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Research Article

FEATURES OF DENTAL STATUS IN BALLET DANCERS¹Mironov S.N., ²Danshina S.D., ³Timoshina M.D., ⁴Sevbitova M.A., ⁵Kiselman N.S.

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Abstract:

The profession of a ballet dancer is a complex and difficult, but at the same time fascinating profession, which carries a lot of dangers and diseases. The dancer is subject to the conditions in which he is forced to work, they directly affect him, sometimes causing harm. The most common diseases of the musculoskeletal system, feet, joints and muscles, as well as diseases of the teeth and organs of the oral cavity are those of ballet dancers.

Key words: *ballet dancers, dental status, ballet medicine.*

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INTRODUCTION:

Dance is an ancient form of expression of feelings and emotions, and as a form of communication dance appeared in human society much earlier than language. In every culture on our planet dance has left a big mark, with its help celebrated important events, passed the sacred secrets and even cured disease. Dance or dance-movement therapy uses voluntary and choreographic movements to solve emotional, mental and physical problems [1].

The profession of a ballet dancer is a complex and difficult, but at the same time fascinating profession, which carries a lot of dangers and diseases. The dancer is subject to the conditions in which he is forced to work, they directly affect him, sometimes causing harm. No other artist expends so much physical strength to prepare for his performance, and the performance itself is not worth such a huge physical stress to any other artist. The most common diseases of the musculoskeletal system, feet, joints and muscles, as well as diseases of the teeth and organs of the oral cavity [2].

The Russian and foreign literature does not sufficiently cover the impact of the profession of ballet dancer on the body of the artist, which determines the modernity and relevance of our research.

In this regard, the **aim of our study** was to identify the features of the influence of the profession ballet dancer on the General condition of the body and the state of the oral cavity and teeth.

MATERIALS AND METHODS:

This work was done at Sechenov University with supported by the "Russian Academic Excellence Project 5-100".

Injuries and diseases of the musculoskeletal system.

Serious ballet classes-increased load on the musculoskeletal system. Injuries and fractures are the causes of inflammation of the joints, osteoarthritis, lowering the height of the intervertebral discs.

From regular physical overload erased intervertebral discs, hip joints are affected by arthrosis, arthritis, formed characteristic changes in the skeleton, there is instability of the lumbar vertebrae (they become too mobile and lose the ability to hold the body in a physiological position when moving and at rest), lowered internal organs (due to constant jumps) and begin to press on the bladder. Moreover, young people develop a disease inherent mainly in the

elderly-osteoporosis or a decrease in bone density, because of which they are much more likely to break their hands and feet [3].

The fact that the load on the bone apparatus stimulate the renewal of bone cells, increase its density. It is noted, for example, that astronauts have a long stay in a state of weightlessness, when there is no load on the bones and muscles, causes a significant loss of bone mass. The artists of the ballet, on the contrary, there is an excess physical exertion. It turns out that the thing is that the renewal of bone cells occurs during rest. If intensive training does not alternate with a full rest, the balance of the processes of formation of new bone cells is disturbed, an imbalance between the resorption of old bone tissue (natural process) and the creation of a new one develops. As a result, the bones become thinner and, accordingly, weak [4].

Another reason for early osteoporosis ballerinas found American scientists led by Professor Anna Koch of the Wisconsin medical College. They conducted a study of 22 young women-professional artists of the Milwaukee ballet company (Milwaukee Ballet Company). The average age of the participants was 23 years, weight – 51 kg.it Was found that the source of health problems for all ballerinas is one – poor nutrition, which is not able to fully compensate for the energy spent on training. Among other things (digestive disorders, impaired blood flow and lymph flow, varicose veins of the lower leg, thrombophlebitis, heart disease, termination of menstruation, inflammation of the pelvic organs, infertility, etc.) 59% of ballerinas found calcium deficiency, 23% — bone mineral insufficiency, in other words, the initial phase of osteoporosis. So the girls faced the problems of post-menopausal women [5, 6].

The profession of a ballet dancer leaves its mark on the structure of the vertebral column and dancers. As a result of the support of the partner during the dance, the muscles of the trunk are distributed so that with minimal stress to perform heavy physical work – to raise the ballerina. They have early signs of degenerative changes in the intervertebral discs, i.e., early osteochondrosis and deforming spondylosis and reduced growth [7].

Injuries and diseases of the feet and joints.

