



## Comparative Analysis of the Relationship of Abdominal Obesity with Physical Activity in Elderly and Old Women

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**Annotation:** Elderly and senile age is one of the most important periods of human life, during which morphofunctional changes occur in the body. A decrease in physical activity, especially with age, leads to overweight in a person. Excess weight occurs due to the accumulation of adipose tissue in the body. Abdominal obesity occurs in people due to the fact that fats accumulate mainly in the abdomen and lower back. The presence of abdominal obesity is prognostically unfavorable, leading to serious life-threatening diseases.

**Keywords:** elderly and senile age, waist circumference, physical activity.

**Introduction:** According to experts of the World Health Organization (WHO), the low level of physical activity is one of the important risk factors for health and one of the important causes of death. In their opinion, they recommend the development of special activities for the development and promotion of regular physical activity for the elderly and the elderly, who are least likely to engage in physical activity [ WHO, 2010 ]

Purposeful use of physical activity not only stops the age-related decline of physical ability, but also allows to significantly expand the progressive development of individual abilities. Through regular physical exercise, elderly people not only have positive feelings, but also have a positive effect on their mental health and prevent age-related diseases [ Vladimirov D.G. 2004 ] .

**Purpose:** Assessing the association of waist circumference with physical activity in older and older adults.

**Materials and methods:** A total of 849 women aged 60 to 90 years participated in the study. 707 (83.2%) of them are elderly (60-74 years old), and 142 (16.8%) are elderly (75-89 years old). Anthropometric examinations and questionnaires were conducted in family polyclinics in Bukhara.

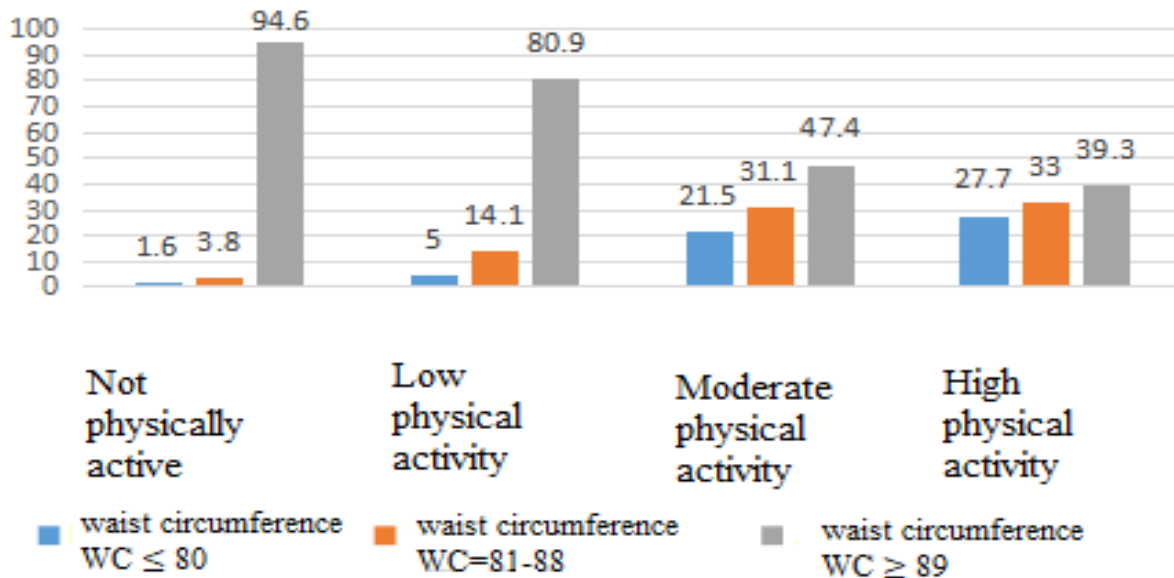
Criteria for evaluating physical activity were based on: Physically inactive persons - people who mostly sit at home or do not engage in physical activity were accepted; People with low level of physical activity (PA) were accepted - they mainly walk 30 to 60 minutes a day and people who do not engage in physical activity during the day; PA moderate level individuals - they are mainly accepted for those who walk for 60 to 90 minutes a day or are engaged in lifting and transporting small weights; PA high-level individuals - they are mainly accepted people who walk more than 90 minutes a day or engage in physical activity;

Waist circumference; When assessing the waist circumference (WC) in men, up to 94 cm is considered normal, 95-102 cm is considered overweight, 103 cm and more is considered abdominal

obesity. When assessing the waist circumference (WC) in women, up to 80 cm is considered normal, 81-88 cm is considered overweight, and 89 cm and more is considered abdominal obesity.

**Results and Analysis:** 76 (10.7%) of elderly women have waist circumference from 70 cm to 80 cm (80 cm or less), the average is  $78.6 \pm 0.24$  cm, 152 (21.5%) have waist circumference of 81 from cm to 88 cm, the average is  $85.7 \pm 0.11$  cm, 479 (67.8%) have a waist circumference from 89 cm to 132 cm (89 cm and more), the average is  $99.7 \pm 3.44$  cm it happened.

