American Journal of Medicine and Medical Sciences 2024, 14(3): 646-648
DOI: 10.5923/j.ajmms.20241403.23

Dynamometry Indicators of Children in the Second Period of Childhood

Rustamova N. B.

Bukhara State Medical Institute named after Abu Ali Ibn Sina, Bukhara, Uzbekistan

Abstract The analysis was carried out in 12-year-old children of general education school No. 32. The results of the study showed that the body weight and muscle strength of the 12-year-old children were significantly higher than the children of the same age.

Keywords Anthropometric indicators, Muscle strength, Dynamometry, Sexual demorphism

1. Introduction

Until now, the problem of left handed remains a puzzle. We know that most of the left handed are the owners of great talents, but among them there are also those with low intellectual potential. Our views are reflected in the following sources.

A decrease in the intellectual ability of chimps can have one reason - this is a developmental pathology, but healthy chimps can also have excellent abilities, there is a lot of such data [2].

Left handed are more creative, especially artistic, and have more emotions than right handed. Many historical figures and geniuses were left handed. Among them are artists Pablo Picasso, Michelangelo Buonarotti, Leonardo da Vinci, rulers and generals Charles, Napoleon Bonaparte, Alexander the Great, Julius Caesar, writers Lewis Carroll and Nikolai Leskov, scientists James Maxwell, Ivan Pavlov, musician Henri Paul Point [8].

It turns out that since 1992, there is a World Left-Handed Day, which is celebrated every year on August 13! Left handed Day is designed to attract attention.

The reasons for the division of mankind into left handed and right handed are not completely known. Currently, according to various estimates, left handed make up about 8-15% of the world's population. Left handed is more common among men than among women [11].

In our opinion, this problem requires a solution, because different forms of training and retraining of left-handed people can have a negative impact on their physical and mental development. The issue of a differentiated approach to education (the teacher takes into account the individual characteristics of a student or group of students during the learning process) is the basis of modern pedagogy [1].

Received: Feb. 15, 2024; Accepted: Mar. 3, 2024; Published: Mar. 6, 2024
Published online at http://journal.sapub.org/ajmms

Negative attitudes toward left-handedness have a long history and are reflected in events, actions, and attitudes related to left-handed people in various cultures [2].

Predominance of caregiving is seen not only in the "willingness" or unwillingness of the child, but also in the special organization of brain activity, which determines the "leading" hand, some features of the organization of higher mental functions. You can forcefully teach your left-handed child to work with his right hand, but you cannot change his biological nature.

In society, the problem of re-teaching clumsy children (by teachers or parents) to write with their right hand only leads to psychological trauma; Also, it will be necessary for manufacturers and designers of household goods to make special items taking into account the convenience of left-handed [1,9].

Achieving dexterity means not only the dominance of the left hand in performing motor actions, but also the distribution of different functions between the right and left hemispheres as a certain reflection of interhemispheric asymmetry.

The theory of functional asymmetry of the cerebral hemispheres has long had scientific opinions. The brains of right handed and left handed were studied for the first time in 1871 by the English anatomist Ogle. He found that the brain of a normal person is mirror-symmetrical to the brain of a normal person. But the material collected later did not allow us to identify significant anatomical differences that could explain the differences in the functions of the right and left hemispheres in general, and especially the choice of the dominant hand.

Due to insufficient study of the content of pedagogical support provided to left-handed students in primary school, difficulties in adapting and teaching at school, psychological and physiological characteristics of left-handed children and scientific recommendations for their prevention and elimination. It is clear [7,13].

There is no clear answer to the question of what is the reason for left-handedness, and what is the difference between right-handed and right-handed people. One thing is clear, it cannot be seen as a reason.

The role of heredity is such that the probability of a child with a cleft palate from a normal parent does not exceed 2%, but if one of the parents has a cleft palate, it increases to 17%, and if both parents have a cleft palate in the case of left handed, this indicator increases to 46%.

In a study conducted by Swedish scientists of the BBC news agency, pregnant women who underwent an ultrasound examination in the late period of pregnancy had a 32% higher chance of giving birth to a premature baby.

According to R. Gnatyuk (2017), the main difference between left-handed people and left-handed people is that the right hemisphere of the brain is dominant. In people with a dominant right hand, on the other hand, the left hemisphere is more developed, which is responsible for working with numbers and complex mathematical formulas, understanding human speech, etc. That is, the left hemisphere of the brain is responsible for logic, and it is also called the "rational" hemisphere. The left hemisphere opens the way to the world of science, and the right hemisphere to the world of art. Therefore, it is not surprising that more than 20% of creative professions - actors, musicians, painters, writers and poets are left-handed [15,17].

