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The Effect of Physical Activity Level on Body Composition, Physical Fitness, and Quality of Life: The Case of Sedentary Female Health Workers

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ABSTRACT

Objective: This study aimed to examine the effects of physical activity levels on body composition, physical fitness, and health-related quality of life in sedentary female healthcare workers. **Methods:** A descriptive cross-sectional design was used. The sample consisted of 97 female healthcare workers employed at a private hospital in Istanbul. Physical activity levels were assessed using the International Physical Activity Questionnaire (IPAQ), quality of life with the WHOQOL-BREF, body composition through Bioelectrical Impedance Analysis (BIA), and physical fitness with sit-up, sit-and-reach flexibility, and handgrip strength tests. Data were analyzed using descriptive statistics, independent t-tests, and Pearson correlation analysis. **Results:** The average BMI of participants was 25.23 ± 5.25 , with 39.6% classified as having low physical activity levels. Participants with a BMI below 25 scored significantly higher in the physical and environmental domains of quality of life. Although those with normal BMI performed better in fitness tests, the differences were not statistically significant. Flexibility was positively correlated with weight, fat mass, and BMI, and negatively correlated with body fat percentage. **Conclusion:** High BMI and body fat percentage negatively affect physical fitness and quality of life in sedentary female health workers. Promoting physical activity in the workplace is essential for improving individual well-being, work productivity, and public health.

Keywords: Physical Activity Level, Body Composition, Physical Fitness, Quality of Life, Sedentary Women.

Vücut Kompozisyonu, Fiziksel Uygunluk ve Yaşam Kalitesi Üzerine Fiziksel Aktivite Düzeyinin Etkisi: Sedanter Kadın Sağlık Çalışanları Örneği

ÖZ

Amaç: Bu çalışma, sedanter yaşam tarzına sahip kadın sağlık çalışanlarında fiziksel aktivite düzeylerinin vücut kompozisyonu, fiziksel uygunluk ve sağlıkla ilişkili yaşam kalitesi üzerindeki etkilerini incelemeyi amaçlamaktadır. **Yöntem:** Tanımlayıcı-kesitsel desende yürütülen çalışmada, İstanbul'daki özel bir hastanede görev yapan 97 kadın sağlık çalışanı değerlendirilmiştir. Fiziksel aktivite düzeyi Uluslararası Fiziksel Aktivite Anketi (IPAQ) ile, yaşam kalitesi WHOQOL-BREF, vücut kompozisyonu Biyoelektrik Empedans Analizi (BIA) yöntemiyle ve fiziksel uygunluk düzeyi mekik, otur-uzan esneklik ve el kavrama kuvveti testleriyle ölçülmüştür. Veriler tanımlayıcı istatistikler, t-testi ve Pearson korelasyon analizi ile değerlendirilmiştir ($p < 0.05$). **Bulgular:** Katılımcıların ortalama VKİ'si $25,23 \pm 5,25$ olup, %39,6'sının fiziksel aktivite düzeyi düşük olarak sınıflandırılmıştır. VKİ'si 25'in altında olan bireylerde fiziksel ve çevresel yaşam kalitesi puanları anlamlı şekilde daha yüksektir. Fiziksel uygunluk testlerinde normal VKİ grubunun daha iyi performans sergilediği gözlenmiş, ancak bu farklar istatistiksel olarak anlamlı bulunmamıştır. Esneklik ile ağırlık, yağ kütlesi ve VKİ arasında pozitif, vücut yağ oranı ile negatif yönlü ilişkiler saptanmıştır. **Sonuç:** Sedanter kadın sağlık çalışanlarında yüksek VKİ ve vücut yağ oranı, fiziksel uygunluk ve yaşam kalitesini olumsuz etkilemektedir. İş ortamlarında fiziksel aktivitenin artırılması hem bireysel sağlık hem de iş verimliliği açısından önem taşımaktadır.

