Original Article

Assessment of chronic disease prevalence, nutritional habits and healthy lifestyle behaviors in elderly patients

Ilknur Aydin Avci, Burcu Nal, Mustafa Ayyildiz

[1]Ondokuz Mayis University, Samsun Health Sciences Institute, Samsun, Turkey - E-mail: ilknursezera@hotmail.com

Summary. *Objective*: This study aims to determine chronic disease prevalence, nutritional habits and healthy lifestyle behaviors of elderly individuals. *Design:* Correlational descriptive study. *Setting:* This study was conducted at a State Hospital between July and October 2014. *Participants:* A total of 125 elderly people aged 65 and up that came to the hospital between these dates, received inpatient treatment, Sampling was not performed in the study. *Measurements:* Data collection was accomplished using the "Health Lifestyle Behavior Scale II" with a form comprising 19 questions about participants' demographic features, current diseases and nutritional conditions. Required permissions were obtained from the relevant authorities in order to conduct the study. *Results:* The average age of the participants was 73±6.22 (min=65, max=91) and the average body mass index was 26.79±3.25. When the participants' weight was examined in terms of body mass index; 61.6% were overweight, 28% were at a normal weight, 8% were class I obese and 2.4% were class II obese. The most frequently observed health problem in the elderly individuals was hypertension with a rate of 65.6%, followed by diabetes at 50.4% and visual impairments at 44.8%. HLBS scale score average was found to be 117.61 ± 17.64 and the general scale total score was close to the lower limit. *Conclusion:* It was found that the prevalence of hypertension and diabetes was high among the participants. Also, they were determined to be overweight or higher on the BMI scale. An increasingly sedentary lifestyle and slowing of the metabolism can lead to weight gain in old age.

Key words: chronic disease, nutritional habit, elderly patients

Introduction

Aging is defined as the body of irreversible structural and functional changes that emerge at the molecular, cellular, tissue and systemic levels in an organism over time. Aging is characterized by a decrease in biological reserve capacity and is a process that includes physiological, psychological, economic and social aspects (1). The human body encounters many compelling factors that lead to aging from birth to death (2)

Genetics is the most important factor affecting life expectancy. However, factors such as lifestyle, environmental factors and individuals' methods for coping with negative conditions also bear important impacts on length of life (1).

In the last decade, the percentage of the elderly population has gradually increased as average lifespans extended. The elderly population has grown since the beginning of the 20th century as fertility rates decreased, average life expectancy increased, people became more informed about health preservation and improvement, nutritional conditions improved, basic public health services developed, early diagnosis and treatment opportunities increased and the most contagious diseases were brought under control (3).

The World Health Organization (WHO) defines old age as 65 years and older (Tezcan and Seçkiner, 2012). According to WHO predictions, between 1970 and 2025 the expected percentage of the elderly population is 22.3% with 624 million senior citizens; ap-

proximately 1.2 million people will be at or over the age of 60 by 2025, and 80% of the elderly population, which will reach 2 million by 2050, will live in developing countries (4).

As aging progresses, changes in body structure and organ function adversely affect elderly individuals' food intake and usage of food in the body (5). The increase in average lifespan and the percentage of older people within the general population necessitate the determination of the healthcare requirements and problems of the elderly as well as the generation of their solutions. Among these problems is the nutritional conditions of elderly individuals.

Several physiological changes take place in the human body at older ages. Elderly persons' nutrition is affected by many factors, such as insufficient chewing due to absence of teeth or dentures, difficulty in food intake due to slowing of the swallowing reflex, a decrease in the amount of enzymes secreted in the digestive system and a decrease in the absorption of nutrients, minerals and drugs, slowed digestive system movements and a decrease in food intake due to psychological stress factors such as loneliness and fear (6).

Elderly individuals' increasing needs are mostly met by relatives, neighbors and other people around them. However, sustained and regular assistance and planned services can be provided by healthcare and social service institutions, as the cost of this kind of support can be covered by very few elderly people themselves or their families. For this reason, practices to increase the quality of life of older people should be determined and methods to involve the elderly in such practices should be developed to minimize the effects of problems that emerge during old age and to allow the elderly to maintain their lives more independently (7).

There is a close relationship between chronic diseases and problems specific to nutrition in old age. Nutritional problems can both emerge as a health problem on their own and also be one of the most important underlying causes of chronic disease. In this period, conditions related to "insufficient (malnutrition)" and "imbalanced (obesity)" nutrition are experienced as in other age groups (8).