The analysis of existing literature showed that the anthropometric parameters of a certain part of the body have not been studied individually and to a certain extent in the complex of "small" children. There are no data on the morphometric parameters of the left side of the body in children, taking into account age-related and sexual demorphism. All this requires an in-depth study of this problem and analysis of the data obtained in the future.

Perhaps the decisive factor is carelessness, a lack of understanding of biological mechanisms.

The most important thing is the inability to accept the variety of individual differences of children, the differences in their abilities, inclinations, reactions, individual characteristics under the influence of the same factors [2].

Left handed have unique characteristics of visual perception of information. It was found that the well-being of the visual system is especially characteristic of children [11,18].

Children are encouraged to start school, as well as problems related to disorders such as coordination of movements, including fine motor skills of the leading hand and perception of body shapes, remedial work through the program as a whole system, exercises for important opportunities in practice discussed [6,11,16].

The analysis of existing literature showed that anthropometric parameters in one or another part of the body were not studied separately and to some extent in the "left-handed" group of children.

There is no information about the morphometric parameters of the body parts of the children of left handed depending on age and sexual demorphism.

All this requires a deep study of the problem and analysis of the data obtained in the future.

The purpose of the study: to study the comparative characteristics of body weight and upper limb muscle strength in 12-year-old boys and girls using dynamometry.

2. Research Material

It was conducted at the general secondary school No. 32 in Bukhara based on the bilateral agreements of the Bukhara State Medical Institute (05.02.2020 No. 517). The children were divided into 2 groups (n= 120): Group I, a group of 12-year-old normal children (n = 99), including 44 girls and 55 boys; II-group 12-year-old children (n = 21), including 7 girls and 14 boys, were studied. To carry out anthropometric measurements, the methodology of anthropometric research of children was used (morphometric characteristics of the assessment of physical development of children and adolescents - methodological recommendations // Shomirzayev N.Kh., Ten S.A., Tokhtanazarova I., 1998).

Mathematical processing was performed directly from the common Excel 7.0 data matrix using STTGRAPH 5.1 capabilities; standard deviations and presentation errors were determined.

3. Research Results

Studies have shown that the body weight of 12-year-old left-handed girls ranges from 24.5 to 35.5 kg, on average 30.9±1.66 kg, and the body weight of left-handed boys of the same age is 25, From 0 to 35.8 kg, average 30.0±0.88 kg.

The body weight of normal girls of the same age ranges from 25.0 to 40.0 kg, with an average of 31.4 ± 0.51 kg, and the body weight of normal boys is 25.0 from to 43.0 kg, with an average of 33.45±0.52 kg.

The right arm muscle strength of 12-year-old left-handed girls ranges from 7.0 to 15.0 kg, with an average of 9.714±1.208 kg, and the left arm muscle strength ranges from 9.0 to 16.0 kg. is 12.0±1.057 kg on average.

The right arm muscle strength of the same age left-handed boys ranges from 5.0 to 15.0 kg, with an average of 9.071±0.82 kg, and the left arm muscle strength is 7. ranged from 0 to 17.0 kg, with an average of 11.786±0.82 kg.

The right arm muscle strength of 12-year-old right handed girls ranges from 10.0 to 21.0 kg, with an average of 15.068±0.374 kg, and the left arm muscle strength ranges from 5.0 to 17.0 up to kg, with an average of 10.682±0.408 kg.

The right arm muscle strength of similar age boys ranged from 15.0 to 23.0 kg, with an average of 19.182±0.232 kg, and the left arm muscle strength was 10. ranged from 0 to 20.0 kg, with an average of 15.545±0.29 kg.

Anthropometric studies conducted between left handed and right handed children showed that the body weight of a 12-year-old right handed girl is 0.5 kg heavier than that of a left handed girl of the same age, and a 12-year-old right handed boy and the body weight of a girl child is 3.4 kg

heavier than that of a boy of the same age.

In 12-year-old girls, the right arm strength is 4.4 kg greater than the left arm strength, and in boys of the same age, the left arm strength is 2.3 kg more than the right arm strength. kg stronger.

In 12-year-old average boys, right arm strength is 3.7 kg greater than left arm strength, and in average age boys of the same age, left arm strength is 3.7 kg greater than right arm strength. 2.7 kg stronger than hand strength.

4. Conclusions

According to the obtained data, it was found that 12-year-old special children have a significant increase in body weight and muscle strength in upper limbs compared to non-standard children of the same age.

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