сети водоробот, общая жесткость воды из крана потребителя заставляет задуматься о техническом состоянии труб системы централизованного водоснабжения. Вероятно, имеет место коррозия труб и их изношенность. Окисляемость перманганатная свидетельствует о присутствии среди органических веществ (гуминовые кислоты, растительная органика) значительной доли железобактерий. Данные бактерии способны удерживать растворённое двухвалентное железо в стабильной форме, в разы увеличивая время необходимое для его окисления.

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INFLUENCE OF RHYTHMIC GYMNASTICS ON MORPHOPOMETRIC PARAMETERS OF ATHLETES

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Annotation. The article presents anthropometric changes in body parts of 7-8-year-old girls involved in rhythmic gymnastics. The study was conducted with the participation of 40 girls involved in gymnastics and 40 girls who do not participate in sports. It was revealed that girls from rhythmic gymnastics lag behind their peers who do not go in for sports in terms of body weight and height. The upper limbs and length of the lower limbs, on the other hand, is longer for gymnasts.

Key words: anthropometric changes, girls, rhythmic gymnastics, body weight, upper and lower extremities.

Introduction

Anthropometry helps to assess the features and structure of the human body, which is actively used in medicine today. The variability in the size of the human body has led to a great need for anthropometric research. An important purpose of anthropometric methods lies in identifying the characteristics of human development, and is also the cause of certain diseases at the initial stage. Assessment of the state of physical health is possible with the help of individual calculations and comparison of their results with the generally formed norms of development of the human body [5, 6].

Research in the field of rhythmic gymnastics indicates the presence of certain morphological characteristics that increase the chances of gymnasts for success. These features are specific to each sport, thus defining the reference profile required for a successful talent identification process [4, 5]. Moreover, within the same kind of gymnastics, there are differences depending on the role or category of competitions in which the athlete specializes [1].

Rhythmic gymnastics is an acyclic, complexly coordinated sport. Its specificity requires an athlete to develop and improve flexibility in all its manifestations, fine coordination of movements, a sense of rhythm, musicality, artistry. In turn, the complexity of the structure of motor actions makes it necessary to memorize a large volume of relatively independent movements [2, 3].

The purpose of the study was to study and compare the features of the morphometric parameters of body parts of gymnasts who go in for rhythmic gymnastics and as a control group we took indicators of the physical development of girls who do not go in for sports of the corresponding age.

Objects and research methods

The results of examination of 80 girls (including 40 athletes, 40 girls who do not go in for sports) of the Bukhara region, aged 7 and 8, were studied. The body length was measured using a centimeter. The measurement of body weight was carried out using a medical scale. The measurement of the girth and length of the limbs was carried out using a centimeter tape.

Results and discussion

As a result of the research, it was found that the height of 7 year old girls athletes varied from 113.2 cm to 129.4 cm, averaging 120.0 ± 1.0 cm, and body weight ranged from 19.3 kg to 38.4 kg, on average 22.7 ± 1.18 kg. Studies have shown that the body length of 7-year-old girls who are not involved in sports ranges from 114.3 cm to 127.1

cm, averaging 123.5 ± 0.79 cm, and body weight from 22.5 kg to 25,6 kg, on average was equal to 24.4 ± 0.19 kg.

The body length of girls aged 8 years old sportswomen engaged in rhythmic gymnastics ranges from 110.0 cm to 133.0 cm, averaging 121.3 ± 1.43 cm. At the same time, the body weight ranged from 19.0 kg to 29.0 kg, on average it was 23.6 ± 0.62 kg. The height of 8 year old girls who did not go in for sports ranged from 119.0 cm to 137.0 cm, on average it was 127.5 ± 1.12. When measured, the body weight ranged from 18.5 kg to 42.0 kg, on average it was equal to 24.9 ± 1.46 kg.

Anthropometric studies among 7-year-old children of female gymnasts showed that the growth parameters of girls are 1.03 times, and among 8-year-old female athletes, 1.05 times lag behind the parameters of girls who are not athletes. The body weight of 7-year-old girls involved in rhythmic gymnastics is 1.07 times lower, and 8-year-old girls are 1.06 times lower than that of girls who do not practice rhythmic gymnastics. The body length of 7-year-old girls gymnasts is 1.18 times more, and 8-year-olds is 1.01 times more than in the control group. 7-year-old girls-gymnasts have 1.02 times less waist circumference, and 8-year-old girls - athletes 1.04 times less compared to girls who are not involved in rhythmic gymnastics.

Studies have shown that the abdominal circumference of 7 year old girls doing rhythmic gymnastics is 1.02 times less, and that of 8 years old girls is 1.07 times less than that of girls who are not athletes. Breast circumference in the pause for 7 year old girls-gymnasts is lower by 7.2% and 6.4% with 8 year old girls who are not athletes. In 7-year-old girls - gymnasts, the chest circumference at the inspiratory height is 7.7% higher, and lower by 5.3% in 8-year-old girls when compared with peers who do not go in for sports.

The chest circumference at full exhalation in 7 year old girls doing rhythmic gymnastics is lower than 5.3%, and in 8 years old girls it is lower than 5.3% compared to girls who do not practice rhythmic gymnastics.

The length of the thigh in 7-year-old girls of non-gymnasts is less by 0.6%, and in 8-year-old girls by 4.2% compared to the length of the thigh of gymnasts. The hip girth in 7 year old girls who are not involved in rhythmic gymnastics is less than 0.9%, and in 8 year old girls it is less than 6.0%, in contrast to girls gymnasts of this age. The width of the pelvis in 7 year old girls doing rhythmic gymnastics is greater by 3.0%, and in 8 year old athletes it is larger by 1.4% compared to the width of the pelvis of girls in the control group.

The shin length of 7-year-old girls who are not athletes is less by 8.9%, and that of 8-year-old girls is 3.7% less than the shin length of female gymnasts. When measuring the parameters, the shin circumference of 7 years old girls gymnasts is 0.9% more, and at 8 years old it is 2.3% more, in contrast to girls gymnasts of this age. The foot length of 7-year-old female athletes is 7.8% longer, and that of 8-year-old girls is 3.8% shorter than the shin length of girls who do not go in for rhythmic gymnastics.

Conclusion

Sportswomen practicing in the rhythmic gymnastics section of 7 and 8 years old from the experimental group have lower stature, weight indicators when compared with

girls who are not athletes. In girls - gymnasts, the parameters of the chest circumference are less compared to girls who do not go in for sports. The circumferential dimensions of the thigh and lower leg in athletes are greater than in girls from the control group. This is probably due to the high load on the lower extremities during training with gymnasts.

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ИСКУССТВЕННОЕ ОСВЕЩЕНИЕ НАЗЕМНЫХ ПЕШЕХОДНЫХ ПЕРЕХОДОВ АВТОМОБИЛЬНЫХ ДОРОГ Г. ВОЛГОГРАДА

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ARTIFICIAL ILLUMINATION OF THE SURFACE PEDESTRIAN CROSSINGS OF HIGHWAYS OF THE CITY OF VOLGOGRAD

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