**Examining the Relationship Between Quality of Life and Physical Activity, Exercise Perception in Middle Adulthood**

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|  **Abstract**Adulthood is examined as young, middle and advanced adulthood. Middle adulthood is a period in which the social roles, productivity and coping skills of individuals between the ages of 40-50 are high and their life habits are stereotyped [1,2].. Examining the quality of life, physical activity levels and exercise perceptions of middle-aged individuals will provide important information in the creation of a healthy elderly population [3]. For this purpose, the relationship between middle-aged individuals' quality of life, physical activity levels and exercise perceptions was examined. This study was conducted as a pilot study of a comprehensive study with the participation of 20 people (10 women and 10 men) between the ages of 40-50. Data were collected using personal information form, World Health Organization Quality of Life Scale-Bref Form (WHOQOL-BREF), International Physical Activity Questionnaire short form (IPAQ-SF), Exercise Benefits/Barriers Scale. Spearman Correlation Analysis was used to examine the relationship between WHOQOL-BREF and Exercise Benefits/Barriers scales and IPAQ-SF in data that were not normally distributed. The Mann-Whitney U test was used to determine whether the investigated parameters differed between the genders. First, the general demographic characteristics of the participants included in the study were determined (43.2±10.3 years, 169.9±0.9cm and 69.3±11.9 kg). According to the correlation analysis, it was observed that there was no linear relationship between the physical activity levels of middle-aged individuals and their exercise perceptions and quality of life (p>0.05). Similarly, no difference was found between these parameters investigated between male and female individuals (p>0.05). The study was conducted with a low sample and individuals who take an active role in daily life and have moderate physical activity. Participants may be physically active due to their life roles, uncorrelated to their perceptions of exercise. Therefore, the results may also be uncorrelated to quality of life. |
| Keywords:Perception of Exercise, Physical Activity, Middle Adulthood, Quality of Life |

1. **Introduction**

Adulthood has been studied as young, middle and advanced adulthood since the beginning of the twentieth century. Young adulthood between the ages of 20-30, middle adulthood between the ages of 40-50 and the ages of 50 and above are called advanced adulthood [1,2]. Middle age period; It refers to a stage in which the social roles, productivity and coping skills of individuals are high, and their life habits become stereotyped, and it constitutes the pre-old age period [3]. It is known that many chronic diseases and quality of life in old age are related to lifestyle in youth and adulthood [4, 5]. For healthy aging, it is important to prevent the development of chronic diseases, to establish and maintain a healthy lifestyle [5]. Today, the world population is aging due to the prolongation of life expectancy and the decrease in birth rates. It is reported that especially developing countries will be more affected by this situation [6]. While the total population growth rate in Turkey was 13.7‰ in 2013, the increase rate of the elderly population is approximately 3 times (‰36.2) of this (TÜİK 2014). it is predicted that the elderly population will increase by 201% [7]. For this reason, in our country, the State Planning Organization, the Ministry of Family, Labor and Social Services, the Ministry of Health and many institutions and organizations have carried out studies on healthy and active aging, elderly health and care [8-10]. Today, researches are carried out in different fields to determine the needs related to aging and to carry out supportive studies. The quality of life of individuals can be increased by adopting regular physical activities and an active lifestyle. According to national and international public health recommendations, regular physical activities for all age groups should be at least 30 minutes every day of the week or several days of the week. should be planned at a moderate level [11]. In this study, it is aimed to obtain information that will contribute to this process by investigating the quality of life, physical activity levels and exercise perceptions of middle-aged individuals before the old age period.

1. **Materials and Methods**

**2.1. Assessments**

*2.1.1. Personal Information Form:* Height and weight information of individuals were recorded and Body Mass Index (BMI) was calculated. Job statuses are recorded.

*2.1.2. World Health Organization Quality of Life Questionnaire Short Form (WHOQOL-BREF):* It was developed by the World Health Organization (WHO) to measure the health-related quality of life of individuals between the ages of 18-65 [12]. Its Turkish validity and reliability were demonstrated by Eser et al. [13]. The WHOQOL-BREF scale is the abbreviated form of the scale consisting of 100 questions. The scale consists of 4 domains: physical, psychological, social relations and environmental domains. Each section was calculated out of 100 points.