Anahtar Kelimeler: Fiziksel Aktivite Düzeyi, Vücut Kompozisyonu, Fiziksel Uygunluk, Yaşam Kalitesi, Sedanter Kadınlar.

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INTRODUCTION

Physical activity is known to play a fundamental role in improving an individual's overall health, regulating body composition, and enhancing quality of life. Technological and industrial developments in the modern world have led to fundamental changes in individuals' lifestyles; in particular, with the increase in mechanization, a significant decrease in physical activity levels has been observed. The resulting sedentary lifestyle has paved the way for serious problems that threaten public health and is now recognized as one of the main risk factors for various chronic diseases, particularly obesity (World Health Organization [WHO], 2021). This situation clearly demonstrates the contribution of sedentary lifestyles to the obesity epidemic, both globally and nationally. According to 2022 data, approximately 2.5 billion adults aged 18 and over worldwide are overweight, with more than 890 million of them living with obesity. This situation shows that 43% of the adult population (43% of men and 44% of women) are obese. This rate reflects a significant increase compared to the obesity prevalence rate of 25% in 1990. The prevalence of overweight varies regionally, with the WHO reporting a rate of 31% in Southeast Asia and Africa, while in the Americas, this rate rises to 67% (WHO, 2024). When evaluating Turkey specifically, the body mass index calculated using height and weight values shows that the rate of obese individuals aged 15 and older was 21.1% in 2019 and 20.2% in 2022. When broken down by gender, 23.6% of women were obese and 30.9% were pre-obese in 2022, while 16.8% of men were obese and 40.4% were pre-obese (Türkiye İstatistik Kurumu [TÜİK], 2023). These findings reveal that obesity and overweight issues are becoming increasingly prevalent globally.

Changes in eating habits and decreased physical activity lead to changes in body composition, and with age, fat accumulation in the body increases, raising the risk of obesity and chronic diseases (Montero et al., 2000). Before the rapid development of industrialization and technology, a large part of daily life was spent doing physically demanding work. However, with the widespread adoption of mechanization, the need for physical performance has significantly decreased, and as a result, the average time individuals spend sitting daily worldwide has reached 4.5 hours, with reports indicating this duration varies between 2.5 and 7.2 hours (McLaughlin et al., 2020). This decline in daily physical activity levels has various negative effects on individual health. On the other hand, previous studies have shown that regular physical activity improves health-related quality of life and supports physical and mental well-being (Alves et al., 2016; Moghanlou & Demirli, 2024).

Quality of life has become an important concept in recent years due to its effects on an individual's mental health. The WHO's definition of subjective quality of life is based on an individual's perception of their position in life within the framework of their cultural

and value systems, in line with their personal goals, expectations, standards, and concerns. This definition does not limit quality of life to physical health alone; it also considers it as a multidimensional and comprehensive concept that encompasses an individual's psychological state, level of independence, social relationships, personal beliefs, and the various aspects of their relationship with their environment (WHOQOL Group, 1994). Quality of life measurements provide important data for tracking changes in the health status of the population over time, identifying health inequalities between different demographic groups, and planning, implementing, and evaluating the effectiveness of health-based interventions (Burdine et al., 2000). Some studies have reported that physical activity has positive effects on health-related quality of life (Kokkinos, 2012; Leow et al., 2013; Pedersen & Saltin, 2015) other studies have shown that high levels of sedentary behavior are negatively associated with health-related quality of life (Hamer & Stamatakis, 2014; Teychenne et al., 2010). While the positive effects of physical activity on health-related quality of life have been scientifically established, it is evident that this effect is not limited to psychosocial dimensions but also plays a decisive role in physical health indicators such as body weight, fat percentage, muscle mass, and metabolic health. Therefore, examining the effects of physical activity on individuals' body composition enables a more comprehensive assessment of overall health status and quality of life. Today, individuals' ability to adapt effectively to environmental conditions is closely related to their optimal level of physical fitness and healthy body composition. Imbalances in physical fitness and body composition can negatively affect not only physiological functions but also an individual's psychological well-being. Therefore, high levels of health-related physical fitness and basic physiological indicators can be considered an important indicator not only of individual health status but also of the general health profile and functional capacity of society (Pohjola et al., 2024). The importance of physical fitness levels as a health indicator becomes even more evident in occupational groups associated with prolonged sedentary behavior. Identifying this effect, particularly in at-risk groups such as healthcare workers with sedentary lifestyles, is of great importance for preventive and rehabilitative interventions.

