research fields or in decision maker organizations. This matter follows a wide range of questions in minds and creates numerous concerns about this age group, which will constitute a large portion of population in the future (2). One of the most important questions would be the elderly lifestyle and its related factors.

Individuals are responsible toward their selection of lifestyle behavioral pattern, and in this way, they try to promote their health and prevent the

diseases. A good lifestyle in the old age causes preventing from fatal consequences of chronic diseases and, subsequently, presents a healthy and happy life in last years of elderly's life (3). According to the above mentioned problems and rapid growing of the old elderly's population, hygiene issue, psychological and physical health, welfare, and modifying their lifestyle in the community find new and broader dimensions every day. The old people's lifestyle affects their psychological and physical health and causes some changes in communicative pattern or their presence in social activities (2).

On one hand, the elderly deal with diseases and, on the other, their lifestyle changes significantly after being retired (3). Therefore, selection of the lifestyle has an important role due to its ability to prevent diseases, promote life quality, increase life expectancy and improve physical and mental health (4). A healthy lifestyle is a valuable source for decreasing prevalence and the effect of healthy problems, promoting the health, adjustment the stressful factors of the life and improving the of life quality, which it alters with culture, society, and individuals living conditions (5).

In Iran the statistics show that 15% of people who visit the clinic, 34% Outpatient treatment in hospitals, 89% of health organizations beds devoted to old people with more than 60 years old, and in general, 60% of medical care costs are spent by this age group (6). These statistics show that this category can impose a heavy financial burden on the society, their family, healthcare service system and also insurances (7). While, paying more attention toward protective factors such as modifying the lifestyle of people, can help us achieve the maximum health level with the least costs, especially in the elderly (8).

A healthy lifestyle is all the behaviors preventing from disease, keeping people healthy and promoting it, such as a good diet, exercise, control of stress, social and daily activities, leisure time, preventing from dangerous behaviors (smoking, drinking alcohol, overuse of drugs, unhealthy sexual behaviors) and preventing from disasters (9). According to the condition of this period of life, the indices of life satisfaction, welfare, happiness, job, psychological safety, psychological and physical health, referring to doctors, taking drugs, personal and social communications (communications with children, friends and relatives), the feeling of being useful and social participation are added to the other dimensions of life (3).

In one hand, increasing the ageing population and changes in culture, habits and lifestyle on the other hand, shows the necessity of society and families intervention. Therefore, if a correct programming is not carried out to look after and provide the old people's psychological, physical and social health, future society will face many problems around the elderly. As we are the future old people, in fact we are doing this programming for our future (9). Generally, the idea of this project was that the study of elderly's lifestyle and also identifying its related or predictive factors will lead us to valuable information to have more effective interference, and this information is important in predictive programming as it is analyzed by identifying the behavioral habits, unfavorable and dangerous factors threatening the studied elderly's health in daily life in conscious or unconscious ways.

METHODOLOGY

This study is a descriptive-analytical research and consists all the old people living in Tehran and lacking any cognition problems. Assuming that 50% of the elderly have favorable lifestyle, the number of sample was estimated 200 people which increased to 400 ones by considering a clustered sampling.

The sampling was performed in a multistage clustering classification method in a random way. Firstly, all the districts in Tehran were divided to five zones (north, south, east, west, and center). Then a specific region was picked up randomly from each zone and based on aged population of each region which was recorded in municipality statistics and also the proportion of elderly, the sample size was estimated in every region. Then a health care home was marked as head-cluster in each region. The health-care staff were taught the way of communicating with samples and also filling out the questionnaires in an educational session, and then delivered the questionnaires to the aged with scores more than 7 in AMT test. The literate samples filled out the questionnaires by themselves, and questionnaires were filled out by interviewers for the illiterate ones. If based on random sampling, the person was not qualified to be involved in the study, the sampling was done for the next family, and if in one house more than one person was qualified, all of them were participated in the research.

It was assured to the participants that their names are confidential, therefore, every questionnaire was coded. All the information was

collected by using demographic information questionnaire (including age, gender, marital status, job, dwelling, coexistence state, suffering from chronic disease and education), and the questionnaire of "testing the healthy lifestyle in the Iranian old people" which is designed by Ishaghi et al (1). The lifestyle questionnaire had 46 questions in which the minimum score was 42 and the maximum was 211. Finally, based on the score of participants the classification of Iranian lifestyle was carried out in this way: the score between 156 and 211 is considered as a favorable lifestyle, 99 to 156 score indicates a medium lifestyle, and 42-98 points out an unfavorable lifestyle. Finally, all data was analyzed using SPSS software (ver.19), by descriptive-statistical methods, the analysis of one-way variance, independent t-test and multiple regressions.