From ballet dancers as a result of years of cumulative injuries there are various deformations of the feet. These extremely ugly deformities-the result of years of stress on the legs, trying to get them to perform

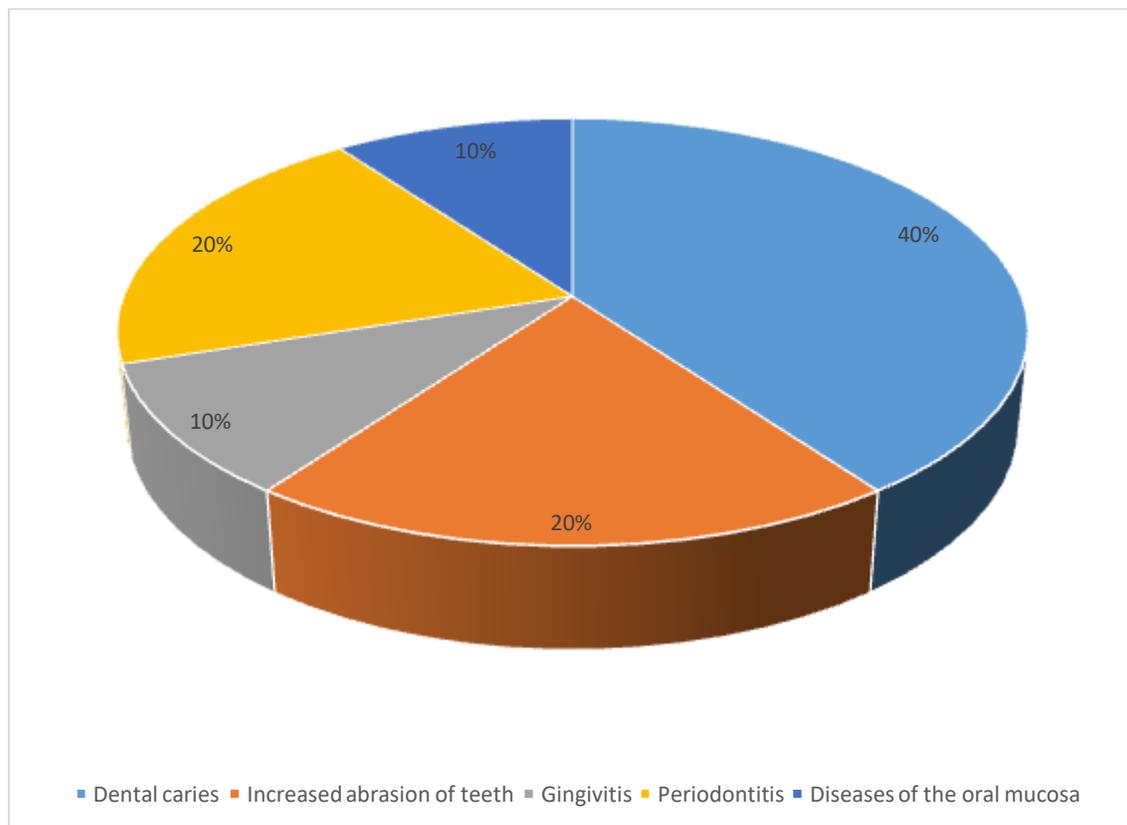
movements that are not provided by nature [8].

Already by the age of 38, the ballerinas' feet and fingers are very deformed, the curved thumb provokes the displacement of all other fingers and the upper arch of the foot, the extreme metatarsal bones diverge to the sides, a static flatfoot develops, associated with the weakening of the muscles and stretching of the ligaments. The situation is aggravated by wearing uncomfortable, tight shoes-Pointe shoes. Over the years, the feet of the artists are covered with calluses and bruises, the big fingers have cones, osteoarthritis of the joints of the toes occurs, developing due to huge overloads. They have these joints before wear is almost mandatory [9, 10].

All these diseases can be seen as signs of difference, as the price they pay for the opportunity to engage in their favorite profession.

RESULTS AND DISCUSSION:

Diseases of teeth and organs of the oral cavity in ballet dancers is a consequence of the existing above-mentioned professional diseases and constant excessive loads on the body as a whole. In connection with early developing osteoporosis, there is increased tooth abrasion, as well as multiple caries, the cause of which is mainly associated with the leaching of Ca from the bone structures of the body. There is also a deterioration in the hygienic condition of the oral cavity, leading to periodontal disease – first to gingivitis, then periodontitis, during which exacerbates the violation of mineral metabolism in the body. Diseases of the oral mucosa are more often traumatic due to teeth biting the mucous membrane and tongue at the time of motor activity (pic. 1).



Pic. 1 Representativeness of the dental status of ballet dancers.

At present, we have started a study of the dental status of ballet dancers at the sports and ballet trauma and rehabilitation center of the “National medical research center of traumatology and orthopedics named after N. N. Priorova”

Objectives of the planned study:

- 1.To study the peculiarities of carious process in ballet dancers.
- 2.To study the features of the state of the periodontium, the mucous membrane of the mouth and lips of ballet dancers.
- 3.To determine the level of hygiene and features of hygienic care of the oral cavity and teeth of patients of the study group.

CONCLUSIONS:

1. The profession of a ballet dancer has a negative impact on human health.
2. Further study of the features of diseases of the oral cavity and teeth of ballet dancers is an urgent task.

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