This study was designed in line with two main objectives: to determine the current physical activity levels of female healthcare workers with sedentary lifestyles and to examine the effects of physical activity on body composition and health-related quality of life. Healthcare workers constitute a high-risk group in terms of health, as they are more frequently exposed to sedentary behaviors due to occupational factors such as prolonged sitting, irregular shift hours, and high workload. In this context, the study aims to contribute to the literature by focusing specifically on female healthcare workers, thus addressing a unique target

population. The research was conducted within the framework of the hypothesis: "Are the physical activity levels of female healthcare workers associated with their body composition and health-related quality of life indicators?" The findings are expected to provide a scientific basis for the development of culturally appropriate intervention strategies that will encourage lifestyle changes among female healthcare workers with low levels of physical activity.

MATERIALS AND METHODS

Research model

In this study, a descriptive cross-sectional research model was used to examine the relationship between the physical activity level, body composition, and quality of life of sedentary female healthcare workers. This model was selected because it is appropriate for analyzing the current status and associations between variables without experimental manipulation.

Study group

The sample of the study consisted of 97 sedentary female healthcare workers aged between 22 and 45 working at a private hospital in Istanbul. Participants were selected using a non-probability convenience sampling method due to accessibility and voluntary participation. The average age of the participants was calculated as 38.20 ± 6.65 years. When the distribution according to education level was examined, it was determined that 15.5% ($n=15$) of the participants had a high school diploma, 51.5% ($n=50$) had an associate's degree, 17.5% ($n=17$) had a bachelor's degree, and 15.5% ($n=15$) had a graduate degree (master's or doctorate). The inclusion criteria for the study were female healthcare workers with a sedentary lifestyle who voluntarily agreed to participate in all stages of the study. The exclusion criteria were defined as having a history of chronic diseases such as pregnancy, diabetes, hypertension, and cardiovascular diseases, participating in a regular exercise program, and being unable to fully comply with the research process. The BMI cutoff point of 25 kg/m^2 used in the evaluation is based on the classification of the WHO. According to this classification, individuals with a BMI over 25 are considered overweight, while those with a BMI over 30 are classified as obese.

Data collection process

Personal information forms containing variables such as age and education level were used to determine the demographic characteristics of the participants, along with questionnaires designed to assess physical activity levels and quality of life. All data collection tools were administered individually by the participants under the guidance and supervision of the researchers. Measurements related to body composition were conducted on pre-planned dates in the relevant laboratory environment within the hospital. Physical fitness tests were administered on specified days in accordance with standard test protocols within the university's sports complex. In addition to being conducted under the guidance of the researchers, all

assessments followed standard protocols outlined in the relevant test manuals, and verbal instructions along with physical demonstrations were provided to each participant before testing.

Data collection tools

Body composition, the study was conducted using the Avis 333 plus (Korea) model Bioelectrical Impedance Analysis (BIA) device in accordance with standard protocols. The body composition parameters evaluated included body weight, body fat percentage, fat mass, body fluid percentage, and body mass index (BMI). Participants' heights were measured using a Holtain (UK) brand stadiometer with $\pm 1 \text{ mm}$ sensitivity.

Physical fitness tests, participants' isometric hand strength was measured using a Takei A5001 Hand Grip Dynamometer (Tokyo, Japan). The dominant hand was preferred during the hand grip strength test. During the handgrip strength test, participants were tested in a standing position with their arms at their sides without touching the body. Each participant performed two trials using the dominant hand, and the best score was recorded for analysis.