When examining the effect of physical activity level on waist circumference in older women, the following was found:



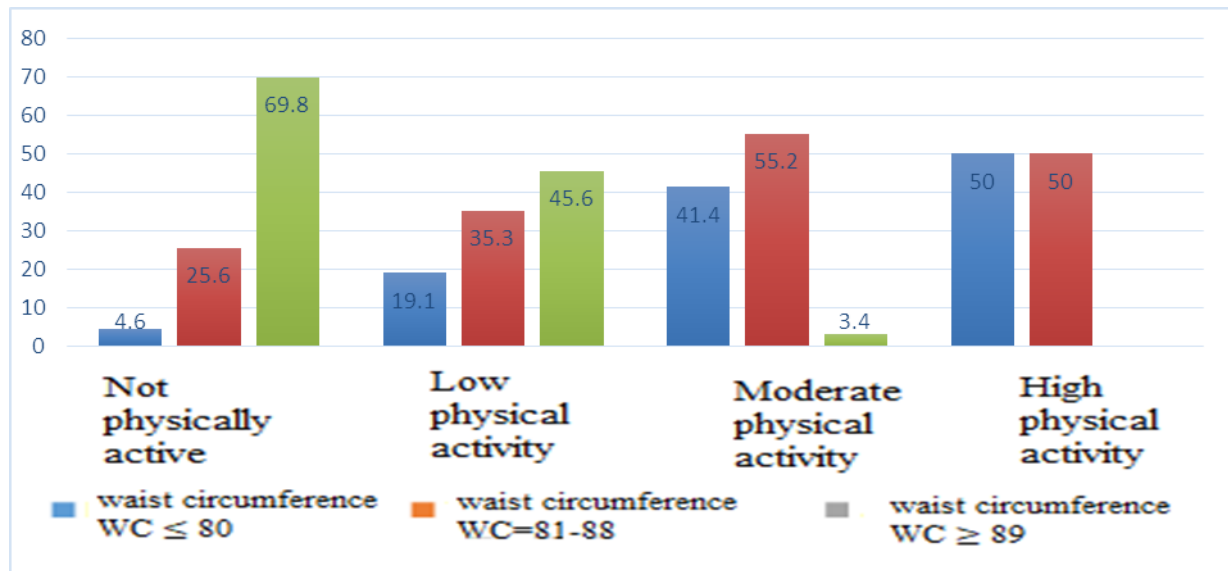
**Figure 1. Effects of physical activity level on waist circumference in older women.**

- a total of 184 persons who are not physically active. 3 of them (1.6%) have a waist circumference of 80 cm or less, from 78 cm to 80 cm, on average  $79.3 \pm 0.84$  cm; 7 of them (3.8%) have waist circumference from 81 cm to 88 cm, the average is  $85.6 \pm 1.06$  cm; In 174 people (94.6%), waist circumference was found to be from 89 to 132 cm, on average  $101.7 \pm 0.76$  cm.
- a total of 220 persons with a low level of physical activity. 11 of them (5.0%) have waist circumference from 77 cm to 80 cm, average  $79.3 \pm 1.26$  cm; 31 of them (14.1%) have waist circumference from 81 to 88 cm, average  $86.0 \pm 0.31$  cm; In 178 people (80.9%), waist circumference was found to be from 89 cm to 131 cm, on average  $98.4 \pm 0.59$  cm.
- a total of 209 elderly women with moderate physical activity, 45 of them (21.5%) have a waist circumference from 70 to 80 cm, an average of  $78.4 \pm 0.34$  cm; 65 of them (31.1%) have a waist circumference from 81 to 88 cm, an average of  $85.7 \pm 0.16$  cm; In 99 people (47.4%), waist circumference was found to be from 89 cm to 115 cm, on average  $96.8 \pm 0.60$  cm.
- a total of 94 elderly women with a high level of physical activity, 26 of them (27.7%) have a waist circumference from 72 to 80 cm, an average of  $78.6 \pm 0.56$  cm, 31 of them (33.0%) have a waist circumference of 81 from cm to 88 cm, the average is  $85.5 \pm 0.31$  cm, 37 people (39.3%) have a waist circumference from 89 cm to 117 cm, the average is  $98.0 \pm 0.92$  cm.

The waist circumference of 28 (19.7%) elderly women is from 74 cm to 80 cm (80 cm and less), and the average is  $78.4 \pm 0.29$  cm.

52 people (36.6%) have a waist circumference from 81 cm to 88 cm, an average of  $85.2 \pm 0.22$  cm, 62 people (43.7%) have a waist circumference from 89 cm to 116 cm (89 cm and more), it turned out to be an average of  $98.8 \pm 0.73$  cm.

When studying the effect of physical activity level on waist circumference in older women, it was found that:



**Figure 2. Effect of physical activity level on waist circumference in elderly women.**

- there are 43 persons who are not physically active, 2 of them (4.6%) have a waist circumference of 80 cm or less, from 79 cm to 80 cm, the average is  $79.5 \pm 0.89$  cm; 11 of them (25.6%) have a waist circumference from 81 to 88 cm, an average of  $86.6 \pm 0.70$  cm; In 30 people (69.8%), it was found that the waist circumference was from 89 cm to 116 cm, on average it was  $101.1 \pm 1.22$  cm.
- there are a total of 68 persons with low level of physical activity, 13 of them (19.1%) have a waist circumference from 74 to 80 cm, an average of  $78.4 \pm 0.52$  cm; 24 of them (35.3%) have waist circumference from 81 to 88 cm, average  $84.8 \pm 0.38$  cm; In 31 people (45.6%), waist circumference was found to be from 89 cm to 116 cm, on average  $96.9 \pm 1.19$  cm.
- there are a total of 29 elderly women with medium level of physical activity, 12 of them (41.4%) have a waist circumference from 75 to 80 cm, an average of  $78.2 \pm 0.46$  cm; 16 (55.2%) have waist circumference from 81 to 88 cm, average  $84.9 \pm 0.51$  cm; 1 person (3.4%) had a waist circumference of 90 cm.
- there are 2 elderly women with a high level of physical activity, 1 (50.0%) has a waist circumference of 79; In 1 case (50.0%), waist circumference was determined to be 82 cm.

**Conclusion** As can be seen from the above data, physical activity is a factor that directly affects the indicators of physical development of the body. As physical activity increases, the accumulation of adipose tissue decreases in older and older women. Also, abdominal obesity is less common in older men than in older women.

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