

Research Paper**Lifestyle of Elderly People With Osteoporosis and Its Related Factors***Esmail Fallah Mehrabadi¹, Minoo Pakgozar¹, Sedigheh Asadi², Hamid Haghani³

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ABSTRACT

Objectives Given the aging process of the population and the important role of lifestyle in common and chronic diseases, especially osteoporosis in the elderly, this study was conducted to evaluate the lifestyle of elderly people with osteoporosis.

Methods & Materials This cross sectional (descriptive-analytic) study was carried out in 2013 on 300 osteoporotic elderly people who were referred to the bone densitometry centers of Tehran University of Medical Sciences, Tehran, Iran. Convenience sampling method was used, and the data were collected using a questionnaire for measuring healthy lifestyle in Iranian elderly. The collected data were analyzed by descriptive statistics including ANOVA and t-test by using SPSS-PC (V. 21) and $P \leq 0.05$.

Results Results showed that the lifestyle of most osteoporotic elderly people (71.3%) was moderate, 10.7% of them had a desirable lifestyle, and 18% had an undesirable lifestyle. There was no statistically significant difference between the overall average score of lifestyle with age ($P=0.499$) and sex ($P=0.176$) in older adults with osteoporosis, but significant difference was statistically observed between the overall average score of lifestyle and marital status ($P=0.001$), educational level ($P=0.027$), and chronic disease ($P=0.009$).

Conclusion Due to the increasing elderly population and the prevalence of osteoporosis in them, it is recommended that health officials and policy makers in the country should pay more attention in this area to prevent the occurrence of the disease as well as improve the lifestyle of elderly people with osteoporosis.

Keywords:

Lifestyle, Osteoporosis, Elderly people

Extended Abstract**1. Objectives**

Failure to adhere to a healthy lifestyle leads to increased mortality [1]. In addition, a healthy lifestyle can help prevent chronic and common diseases of aging such as osteoporosis. Therefore, evaluating the lifestyle

of the elderly with osteoporosis is of great importance in order to prevent diseases and improve their quality of life and health status [2].

The aging population of Iran and, most importantly, the role of lifestyle in chronic diseases of the elderly, especially those with osteoporosis, have been considered while designing the study. As lifestyle is dependent on the culture of the people and the lifestyle of the Iranian commu-

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nity is different from that of the other countries (3.4), the current study aimed to assess the lifestyle of the elderly with osteoporosis in Iran.

2. Methods & Materials

This study is a cross-sectional descriptive-analytic study that has been conducted on 300 elderly people with osteoporosis, using available sampling method. Data was collected using a healthy lifestyle measurement questionnaire among Iranian elderly people. This questionnaire was prepared by Ishaghi et al. [5] in Isfahan University of Medical Sciences and has 46 questions in the area of prevention (15 items); physical activity, exercise, and recreation (5 items); healthy nutrition (14 questions); stress management (5 questions); and social and interpersonal relationships (7 questions). Each question is rated on a scale of 5. Score 1 represents the most unfavorable lifestyle, and the increasing scores of 2, 3, 4 and 5 mean increasing utility level of lifestyle. Thus, the lowest achievable score through the questionnaire is 42, and the highest score is 211. Eventually, based on acquired scores, lifestyle is divided into three levels: undesirable lifestyle (score 42-98), medium lifestyle (99-155), and the ideal lifestyle (156-211) [19]. Validity and reliability of the questionnaire has been measured previously by Ishaghi et al. To determine the validity of the questionnaire, comments and judgment from experts and also the target group, which included elderly people, were used, and for the reliability of the questionnaire, the Cronbach's Alpha Method was determined to be 0.76 [19]. Data analysis is performed using SPSS software (V. 21) and statistical t-test. Analysis of variance and descriptive statistics were performed ($P \leq 0.05$). This study has been confirmed by the Ethics Committee of Tehran University of Medical Sciences with letter No. 903/130/D/92, and all of the 22 codes of considerations and ethics are observed in this research.