The One-Minute Sit-Up Test was administered to assess the strength and endurance levels of the abdominal muscle groups. Participants lay supine with their knees in a flexed position and performed the sit-up movement, which involves trunk flexion, continuously at maximum effort for 60 seconds. The number of correct repetitions performed during the test was recorded as numerical data as a performance indicator.

Flexibility was assessed using a sit-and-reach bench (Model 01285A, Lafayette, USA) with a measurement length of 80 cm and a sensitivity of 0.1 cm. Participants were seated in a standard position with their knees straight and feet flat on the bench. With their hands joined at the starting line, they reached forward as far as possible without bending their knees and pushed the movable bar on the bench to its end point. The distance reached by the bar was measured in centimeters relative to the starting line and recorded as a flexibility score.

Physical activity levels were assessed using the International Physical Activity Questionnaire (IPAQ). This questionnaire has been translated into different languages worldwide, and its validity and reliability in Turkish have been proven (Kartal, 2022). The questionnaire covers physical activities in different areas, including work, transportation, household chores, and leisure activities, and inquires about activities performed in the past 7 days. Participants' physical activity levels were classified based on total MET (Metabolic Equivalent) values calculated from the questionnaire data. Individuals with a weekly total MET-min value below 600 were classified as having a low level of physical activity. Those with a weekly value of 600 MET-min or higher were considered to have a moderate level of physical activity, while participants who achieved a value of 3000 MET-min or higher were classified as having a high level of physical activity.

World Health Organization Quality of Life Questionnaire (WHOL-BREF), developed to assess

health-related quality of life, was created by the WHO and its validity and reliability in Turkish was studied by Eser and colleagues (Eser et al., 1999). There are two different versions of the scale: the long form (WHOQOL-100) and the short form (WHOQOL-BREF, 27). The widely used short form consists of four subscales: physical health, mental health, social relationships, and environmental health. Each subscale independently assesses the individual's quality of life in that area, and the 26-item questionnaire is answered using a 5-point Likert-type scale. Subscale scores range from 4 to 20, with higher scores indicating a higher level of quality of life. The scale has also been successfully applied in various professional groups, such as healthcare workers (Kavlu, 2008; Eser et al., 1999).

Statistical analysis

The data obtained in the study were analyzed using IBM SPSS Statistics 22.0 software. Descriptive statistics were used to summarize participants' demographic characteristics, as well as body composition, physical fitness, and quality of life variables. Independent samples t-test was conducted to determine the differences in quality of life and physical fitness test results between BMI groups. Additionally, Pearson correlation analysis was used to examine the relationships between body composition measurements

and physical fitness test performance. The significance level was set at 0.05 for all statistical analyses.

Ethical approval

This study was conducted in accordance with the principles of the Declaration of Helsinki and was approved by the Istanbul Aydın University Social and Human Sciences Ethics Committee with the decision number 2025/5. The research process was carried out in compliance with the Scientific Research and Publication Ethics Directive of Higher Education Institutions.

RESULTS

Table 1 shows the body composition assessment: average height 165.17±3.00 cm, body weight 68.00±11.50 kg, body fat percentage 34.60±12.20, fat mass 24.95±7.03 kg, body fluid percentage is 37.50±5.75%, BMI is 25.23±5.25 kg/m². When the distribution according to physical activity levels was examined, 39.6% (n=39) of the participants were classified as low, 55.4% (n=51) as moderate, and 5% (n=7) as high in terms of physical activity. According to the WHO's BMI classification, 10.3% of participants were underweight (BMI<18.5), 41.0% were of normal weight (BMI: 18.5–24.9), 30.4% were overweight (BMI: 25.0–29.9), and 18.3% were obese (BMI≥30.0).