FINDINGS

400 numbers of old people (more than 60 years old) from Tehran participated in this research, and among them 176 samples were men (44%). Most of the elderly (62%) were in a range of 60 through 70 years old. The average age of men was 68.61 ± 6.71 for men and 66.98 ± 8.22 for women. From all the participants who answered the questions, 322 cases (84.3%) had health insurance, while 60 people (15%) had no insurance.

38% of participants had original insurance, 38% of them had complementary insurance, 3% of the old people had Self-employed insurance and about 1% of this population had Imam Khomeini commission insurance. Translation error About 81% of the elderly had their own houses, Translation error 14% of them lived in rented flats and about 5% lived in their children or relatives' homes. The other general characteristics of participants in this study, the average score of mental health and its sub-scales have been shown in table 1 by separating their demographic variants.

After dividing the lifestyle score to three levels namely favorable, medium, and unfavorable, 1% of the old people were in favorable condition and 4% of them were in unfavorable condition. The abundance distribution of lifestyle scores and its related fields within the research are represented in table 1. After carrying out 2-variant tests, the important and independent variables were analyzed by multi-factorial linear regression and its results have been mentioned in table 2.

DISCUSSION

According to the findings of this research, most of the old people (95%) who live in Tehran have a medium lifestyle which is in agreement with the researches of Fluel et al. (2011), Babak et al. (2012) and Kaveh et al. (2012) (10,11,12). In the paper of Mahmoudi et al. (2013) which is done about lifestyle in Agh-Ghala city by using a similar questionnaire presented in this research, the average of lifestyle score was favorable (13). In the research of Babak et al. (2012) performed in Isfahan with the same questionnaire, the average score of lifestyle in this city was reported in a medium level (11). The comparison between current findings with mentioned studies can indicate the higher average score of lifestyle in the old people living in towns (out of capital city), but it is suggested to have more researches on this matter in order to it can be confirmed or rejected.

In the present research, the level of lifestyle in exercise was higher than other studies (11, 12, and 13). It seems that more equipment and more complete sports facilities in Tehran in comparison to towns has been effective in achieving higher score, but studies need to follow-up longer to identify more effective factors.

The results of the present research showed that there was no significant relationship between men's and women's lifestyle scores, although the average score of lifestyle in men was higher than women. In the study of Aihara et al. (2011)

in Japan, reported no meaningful relationship between men's and women's lifestyle scores (14), while as about the studies of Babak et al. (2011) and Mahmoudi et al. (2011), the average score of lifestyle in men was significantly higher than this average in women (11, 13).

Exploring of lifestyle in its different fields showed that there was only significant difference in terms of interpersonal and social relationships between the genders, and men had higher scores. In the view of researcher, cultural factors can cause this difference. Such findings are not in accordance with the studies of Mahmoudi et al. (2012), Babak et al. (2011), Oeno et al. (2011), Hanyoka et al. (2007)(11,13,15,16), as men achieved higher scores in the above mentioned surveys than women in all fields except prevention. As Babak et al. (2011) stated, because women are much more conservative and also having more self-confidence in men, it causes than women reach higher scores in prevention (11). The factor of "gender" has been remained in multi-factorial linear regression only in prevention field of the model (table 3). This means that in the presence of all the factors

that have significant relationship with the lifestyle, only the gender factor was able to influence the lifestyle score about 1.39 in the prevention field. However, this value has not been statistically significant. These findings are in consistence with the research of Babak et al (2011).

In the current research, while there was no meaningful difference between single and married old people ($P=0.24$), there was a significant distinction between stress management and exercising between two groups ($P=0.00$), and in both fields the married old men had higher scores. In the study of Ajab Zobayd (2012), married elderly obtained higher scores in lifestyle (17). It should be noted that the cause of lacking a meaningful difference in this research is probably that most of the old people were married.

By promoting education, lifestyle score and the score in preventive fields ($P<0.001$), exercise ($P<0.05$), feeding ($P<0.02$), and interpersonal relationships ($P<0.001$) increased significantly, and it can be related to education as an effective factor in dynamic life of the old age.

These results were in agreement with numerous studies. For instance, the studies of Mahmoudi et al. (2012) and Babak et al. (2011) have confirmed this subject (11, 13). This finding can be attributed to more awareness resulting from higher education, the ability to study various books or exploiting scientific websites which can affect their health behaviors. Education has totally different effects on health such as psychological, social and behavioral effects. Mahmoudi et al. (2013) believes that individuals with higher education level expose themselves to less health hazards (13). Therefore, the priority must be put in teaching relevant points to the elderly with lower education, and then the health literacy should be increased through audio-visual media to promote their lifestyle.