*2.1.3. International Physical Activity Questionnaire short form (IPAQ-SF):* Craig et al. (2003) to determine the physical activity levels of participants between the ages of 15-65 [14]. The Turkish validity and reliability study of the scale was carried out by Öztürk (2005) [15]. MET values ​​were calculated in the evaluation of all activities. Physical activity levels are classified as physically inactive (<600 MET-min/week), low physical activity level (600–3000 MET-min/week), and adequate physical activity level (> 3000 MET-min/week) [14].

*2.1.4. Exercise Benefits/Barriers Scale (EBBS):* The EBBS was applied to identify exercise-related barriers and facilitators for individuals' perceptions of exercise [16]. This scale composed of a 14-item barrier scale and a 29-item benefit scale. The lowest score of the benefits scale is 29 while the highest score is 116. A high score indicates positive exercise perception. The score range of the barriers scale is between 14 and 56 points. High scores from the barriers scale indicate that individuals have perceived barriers to exercise [16].

*Statistically Analysis:* Descriptive analyses were performed using mean Standard deviation and median-quartiles for non-normally distributed continuous variables. Spearman Correlation Analysis was used to examine the relationship between WHOQOL-BREF and Exercise Benefits/Barriers scales and IPAQ-SF in data that were not normally distributed. The Mann-Whitney U test was used to determine whether the investigated parameters differed between the genders.

1. **Results and Discussion**

It was found that the mean age of the individuals was 43.2±10.3, and the BMI was within the normal range (24.03±3.61). In general, it was found that the quality of life of the individuals was moderate (52.50±16.52), their physical activity levels were high (5739.05±9776.25), and their Positive Exercise perceptions (92.00±13.84) were found to be at moderate levels. The results are shown in Table 1.

**Table 1.** Descriptive Analysis

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| Parametres | **M** | **IQR(25-75)** | **X±SD** |
| Age (years) | 45.00 | 40 - 48 | 43.2±10.3 |
| BMI (kg/m2) | 23.52 | 21.32 - 26.09 | 24.03±3.61 |
| WHOQOL BREF | 50 | 40 - 71 | 52,50±16.52 |
| IPAQ-SF | 2209.50 | 1311- 4858 | 5739.05±9776.25 |
| EBBS-Barrier | 32 | 29 - 35 | 32.22±5.44 |
| EBBS-Benefit | 62 | 55 - 67 | 60.31±11.06 |
| EBBS Total Score | 97 | 76-105 | 92,00±13,84 |

X = Mean, SD = Standard Deviation, M = Median, IQR = Interquartile Range, BMI = Body Mass Index, WHOQOL-BREF= World Health Organization Quality of Life Questionnaire Short Form, IPAQ-SF=International Physical Activity Questionnaire short form, EBBS= Exercise Benefits/Barriers Scale.

The relationships between the evaluation parameters are shown in Table 2. No correlation was found between general evaluation parameters (p>0.005). There was only a relationship between EBSS Total Score and the subgroups of the scale (p=0.036, p<0.001; respectively).

**Table 2.** Examining the relationships between variables

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| --- | --- | --- | --- | --- | --- | --- |
| Assesments |  | WHOQOL BREF | IPAQ-SF | EBBS-Barrier | EBBS-Benefit | EBSS Total Score |
| BMI (kg/m2) | rp | .028.907 | .195.409 | .244.315 | -.037.880 | -.155.528 |
| WHOQOL BREF | rp |  | -.003.989 | -.124.612 | .109..656 | .243.316 |
| IPAQ-SF | rp |  |  | .436.062 | -. 075.760 | .206.397 |
| EBBS-Barrier | rp |  |  |  | .032.897 | .484\* **.036** |
| EBBS-Benefit | rp |  |  |  |  | .786\*\***.000** |

p<0.05; X = Mean, SD = Standard Deviation, M = Median, IQR = Interquartile Range, BMI = Body Mass Index, WHOQOL-BREF= World Health Organization Quality of Life Questionnaire Short Form, IPAQ-SF=International Physical Activity Questionnaire short form, EBBS= Exercise Benefits/Barriers Scale.