Table 1. Anthropometric measurements of individuals participating in the study.

Measurement	Minimum	Maximum	Mean ± SD
Height (cm)	155.2	178.2	165.17 ± 3.00
Weight (kg)	45.0	91.0	68.00 ± 11.50
Body Fat Percentage (%)	10.2	59.0	34.60 ± 12.20
Fat Mass (kg)	10.9	39.0	24.95 ± 7.03
Body Water Percentage (%)	26.0	49.0	37.50 ± 5.75
BMI (kg/m ²)	16.0	38.0	25.23 ± 5.25

When Table 2 is examined, individuals with a BMI below 25 have statistically significantly higher scores in the physical health and environmental health areas of quality of life compared to overweight or obese

individuals ($p < 0.05$). The differences observed between the groups in the mental health and social health dimensions were not found to be statistically significant ($p > 0.05$).

Table 2. Comparison of quality of life dimensions according to BMI.

Quality of Life Domain	BMI < 25 (Mean ± SD)	BMI ≥ 25 (Mean ± SD)	p-value
Physical Health	15.12 ± 1.95	13.28 ± 2.26	0.001
Psychological Health	14.01 ± 2.02	13.54 ± 2.23	0.308
Social Relationships	14.62 ± 2.00	14.11 ± 2.18	0.421
Environmental Health	13.92 ± 2.03	12.61 ± 1.96	0.018

When Table 3 is examined, individuals with a BMI < 25 have higher averages in flexibility and sit-up tests, while hand grip strength is higher in the BMI ≥ 25 group. However, the differences between the groups in all

physical fitness parameters were not found to be statistically significant ($p > 0.05$).

Table 3. Physical fitness test results according to BMI.

Physical Fitness Measurement	BMI < 25 (Mean ± SD)	BMI ≥ 25 (Mean ± SD)	p-value
Flexibility (cm)	11.23 ± 6.52	9.19 ± 7.37	0.105
Hand Grip Strength (kg)	24.62 ± 2.34	25.94 ± 4.85	0.262
Sit-up Test (repetitions per minute)	11.96 ± 9.92	10.84 ± 12.09	0.188

Table 4 shows that there are statistically significant relationships between flexibility and some anthropometric variables. Flexibility is positively correlated with weight ($r = 0.28$, $p = 0.001$), fat mass ($r = 0.22$, $p = 0.001$), and BMI ($r = 0.19$, $p < 0.001$); and

negatively with body fat percentage ($r = -0.11$, $p = 0.001$). No significant relationship was found between handgrip strength and sit-up performance and anthropometric measurements ($p > 0.05$).

Table 4. Comparison of anthropometric measurements and physical fitness test performance.

Anthropometric Measurements	Flexibility r (p)	Hand Grip Strength r (p)	Sit-up r (p)
Weight (kg)	0.28 ($p = 0.001$)	-0.12 ($p = 0.109$)	0.06 ($p = 0.211$)
Body Fat Percentage (%)	-0.11 ($p = 0.001$)	0.18 ($p = 0.205$)	0.04 ($p = 0.312$)
Fat Mass (kg)	0.22 ($p = 0.001$)	0.27 ($p = 0.301$)	0.03 ($p = 0.336$)
BMI (kg/m ²)	0.19 ($p < 0.001$)	-0.09 ($p = 0.119$)	0.29 ($p = 0.294$)

