

## PREVENTION OF NEUROCIRCULATORY DYSTONIA IN ADOLESCENTS

Umarova Muqaddas Abdukadyrovna

Department of Pediatrics, Faculty of Medicine, ASMI

**Abstract.** Neurocirculatory dystonia is a syndrome of disorders of the cardiovascular system and its functions. In the initial state, neurocirculatory dystonia is characterized by signs of general asthenia, hypotension and bradycardia, which sharply weakens the adaptive capabilities of the body. As a result of the course of traditional physical rehabilitation in girls with neurocirculatory dystonia, it was possible to achieve a slight increase in the reserve capabilities of the cardiac and respiratory systems with some weakening of the manifestations of hypotension and bradycardia. The effectiveness of the author's version of physical rehabilitation showed the possibility of developing more pronounced positive changes in the body due to powerful activation of the reserve capabilities of the main life support systems against their background. The use of the author's version of rehabilitation has proven its advantages and high health potential.

**Keywords:** rehabilitation, hypotension, neurocirculatory dystonia, yoga, physical activity.

### INTRODUCTION

Neurocirculatory dystonia is a syndrome of disorders of the cardiovascular system and its functions. Most often, symptoms of cardiovascular disorders caused by stress are encountered. The course, as a rule, has a benign nature and a positive prognosis. According to statistics, this pathology occurs in 12-35% of the population, mainly this disease develops in adolescents, since in older age it often develops into various forms of cardiovascular pathologies [1]. In this regard, with neurocirculatory dystonia, early detection and early adequate treatment are advisable. This group includes cardiovascular neuroses, respiratory distress syndrome (Da Costa syndrome), gastroneurosis, heart rhythm disorders of psychogenic origin, sweating, reddening of the skin and tremor of the hands associated with autonomic dysfunction, psychogenic aerophagia, obsessive cough, dysuria, flatulence, hiccups, deep frequent breathing, i.e. hyperventilation, frequent urination, a state of increased fatigue and tiredness, variable and quickly passing pain in all parts of the body, as well as a feeling of unreasonable fear and anxiety for one's health [1].

### MATERIALS AND METHODS

The study involved 45 teenage girls (13-14 years old), who were divided into 3 groups of 15 people. The girls of the first group were clinically healthy and were included in the control group. The girls of the 2nd (main) and 3rd (experimental) groups suffered from neurocirculatory dystonia of the hypotonic type for at least 2 years. In the main group, traditional rehabilitation was carried out, which included: aerobic classes 3 times a week, lasting 30-40 minutes; daily health walking of at least 2 km at a speed of 1 km in 10-15 minutes; morning and evening hygienic gymnastics - daily for 15-20 minutes [2]. In the 3rd (experimental) group, physical rehabilitation classes were conducted according to the methodology proposed by the authors: daily health walking – at least 3 km at a speed of 1 km in 10–15 minutes; performing yoga asanas (downward-facing dog, extended triangle pose, extended angle pose, warrior pose, inverted triangle pose, forward bend with legs wide apart, plow pose for 1 minute each, at least 4 times a

week; morning and evening exercises using the above asanas and breathing exercises for 25–30 minutes daily [3]. Classes were conducted in both groups for three months.

## RESULTS AND DISCUSSION

Before the study, changes characteristic of neurocirculatory dystonia of the hypotonic type with reliable differences in the recorded indicators compared to the control group were revealed in the main and experimental groups. In both observation groups, the systolic blood pressure level was reduced to 41.7%, and the diastolic blood pressure level was lower than the control level by approximately 30.0%. At the same time, the heart rate level in both observation groups was lower than the control level by approximately 32.0%. The results of the Stange test in both groups of adolescents with neurocirculatory dystonia were reduced by almost 40.0%. The value of the Genchi test results were inferior to the control level by almost 48.0%. Due to the presence of pronounced violations of the taken into account indicators in adolescents with neurocirculatory dystonia, they underwent physical rehabilitation. In the main group, rehabilitation effects were carried out according to the traditional method. As a result, it was possible to achieve some positive changes in the indicators taken into account, which did not, however, allow them to approach the values of the control group. After the rehabilitation measures were carried out in the main group, it was possible to increase the level of systolic blood pressure by 12.3%, diastolic by 14.8%. At the same time, the heart rate of these adolescents increased by 9.0%. The Stange test indicator increased by only 15.1%, and the Genchi test by 15.6%.

For all indicators, the teenagers of the third group managed to bring the values of the considered indicators to a level not differing from the values in the control group. This occurred due to an increase in their systolic blood pressure by 35.1%, diastolic blood pressure by 25.8%, the heart rate increased by 25.3%. The Stange test indicator increased by 42.8%, and the Genchi test by 34.2%. The obtained indicators exceeded the results in the main group and reached the control level. The positive effect of using the author's version of physical rehabilitation for neurocirculatory dystonia of the hypotonic type turned out to be more effective, since it provides a more pronounced healing effect on systems and organs. Physical exercises and asanas, when performed regularly, develop strength, endurance, speed and coordination of movements, and also contribute to the stabilization of the mental background. This is primarily the goal of performing yoga asanas, which have a powerful psychophysical healing effect on the entire body [4].

## CONCLUSION

The effectiveness of the author's version of physical rehabilitation in girls with neurocirculatory dystonia showed the possibility of developing more pronounced positive changes in the body due to the powerful activation of the reserve capabilities of the main life support systems against their background. Leveling in this group of manifestations of hypotension and bradycardia when the indicators taken into account reach the level of the control group during the use of the author's version of rehabilitation proved its advantages and high health potential.

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