The comparison of the evaluation parameters by gender is shown in Table 3. According to Table 3, no difference was found between men and women in terms of quality of life, physical activity level, and exercise perception (p>0.05).

**Table 3.** Comparison of assessments by gender

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| --- | --- | --- | --- |
| Assesments | Women | Men | Mann Whitney U |
|  | **M,** **IQR (25-75)** | **X±SD** | **M,** **IQR (25-75)** | **X±SD** | p |
| WHOQOL BREF | 50,(37.50-56.25) | 48.75±18.11 | 50,(46.87-75.00) | 56.25±14.73 | .377 |
| IPAQ-SF | 1818,(1080-2883) | 2098.90±1422.41 | 2971.50,(1876-13205) | 9379±13049 | .131 |
| EBBS-Barrier  | 32,(26,75-35.50) | 32.00±7.11 | 32,(30-36) | 32.44±3.09 | .712 |
| EBBS-Benefit  | 57,(49-67) | 56.80±14.11 | 65,(60-67) | 64.22±4.32 | .119 |
| EBBS Total Score  | 89,(77,75-100.50) | 87.80±17.33 | 96 ,(91-103) | 96.66±6.80 | .220 |

p<0.05; X = Mean, SD = Standard Deviation, M = Median, IQR = Interquartile Range, BMI = Body Mass Index, WHOQOL-BREF= World Health Organization Quality of Life Questionnaire Short Form, IPAQ-SF=International Physical Activity Questionnaire short form, EBBS= Exercise Benefits/Barriers Scale.

According to the research results of the Turkish Statistical Institute (TUIK, 2014), it is seen that 27.8% (73.2%) of the individuals in the 31-50 age group do not exercise [18]. To see the protective and improving effect of physical activity on health, together with daily activities; It is possible with planned, repetitive and regular physical activity. This type of physical activity can also be called exercise [19,20]. At least 150 minutes of moderate-intensity exercise per week is recommended for every adult individual. It is preferred that these exercises consist of endurance activities such as walking, jogging, cycling or swimming that involve large muscle masses, each exercise session should be at least 10 minutes and spread over at least 3-5 days a week [4,19]. The physical activity level of the study sample is over 3000 METs, which indicates that the individuals in the sample are active. Of the individuals in the study, 10 men and 4 women are active professionals. 6 Women do not have a profession, but it is seen that all individuals have an active lifestyle during the day. The fact that the physical activity levels of the individuals in our study were different from the TUIK data may be related to the weak universe representation of our study group. At the same time, the period between the ages of 40-50 is a narrow age range in which the psychological, social and physical health levels of individuals are high. Examining the research in different age ranges is important in terms of revealing different results. The small sample size of the study is the most important limitation of the study, which also affects the research results.

Regular physical activities are effective in developing and maintaining a person's physical, mental, intellectual, social and environmental well-being. Regular physical activity is the most effective and cheapest medicine for prevention of heart diseases, obesity, high blood pressure, diabetes, osteoporosis and some types of cancer. Physical activity increases the quality of life by making the person feel more energetic, more lively, active and peaceful [20,21]. Therefore, in our study, the relationships between quality of life and physical activity levels were investigated. In order to examine the subject in more detail and to reveal the results related to healthy aging, making these evaluations in the young old and middle-aged processes may reveal important results. The most important reason for the lack of a relationship between the evaluation parameters may be the low sample size.

There are studies showing that men have higher quality of life and physical activity levels [22]. This situation can be associated with physical activity levels in some studies. In this study, however, no difference was found between the physical activity levels of women and men, and similarly, the lack of difference between their quality of life and exercise perceptions suggests that this may be due to the fact that the sample was made between male and female individuals with similar life habits.

The establishment of a healthy aging process and the development of healthy life behaviors are important for healthy aging and old age. Improving the level of physical activity is a priority among health policies and one of the approaches known to be effective in the prevention and control of chronic diseases [22, 23]. For this reason, research on lifestyle, physical activity and quality of life in old age and pre-senile is important issues. Based on what this preliminary study showed, the next basic study will be planned by keeping the sample age range wider and examining the lifestyles.

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