3. Results

The majority of participants in this study (68.4%) were in the age range of 60 to 70 years, and the mean age of the subjects studied is 67 years with a standard deviation of 5.63. In the study, 62.1% of the elderly were female, 73.3% were married, 54% had elementary education, and 94% of the elderly were literate. In terms of body mass index, the majority (43%) of research subjects were overweight with a mean of 26.26 ± 3.78 . In total, 67.3% of elderly people present in the study suffered from a chronic illness other than osteoporosis.

Results in the prevention area, 52% of participants with a mean and standard deviation of 77.51 ± 7.07 , in the healthy diet 85% with an average and standard deviation of 32.86 ± 5.86 , in the area of stress management 82.3% with an average and standard deviation of 14.18 ± 2.66 and in terms of interpersonal and social relations 72.6% with a mean and standard deviation of 21.73 ± 4.15 have a moderate lifestyle. Also in the field of sports, recreation and entertainment, 52.6% of participants with the mean and standard deviation of 10.89 ± 3.16 have an unfavorable lifestyle. The majority (71.3%) of elderly people with osteoporosis in the present study has an average lifestyle, 10.7% have a favorable lifestyle, and 18% have an unfavorable lifestyle.

Research results show that majority of participants in the research in all three age groups of 60-70, 71-80, and over 80 years had a medium lifestyle, and there is no significant difference between the overall average score of lifestyle and age in the elderly with osteoporosis ($P=0.499$).

T-test results (Table 1) showed that there is no significant difference between the two groups in terms of mean

Table 1. Average lifestyle score and its dimensions in research subjects based on gender

| Gender | Lifestyle Score | | | | | |
|--------|-------------------------------|-------------------------------|---|-------------------------------|------------------------------|--|
| | Total | Prevention | Physical Activity of Sports, Recreation and Entertainment | Healthy Nutrition | Stress Management | Social and Interpersonal Relationships |
| Male | 132.46±16.27 | 49.09±8.05 | 11.31±3.07 | 32.01±4.59 | 14.76±2.35 | 22.56±3.77 |
| Female | 129.75±17.56 | 53.41±5.84 | 10.63±3.19 | 33.36±6.48 | 13.82±2.79 | 4.29±21.22 |
| Total | 131.43±16.80 | 51.77±7.07 | 10.89±3.16 | 32.85±5.86 | 14.18±2.66 | 21.73±4.15 |
| T-test | P<0.176 t=-1.357 df=298 | P<0.001 t=-5.361 df=298 | P<0.072 t=-1.805 df=298 | P<0.054 t=-1.933 df=298 | P<0.003 t=2.948 df=298 | P<0.006 t=2.745 df=298 |

score of overall lifestyle in the elderly taking into account the gender ($P=0.176$).

In the present study, marital status has been identified as a factor associated with lifestyle in elderly people with osteoporosis. ANOVA test results showed that there is a significant difference between the two groups in terms of mean score of lifestyle in the elderly taking into account their marital status ($P=0.001$). Group of widows and singles had a lower mean score of lifestyle as compared to the married ones.

Results showed that with increasing levels of education, the lifestyle mean score of participants increased; based on the results of ANOVA, there was a statistically significant relationship between lifestyle and education level ($P=0.027$). In other words, with increasing levels of education, lifestyle status also improved. T-test results showed that there was statistically significant difference between overall lifestyle mean score of elderly people with osteoporosis and those suffering from chronic disease ($P<0.009$). In other words, the mean scores of individuals with chronic disease are lower than that of the non-affected patients.

4. Conclusion

Osteoporosis and its complications impose heavy costs on patients and their families, especially, when it comes to aging. On the other hand, it leads to decreased quality of life in these people. Therefore, patients and other community members must reduce the incidence and complications of the disease at an older age by correcting their lifestyles in order to reduce the costs of osteoporosis. Healthy lifestyles can also help improve the quality of life at old age by decreased incidence of disease and reduced complications of the disease at the community level. Given that lifestyle of few (10.7%) of the elderly with osteoporosis is at the optimal level, this is a remarkable and contemplative issue and requires further investigations and planning by the authorities at the macro level to address the problems concerning the lifestyle of elderly people with osteoporosis.

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Conflict of Interest

The authors declared no conflicts of interest.