Nutritional support, as a part of elderly individuals' needs, is an essential component of elderly care since it also reflects empathy and psycho-social support (9).

WHO reports state that the incidence of cancer, diabetes, cardiovascular diseases, chronic lung diseases and mental disorders, particularly dementia, is rising with the aging world population and that comprehensive studies must be performed to prevent negative factors such as smoking, sedentary lifestyle, obesity, unhealthy and unconscientious nutrition, which are the most significant causes of health problems that come with age (1).

Turkish society is gradually growing older, therefore chronic diseases are becoming an important problem concerning aging. One of the most critical issues related to chronic diseases are nutritional habits and individuals' healthy lifestyle behaviors. It is important to give the utmost care to these issues and to determine such problems at an early stage. Studies oriented toward this goal will be particularly effective in shaping policies regarding old age. For this reason, this study was conducted in compliance with descriptive study principles in order to determine the prevalence of chronic diseases, nutritional habits and healthy lifestyle behaviors among older people living in a specific region in Turkey.

Materials and Methods

This study was conducted at a State Hospital in Kastamonu, Turkey between July and October 2014. A total of 125 who came to the hospital during this period were included in the study's scope. Inclusion criterias were received inpatient treatment, agreed to participate in the study and had no visual or hearing impairment. Sampling was not conducted for the study, with all patients visiting the hospital within the specified period that fit the selection criteria recruited to the study.

Data collection was accomplished using the "Healthy Lifestyle Behavior Scale II (HLBS)" through a form comprising 19 questions on the demographic features, current disorders and nutritional conditions of the elderly. The Healthy Lifestyle Behavior Scale II was developed by Walker et al. in 1996 and was translated into Turkish by Bahar et al. in 2008, and its reliability and validity was verified. This scale consists

of 52 entries and six factors: spiritual development, interpersonal relations, nutrition, physical activity, health responsibility and stress management. Higher scores mean more positive health lifestyle behavior. All entries on the health lifestyle behavior scale are positive. There are no opposite entries. Marking is done via a 4-point Likert-type scale. The answer "never" earns 1 point, "sometimes" earns 2, "often" earns 3 and "regularly" earns 4 points. The minimum number of points that can be earned on the entire scale is 52 and the maximum is 208. The scale's Alpha reliability coefficient is 0.94 (10). The scale's Cronbach's Alpha value was found to be 0.92 in this study. The Alpha value of the scale's lower factors varies between 0.63 and 0.84. The scale was also based on the WHO obesity classification, and Body Mass Index (BMI) was used to assess obesity. According to this classification, a BMI < 18.5 indicates an individual is underweight, a BMI of 18.5-24.9 is designated as normal, a BMI of 25-29.9 indicates overweight, a BMI > 30 indicates obesity and a BMI > 40 indicates morbid obesity.

The data obtained in the study were evaluated using the SPSS 16.0 software package. A T test in independent groups in descriptive statistics was used in the statistical evaluation of the data.

Written permission to perform the study was obtained from Tosya State Hospital at the outset, and the aim of the study was then explained to the elderly individuals participating in the study and their verbal consent to participate was obtained in compliance with the principles of voluntary participation.

Results

Descriptive findings

Among the elderly participants, 46.4% (58) were men and 53.6% (n=67) were women; 90.4% (n=113) were married and 9.6% (n=12) were single. In terms of educational status, 64% were primary school graduates, 20.8% were literate, and 3.2% had completed higher education. Those with social security constituted 93.6% (n=117) of participants. In terms of employment status, 96% (n=120) were unemployed and 4% (n=5) were employed. Among participants, 64% lived with their partners, 14.4% lived with their children and 12% lived alone. The average age of the participants was 73±6.22 (min=65, max=91) and their average BMI was 26.79±3.25. In terms of body mass index, 61.6% (n=77) of participants were found to be overweight, 28% (n=35) were at a normal weight, 8% (n=10) were class I obese and 2.4% (n=3) were class II obese.

Findings on chronic disease and drug usage

Data regarding participants' health problems are presented in Table 1. Among the health problems, hypertension is the most prevalent with a rate of 65.6% (n=82), followed by diabetes at 50.4% (n=63) and visual impairment at 44.8% (n=56). Moreover, hearing impairment is observed at a rate of 28% (n=35) and cataracts at 21.6% (n=27).