DISCUSSION

This study, conducted on female healthcare workers with a sedentary lifestyle, aimed to reveal their current level of physical activity and evaluate the effects of physical activity on body composition and health-related quality of life, and important findings were obtained in this regard. The average body fat percentage of the female healthcare workers participating in the study was 34.60%, body fat mass was 24.95 kg, body fluid percentage was 37.50%, and BMI, an important indicator of health status, was determined to be 25.23. According to BMI classification, 10.3% of the participants were underweight, 41% were of normal weight, 30.4% were overweight, and 18.3% were obese. When looking at physical activity levels, it was determined that the majority (55.4%) were moderately active, 39.6% were low, and only 5% were highly physically active (Table 1). These findings generally show that physical activity levels are insufficient among female healthcare workers with sedentary lifestyles and that this leads to an increase in weight. It is noteworthy that a significant portion of participants are physically active at low or moderate levels, with only a very small group engaging in high levels of activity. Additionally, the high average body fat percentage and BMI values suggest that these individuals may be at potential risk for cardiometabolic risks (Powell-Wiley et al., 2021; Shah et al., 2014). This situation serves as a warning for public health authorities. In a study examining the relationship between physical activity and quality of life among healthcare workers, the findings are consistent with the existing literature. In a study conducted by Yıldırım and colleagues (2019), the average BMI of 240 healthcare

workers was reported as 25.58 ± 5.29 . Of the participants, 21.7% were classified as physically inactive ($n = 52$), 52.9% as low-level active ($n=127$), and 25.4% as having sufficient physical activity ($n = 61$). Similarly, in another study conducted by Kadioğlu and Fatoş (2017) with 235 female students, it was determined that 7.2% of the participants had low, 80.4% had moderate, and 12.3% had high levels of physical activity. In a study conducted on university students, it was observed that as the level of physical activity increased, the overall quality of life, particularly in sub-areas such as emotional responses and sleep quality, increased significantly (Yeşil et al., 2021).

Individuals with a BMI below 25 scored higher than overweight and obese individuals in terms of physical and environmental health dimensions of quality of life. However, no significant difference was observed between the groups in terms of mental and social health (Table 2). Our findings indicate a relationship between body composition and quality of life subdomains. In particular, individuals with a normal BMI ≤ 25 were found to have higher quality of life in the physical health domain. This finding supports the effect of body composition on quality of life. In addition to BMI-based interpretations, physical activity levels were also considered in evaluating the findings. Although only a small portion of participants were classified as highly active, it was observed that those in the moderate and high activity groups generally showed more favorable outcomes in body composition and quality of life scores. This trend supports the importance of maintaining an active lifestyle, even at moderate levels.

When examining studies consistent with our findings, one study found an inverse U-shaped relationship between BMI and health-related quality of life (HRQoL). A decrease in quality of life scores was observed at BMI levels below or above normal values (Luah et al., 2024). In another study, overweight individuals reported lower quality of life in both general health perceptions and obesity-related issues (Kolotkin & Andersen, 2017). In another study examining the relationship between body mass index and health-related quality of life in adults, it was found that adults with a body mass index higher than normal had a significant decrease in physical quality of life across all categories (Ul-Haq et al., 2013). There are also studies that support our findings but show that BMI has a limited effect on quality of life. In a study conducted by Stephenson and colleagues (2021), it was determined that an increase in obesity levels was associated with a significant decrease in HRQoL scores. However, while the difference in quality of life between normal-weight and overweight individuals was statistically significant, it was emphasized that this difference was clinically very low and negligible. This finding indicates that the significant decline in quality of life primarily occurs at obesity and morbid obesity levels.

Individuals with a BMI below 25 performed better in flexibility and sit-up tests, while individuals with a higher BMI stood out in terms of hand grip strength. However, these differences were not statistically significant (Table 3). In a study examining the relationship between BMI and physical fitness in normal-weight, overweight, and obese university students, negative correlations were found between BMI and explosive strength and muscle endurance at both the inter-individual level (based on differences between individuals) and the intra-individual level (based on changes over time). On the other hand, a positive relationship between BMI and flexibility was identified at the between-individual level, but this relationship was found to be negative at the within-individual level (Kung et al., 2020). These findings indicate that the effect of BMI on various components of physical fitness is multidimensional. Similarly, in our study, individuals with a BMI below 25 had higher averages in flexibility and sit-up tests, while hand grip strength was higher in individuals with a BMI of 25 and above; however, these differences were not found to be statistically significant. The negative effects of BMI on explosive power and muscle endurance reported in the relevant literature support the possible structural relationship between physical performance and body composition. However, conflicting results regarding the relationship between BMI and flexibility may vary depending on factors such as the measurement methods used and the demographic characteristics of the sample. In a study examining the relationship between BMI and lumbar flexibility in obese students aged 18–21, a weak but positive relationship was found between BMI and lumbar flexibility. This result indicates that as BMI