The results of this research suggest that there is a meaningful relationship between lifestyle and job ($P=0.00$), also job has a significant connection with all the fields of lifestyle. As it is mentioned in Christiansen and Townsend (2004), individuals in different jobs have different lifestyles in the view of Veblen, and people who have key jobs in society, pretend such a way that they have a better thought and function approach than the others, and as they make more money, they choose a different lifestyle which is an honor for them. Therefore, the kind of job can cause a balance (or an imbalance) in selection of the lifestyle pattern.

Investigation of the relationship between the variable of coexistence and lifestyle showed that

the total score of lifestyle and its dimensions in the old living with their families is considerably ($P<0.001$) more than those ones living lonely in their house. Such results are in complete agreement with other studies (11, 13). According to the condition of Iran this issue is explainable, and children support by their parents, and also having close relationship with them can increase the total scores of lifestyle. According to the findings of regression analysis it is predicted that if an elderly person living his spouse becomes alone, his lifestyle score significantly would decrease more than 14 scores ($P<0.001$), and occurs in the fields of interpersonal and social relationships, exercise and prevention.

One of the social factors effective in the elderly's lifestyle is support and also social networks which people deal with them frequently, in a way that the absence of these factors in alone old people can have negative impacts on their lives by creating more psychological and physical problems (13). Therefore, government policies should proceed in the direction that organizations such as the Ministry of Welfare and Social Affairs as well as support organizations, provide special financial supporting for such people, which it may encourage the families who are financially unable to care for the elderly, and all the elderly to be able to benefit from the advantages of family life.

According to the results of this research, there was found a meaningful relationship between lifestyle and its field with the living district of the elderly in Tehran ($P=0.00$). According to the results it was concluded that the average of lifestyle score in District No.5 was more than other studied areas (6-2-8-19), and the researcher categorize it to the difference in research environment. This finding is in accordance with the study of Moshfegh et al. (2012) which is done in District No.5 (3). Moshfegh asserts in his study that 93.5% of the studied old people have an acceptable relationship with their family, 99% of them have good nutrition, and 97.7% have favorable social communications. 72% of the elderly pay great attention to exercise, 71.2% of them uses the media too much, and 77% of this population do not smoke and drink alcohol.

Our research represents that the old people of District No. 5, have had higher scores in interpersonal and social relationships, nutrition and preventing from diseases rather than other areas. In addition, this area accompanied with District No. 2 were in the best situation which it seems that it is in accordance with the study of

Moshfegh et al. (2012), and can be justified according to the findings.

With regards of the regression analysis in the present research, it is predicted that if an old person who is living in Tehran District No. 6, moves in District No. 5, his score in lifestyle would increase 8 scores, and if moves to district No. 2, 5 scores would be added in his lifestyle score, and this changing is significant ($P < 0.01$). Also it is predicted that by the elderly's moving from District 6 to 5, the most considerable change in his lifestyle ($P < 0.001$) would occur in prevention (2.89 score) as well as nutrition (2.70 score). Furthermore, by moving to District No. 2, the most significant change (relative to District No. 6) would observe in stress management ($P < 0.01$) and exercise ($P < 0.001$) with a growth of 1.07 and 1.03 scores, respectively. The research of Babak et al. (2011) confirmed that the dwelling place of the elderly influences the average score of lifestyle and its related fields (11).

There was a meaningful difference between the lifestyle of old people suffering from at least one chronic disease with the elderly with no chronic disease ($P = 0.00$), so that the people without any chronic disease represented a higher level for lifestyle. These findings are in agreement with the studies of Mahmoudi et al. (2012) and Babak et al. (2011) (11, 13). It is worth to notice that the average score of lifestyle in all fields was higher for the old ones suffering from no chronic disease, however this difference was statistically significant only in interpersonal and social relationships, exercise, and prevention.

The significance of this difference has not been reported in the study of Mahmoudi et al. (2011), however, the scores of lifestyle was relatively high in three fields of prevention, exercise and interpersonal and social relationships in the old people with no chronic disease (13). In survey of Babak et al. (2011), the difference of lifestyle scores in above mentioned fields has been significant (11). Farhadi (2010) believes that the reasons of dropping in lifestyle scores can be one of the following items: Firstly, the importance of lifestyle in the prevention of some diseases has been proved. For instance, nutrition, physical activity, and not using tobacco, which are considered in lifestyle dimensions, have an interconnection with some modified diseases.

