# THE EFFECT OF MARTIAL ARTS ON A WOMAN'S BODY (ON THE EXAMPLE OF WUSHU)

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Women are involved in all spheres of human activity, and they play a very important role in the development of the socio-economic and spiritual state. In addition, women perform an important biological function – healthy offspring, which increases its social significance. Due to the lack of free time, the problem of attracting women to sports in the context of social activities, health promotion and physical improvement is very serious [1].

In these circumstances, it is important to find an effective method and means to improve women's health with the help of Wushu tools. At the same time, in the theory and methodology of physical culture and sports, the problems associated with the study of the effectiveness of Wushu training, the impact on the female body are not fully studied, the training program based on this type of martial arts is not methodologically provided.

The purpose of the research: to identify the impact of Wushu classes on the female body

**Material and methods.** In order to solve the tasks, set, the following pedagogical and biological methods [2] were used:

Anthropometric: height, weight, length of the upper limb, length of the lower limb, thickness of the skin-fat fold, and 29 other indicators.

Tools used: Martin ruler, weight meter, instrument for measuring the thickness of the skin-fat fold, etc.

On October 5, 2018, the physical morphological parameters of female athletes of the 17th class engaged in Wushu were measured at the Beijing Sports University. All of them are athletes of the national level or higher. The study involved 9 women aged 20.

**Results and their discussion.** The study revealed that female Wushu athletes are of average height and do not differ significantly from the general population. Height, sitting height, upper limb length, lower limb length and calf plus foot height are similar to the general population. The individual value of forearm plus hand length in the Asian Games medalists was a class average of 38.60.

The average of 38.93 is slightly higher than the class average by 0.33. This is due to the fact that the forearm and hand length requirement for female athletes in wushu exercises is slightly less, with a high individual value of 7.0.

The individual height was 7.0, the class average was 7.13, and the Beijing average was 6.70. This score is between the class average and the Beijing average, which means that there is no need or desire to achieve excellent performance when meeting foot height requirements.

This indicator is between the class average and the Beijing average, which means that the foot height requirement should not be too low or too high, but moderate in order to ensure the quality of movement.

From the difference between these two key indicators, it is clear that Wushu female athletes must have average height and appropriate proportional coordination of all body parts to be able to practice Wushu complexes consistently and meet the basic requirements of martial arts: eyes follow hands, steps follow body, hands-eyes, body technique and body movements. The hands, eyes and body technique must be coordinated and natural.

The subcutaneous fat level of female martial arts athletes is relatively low, for example, the average subcutaneous fat in the Beijing arm is 17.60, while the class average is only 16.67.

For example, the average subcutaneous fat in Beijing was 17.60 for the arm skin-fat fold and 16.67 for the shoulder blade skin-fat fold, 17.50 for the shoulder blade skin-fat fold and 16.17 for the class skin-fat fold, 20.90 for the abdominal skin-fat fold and only 14.50 for the class skin-fat fold.

The scapular skin-fat fold was 0.03 less than the average person, the scapular skin-fat fold was 0.33 less than the average person, and the abdominal skin-fat fold was 6.40 less than the average person.

The individual value of abdominal skin-fat fold and shoulder skin-fat fold in the Asian Games winner is only 12.5, much less than the class average.

This suggests that martial arts movements require a certain amount of muscle mass, that is, a larger proportion of body muscle mass, to perform various martial arts exercises, such as dodging and moving, falling and rolling, and other movements of great amplitude and speed, in order to fully cope with them, as well as with the change of rhythm in martial arts exercises. For example, taijiquan requires softness and evenness, and the rhythm of such movements is controlled and regulated by the strength of the muscles.

The rhythm of such movements is controlled and regulated by muscle strength. The most forbidden thing in martial arts is the soft and disorganized control of rhythm. If there is more fat, there is less muscle mass.

Then the power movements are bound to be insufficient, the rhythm is likely to be poorly controlled, the results will not.

**Conclusion.** As already mentioned, women play an important role in society, having a huge impact on a significant part of human development and the world as we know it as a whole. Motherhood is a function that only women have, and the process of its implementation is not only a great responsibility and a crucial period of individual life, but also what pushes humanity forward. Therefore, women's health and the promotion of a healthy, positive lifestyle, as well as longevity, is something that should attract more attention in the modern era. The recent development of human potential has brought not only progress, new opportunities and positive consequences for life, but also many threats and risks associated with ordinary life. The focus of this study is on the impact of

physical activity on health and, in particular, on women's health. At first, Wushu was chosen as an example of sports activity in order to analyze its impact on the mental and physical health of women. It has been found that sports, martial arts, and Wushu, in particular, have proven many positive effects, while some data is a bit contradictory, so research needs to be expanded and deepened to make a better analysis, and then perhaps find more practical applications and bring more ideas to society.

Our study compared only key indicators that were significantly different from the total population, while other indicators that were not significantly different from the total population were not explained. Further research is needed to evaluate other indicators.

Height, muscle mass, body weight, lower limb length / height × 100, and body fat level can be used as body morphometric indicators for selecting female Wushu athletes. The height of female martial arts athletes is slightly lower than the average height of their peers in Beijing, but the difference is insignificant, and they are of average height, so girls of average height should be selected for martial arts training as adults; the muscles of good Taijiquan athletes should be compatible with their weight, neither too fat nor too thin, but moderate; female martial arts athletes must have lower limbs that are relatively shorter than their height. Coaches should choose girls with a low body fat content for training.

The present study may be one-sided due to the small sample size, and in future studies, the sample should be expanded to further demonstrate the physical morphological characteristics of female Wushu athletes.

In our study, we analyze only individual physical indicators of Wushu and compare them with those of gymnasts (one of the most popular sports among women).

1. Preamble to the Constitution of WHO as adopted by the International Health Conference, New York, 19 June - 22 July 1946 (signed on 22 July 1946 by the representatives of 61 States (Official Records of WHO, no. 2, p. 100) and entered into force on 7 April 1948).
2. Karpman, V.L. Testing in sports medicine /V.L. Karpman, Z.B. Belotserkovsky, I.A. Gudkov - M.: FiS, 1988. -208 p.

## ОЦЕНКА АБСОЛЮТНЫХ ПОКАЗАТЕЛЕЙ КООРДИНАЦИОННЫХ СПОСОБНОСТЕЙ ШКОЛЬНИКОВ

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«Основой хорошей работоспособности является высокий уровень скоростных и координационных способностей. Высоких результатов в спорте и развитии можно добиться, если развивать основные физические качества в наиболее благоприятные периоды жизни» [1, 2, 3]. «Ребенку на уроках «Физическая культура и здоровье» необходимо осваивать техни-