Table 1. Health problems in older people

Health problem	**N**	**%**
Hypertension	82	65.6
Paralysis	12	9.6
Coronary artery disease	23	18.4
Diabetes	63	50.4
Congestive heart failure	22	17.6
Arthritis	13	10.4
Visual impairment	56	44.8
Rheumatism	40	32.0
Hearing impairment	35	28.0
Mass, Tumor	5	4.0
Osteoporosis	23	18.4
Varicosity	23	18.4
Chronic obstructive pulmonary disease (COPD)	9	7.2
Depression	18	14.4
Cataract	27	21.6
Pneumonia	3	2.4
Urine incontinence	16	12.8
Fecal incontinence	7	5.6
Asthma	20	16.0
Ulcer	16	12.8

Regular drug usage rates of the elderly individuals are presented in Table 2. Among the participants, 94.4% regularly use a drug (n=118). The most frequently used drug among the participants is blood pressure medication at 64% (n=80), followed by diabetes medication at 51.2% (n=64). Moreover, painkillers are used at a rate of 44% (n=55) and aspirin at 30.4% (n=38).

Findings on nutritional conditions of older people

Among the participants, 70% (n=90) eat 3 meals a day, 13% (n=17) eat 4 meals, 10.4% (n=13) eat 2 meals and 4% (n=5) eat 5 meals a day, while 61.6% (n=77) never skip a meal, 27.2% sometimes skip a meal and 11.2% skip meals.

The most-skipped meal among participants was lunch at 29% (n=37), followed by breakfast and lunch at 7.2% (n=9), breakfast at 6.4% (n=8), dinner at 2.4% (n=3), breakfast and dinner at 2.4% (n=3) and other meals at 1.6% (n=2).

Concerning participants' eating habits between meals, 48% (n=60) were found to eat between meals every day, 31.2% (n=39) were found to eat between meals sometimes and 20.8% (n=26) were found to never eat between meals.

Among participants, 70.4% (n=88) were not following any diet, while 11.2% (n=14) dieted sometimes and 18.4% (n=23) were following a diet.

In terms of participants' regular exercise, 68% (n=85) reported that they did not exercise regularly, 22.4% (n=28) said they sometimes exercised and 9.6% (n=12) said they exercised regularly.

It was found that 35.2% (n=44) of the older people had regular health checkups, 39.2% (n=49) sometimes had health checkups and 25.6% (n=32) did not have regular health checkups.

When participant BMIs were examined, 27.2% were found to be at a normal weight, 63.3% to be overweight and 9.6% to be class I obese.

Findings that demonstrate the relationship between healthy lifestyle behaviors and body mass index or regular drug usage status of elderly people

Data regarding participants' HLBS scale scores are presented in Table 3. The HLBS scale score aver-

Table 2. Elderly individuals' regular drug use status and the drugs they use frequently

	n	%
Regular drug usage	118	94.4
Drug type used		
Blood pressure medication	80	64.0
Diabetes medication	64	51.2
Aspirin	38	30.4
Diuretic	9	7.2
Painkiller	55	44.0
Vitamin	18	14.4
Cortisone	4	3.2
Osteoporosis medication	17	13.6
Blood medication	13	10.4
Myorelaxant	21	16.8

Table 3. HLBS Scale Sub-Group Scores

Scale Sub-Dimensions	Min. and Max. Scores	Min. and Max. Scores Obtained	Score Averages X±SD	Entry Score Averages X±SD
Health responsibility	8-32	9-44	22.02 ± 4.28	2.75 ± 0.61
Physical activity	8-32	8-28	13.43 ± 4.82	1.68 ± 0.60
Nutrition	6-24	9-23	16.70 ± 2.70	2.78 ± 0.45
Spiritual development	8-32	10-30	21.92 ± 3.84	2.74 ± 0.48
Interpersonal relations	9-36	11-36	26.03 ± 4.15	2.89 ± 0.46
Stress management	7-28	9-26	17.49 ± 3.49	2.49 ± 0.46
HLBS TOTAL	52-184	64-165	117.61 ± 17.64	2.55 ± 0.51

age was found to be 117.61 ± 17.64 and the general scale total score was close to the lower limit.