increases, lumbar flexibility also increases, but this relationship is of a low magnitude (Lamtiar & Sibarani, 2022). Another study reported that underweight and normal-weight girls performed better than overweight and obese girls in physical fitness parameters such as jumping, long-distance running, and shuttle running (Kwieciński et al., 2018).

It has been stated that low physical fitness levels can lead to negative outcomes associated with obesity and excessive weight, metabolic disorders, and health risks (Lee et al., 2010). Findings related to the multi-stage shuttle run clearly demonstrate the negative effect of increasing BMI on cardiorespiratory endurance (Bovet et al., 2007). These results indicate that increased body weight in overweight and obese individuals may negatively affect their physical fitness levels. Similarly, in our study, individuals with a BMI below 25 were found to have higher average scores in the shuttle run test.

Study Limitations and Strengths

This study provides valuable insights into the relationship between physical activity levels, body composition, physical fitness, and health-related quality of life among sedentary female healthcare workers. One of the main strengths of the study is its use of validated measurement tools such as the IPAQ, WHOQOL-BREF, BIA, and standardized fitness tests, ensuring reliable and comprehensive data collection. Furthermore, the study addresses a relatively underexplored population group and emphasizes the importance of promoting active lifestyles in occupational settings, especially in healthcare environments.

However, several limitations should be acknowledged. First, the cross-sectional design limits the ability to infer causality between variables. Second, the sample was limited to female healthcare workers from a single private hospital in Istanbul, which may restrict the generalizability of the findings. Additionally, physical activity levels were self-reported using questionnaires, which may introduce recall bias or over/underestimation. Despite these limitations, the study offers a meaningful contribution to the literature and underscores the need for workplace-based interventions to improve physical activity and overall health outcomes.

CONCLUSION

This study comprehensively evaluated the effects of physical activity levels on body composition, physical fitness, and health-related quality of life in a sample of female healthcare workers with a sedentary lifestyle. The findings indicate that the majority of participants had low or moderate levels of physical activity, which was associated with increased body fat percentage, high BMI, and consequently reduced physical fitness and quality of life. Individuals with a BMI below 25 achieved higher quality of life scores, particularly in the areas of physical and environmental health, and performed better in physical fitness tests such as

flexibility and sit-ups. In contrast, individuals with a high BMI were found to have higher hand grip strength. However, these differences were not statistically significant in most parameters. The findings reveal that the relationship between body composition and quality of life is multidimensional and sensitive, particularly supporting the notion that increasing levels of obesity are associated with significant declines in quality of life.

The results of the study show that improving physical fitness levels not only enhances an individual's physiological capacity but can also have a positive impact on their overall perception of health and quality of life. In this regard, it is of great importance for individuals who influence the health of society, such as healthcare professionals, to have more opportunities for physical activity in their work environments and to participate in regular exercise programs in order to protect their own health. Additionally, it should be noted that high BMI and body fat percentage not only increase individual health risks but can also indirectly affect professional work performance. Therefore, it is necessary to implement planned, sustainable, and multi-level health policies aimed at facilitating access to physical activity, promoting healthy lifestyles, and improving individuals' quality of life across the general population.

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Conflict of Interest

The author declares no potential conflicts of interest with respect to the research, authorship and/or publication of this article.

Author Contributions

Plan, design: AD; **Material, methods, and data collection:** AD; **Data analysis and comments:** AD; **Writing and corrections:** AD.

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Ethical Approval

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