Evidence suggests that improving these factors can prevent the decline in physical function, (which is strongly associated with advancing age in the elderly and influence the lifestyle) and

finally lead to be healthy, active and independence in elderly years(7).

The noticeable point in this study and other researches about comparing the lifestyle of healthy elderly with unhealthy ones is lack of differences in the field of nutrition and, occasionally, being higher mean scores in this regard among the elderly patients, which this issue is justifiable with more attention to nutrition of person during the disease. There was found no other study to be in contrast with our paper.

In table (3) the other interpretations obtained from regression analysis findings as for the preventive factors of lifestyle indicate that with adding each year to the elderly's age, his lifestyle score would be significantly reduced about 0.34 score ($p < 0.001$). Getting one year older in the elderly decreases 0.1 score in stress management and 0.14 score in prevention. Moreover, it is predicted that as the elderly get one year older, their score in exercise would decrease 0.07 score ($P < 0.01$).

This study has some limitations. The elderly's mental and physical health affected their answering the questions in filling out the questionnaire, and this matter could not be controlled. Also some old ones' illiteracy (about 15%) made a delay in filling out the questionnaire by the examiner.

Due to the high volume of samples and consistent of elderly's condition with other studies carried out in Tehran (11, 15), it can be asserted that obtained results can present well the current state of Tehran city. On the other hand, as the research on predictive factors of lifestyle are carried out by regression analysis on the elderly for the first time in Iran, and there were no similar researches to be compared, it is suggested to perform similar studies in the country, so the results of different cities and cultures can be compared with each other.

CONCLUSION

According to the results of this study on the relationship between healthy lifestyle and job, education, coexistence, housing situation, and suffering from chronic diseases of the elderly group, it is highly suggested that health managers and planners consider the important role of relative and predictive factors in educational programs, in order to decrease the prevalence and growth of chronic physical and mental diseases, as well as reduce the economic costs of treatment.

Table 1. The abundance distribution of lifestyle scores and its related fields in studied units

| Deviation Criteria | Average | Lifestyle dimensions |
|--------------------|---------|--|
| 6.08 | 32.82 | Interpersonal and social relationships |
| 3.40 | 15.45 | Stress management |
| 5.40 | 32.41 | Feeding |
| 3.55 | 13.48 | Exercise |
| 6.69 | 43.71 | Prevention |
| 19.11 | 127.20 | The total lifestyle |

Table 2. The relationship between lifestyle and its fields with independent variables in multi-factorial linear regression in studied units

| β | variant | level | Predictive factor | β | variant | level | Predictive factor |
|----------|---------------|------------------|---------------------------------|----------|-----------------------------|--------------------------------|------------------------------------|
| -7.46*** | relationships | Just with spouse | Living lonely | -0.10*** | Stress management | | age |
| -2.39*** | exercising | | | -0.07** | exercise | | |
| -3.56*** | prevention | | | -0.14*** | prediction | | |
| | | | | -0.34*** | Total lifestyle | | |
| -7.74*** | relationships | Just with spouse | Living with married children | -2.01* | Interpersonal relationships | married | Married life |
| -6.69* | lifestyle | | | | | | |
| -1.92*** | exercising | diploma | Having university education | -0.35* | lifestyle | ----- | massing |
| 1.07*** | stress | Area 6 of Tehran | Living in the Area 2 of Tehran | -1.27** | exercising | suffering from chronic disease | Not suffering from chronic disease |
| 1.30** | exercising | | | -3.12*** | prevention | | |
| 5.26** | lifestyle | | | 2.22 | lifestyle | | |
| 1.53* | relationships | Area 6 of Tehran | Living in the Area 5 of Tehran | -0.21* | prevention | | stress |
| 2.07*** | nutrition | | | | | | |
| 2.89** | prevention | | | | | | |
| 8.01*** | lifestyle | | | | | | |
| -0.19* | exercising | ----- | Disruption in physical function | -0.59*** | relationships | | Disruption in social function |
| | | | | -0.38*** | Stress management | | |
| | | | | -0.38** | nutrition | | |
| | | | | -0.28*** | exercising | | |
| | | | | -1.36*** | lifestyle | | |

Conflicts of interest

The Authors have no conflicts of interest.

Authors' contributions

The authors all made equal contributions to this paper.

ACKNOWLEDGMENT

This paper is an abstract of M.A thesis on nursing the old carried out in Medical Faculty of Tehran. We thank relevant educational borders, professors, the cultural- social organization of

Tehran municipality and nursing homes and all the individuals helped us in this study.

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