When the distribution of participants' HLBS scale scores was analyzed based on gender, men were found to score higher than women in the physical activity sub-group and the difference was statistically significant (t=-3.532; p=0.001). No correlation between gender and health responsibility, nutrition, spiritual development, interpersonal relations, stress management or total scale score was identified (p>0.05).

No correlation was identified between HLBS scores of the participating senior citizens and their regular drug usage status (p>0.05).

It was found that there was a correlation between the dieting conditions of older people and their healthy lifestyle behaviors; those who followed a diet had higher HLBS averages than those who did not, and the difference was statistically significant (t=3.121; p=0.002). No correlation between participants' BMIs and HLBS scores was found (p>0.05).

Discussion

This study aimed to examine the prevalence of chronic diseases, nutritional habits and healthy lifestyles of patients aged 65 or older that visited Tosya State Hospital. Among the study population, hypertension was found to be the most prevalent at 65.6% (n=82) followed by diabetes at 50.4% (n=63) and visual impairment at 44.8% (n=56). Cardiovascular diseases - particularly coronary artery disease - hypertension, calcific aortic stenosis and heart failure are the causes of most deaths in older individuals (11). In multicenter studies conducted throughout Turkey, the most frequently observed chronic diseases in the elderly were identified as hypertension at 30.7%, osteoarthritis at 13.7%, chronic heart failure at 13.7%, diabetes mellitus at 10.2%, coronary artery disease at 9.8% and osteoporosis at 8.2% (12). It was observed in both this study and the literature that hypertension is the most frequently encountered chronic disease in elderly people. Preventing hypertension and developing radical treatment methods will help substantially to increase the quality of life in old age and to extend lifespans.

Among the study participants, 70% (n=90) eat 3 meals a day, 13% (n=17) eat 4 meals, 10.4% (n=13) eat 2 meals and 4% (n=5) eat 5 meals a day. Moreover, 46.4% (n=58) of the individuals eat between meals every day whereas 30.4% sometimes eat between meals. When participants' meal skipping habits were examined, it was revealed that 61.6% (n=77) never skip a meal, 27.2% sometimes skip a meal and 11.2% skip meals. The most-skipped meal was lunch with 29.6% (n=37). The results suggest that 87% of participants eat 3 meals or more daily. This situation implies that older individuals have sufficient nutrition. The fact that 27.2% of participants sometimes skip a meal and the most skipped meal being lunch might be related to individuals being outside of their home during lunchtime hours. In this study, 27.2% were found to be at a normal weight, 63.3% to be overweight and 9.6% to be class I obese. Obesity was very important problem for Turkish elderly people. Usually, inactive lifestyle were able to caused of this result.

The maximum possible HLBS score is 184 and the maximum score obtained was 165, whereas the minimum possible score is 46 and the minimum score obtained was 64. The average HLBS score obtained was 117.61 ± 17.64. Özkan and Yılmaz (2006) determined an average score of 125.96 ± 16.99 in a study they conducted among nurses (13). Yılmazel et al. (2011) determined an average score of 121.57 ± 19.65 among nursing students (14). Kulakçı et al. (2012) obtained an average score of 123.74 ± 22.42 among older people in a nursing home. When other studies in the literature are examined and compared, the elderly are observed to have lower healthy lifestyle behaviors compared to other age groups. The relatively close average score in the study by Kulakçı et al. (2012) on the averages of other age groups is thought to be due to the elderly individuals in that study living in a nursing home (7).

A statistically significant correlation was found between gender and the physical activity sub-dimension (p<0.05). Accordingly, men have a higher average physical activity score and perform more physical activity than women. Yılmazel et al. (2013) determined that men obtained higher scores from the physical activity sub-group compared to women (15). The study findings are consistent with the literature.

Conclusions and Recommendations

The elderly individuals participating in the study had low HLBS score averages. In order to improve older people's healthy lifestyle behaviors, they and the people they live with should be actively educated in a manner that will lead to behavioral change in this regard. Moreover, the study findings suggest that the participants are overweight or higher in terms of their BMI. The elderly are vulnerable to weight gain due to a more sedentary lifestyle and a slowed metabolism. Therefore, establishing nutritional programs specifically tailored for the elderly and providing education on developing healthy lifestyle behaviors is recommended as a means to prevent both chronic disease and obesity.

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Correspondence:
Ilknur Aydin Avci
Ondokuz Mayis University, School of Health,
Samsun, Turkey
Phone: +905052031286
E-mail: ilknursezera@hotmail.com