Realization of individual and personal development potential of students of a special medical group in the process of adaptive physical education

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Abstract

Objective of the study Adaptive physical education exerts a positive influence on students with flat-valgus foot deformity and other special needs. Regular training sessions contribute to significant improvements in physical parameters. Furthermore, positive changes in psychological state are observed: heightened self-esteem, increased self-confidence, and enhanced motivation. The training also promotes the development of social skills, improving interactions with others and reducing stress levels. An individual's personal potential encompasses the totality of personal qualities, abilities, interests, and motivations that facilitate their development and successful self-realization in various spheres of life. For individuals with special health needs, realizing this potential can be challenging due to their specific circumstances; however, adaptive physical activity can assist in both realizing and accepting oneself.

Methods and structure of the study. is to examine how adaptive physical education influences the realization of individual personal potential of students of a special medical group with flat-valgus foot deformity. The study involved 15 students aged 18 to 25 years, assigned to a special health needs group and diagnosed with flat-valgus foot deformity. The experiment revealed that adaptive physical education sessions have a positive impact on students with special needs, including those with flat-valgus foot deformity, encompassing various aspects of their lives. Physical improvements include increased strength, flexibility, and endurance, along with reduced pain sensations. Psychological outcomes demonstrate heightened self-esteem, increased self-confidence and motivation, and decreased stress levels. Emotional state also improves, evidenced by elevated mood and reduced anxiety. Social skills are strengthened through enhanced interaction with other students and increased comfort in the social environment.

Keywords: *people with special health needs; flat-valgus foot deformity; adaptive physical education; individual personal potential.*

Introduction. In the modern world, physical health and activity play a crucial role in the quality of life for every individual, particularly for people with special needs (or people with special health needs / disabilities). Students with flat-valgus foot deformity constitute one such group requiring a specialized approach to physical activity. Regular practice of specialized exercises contributes to significant improvements in physical parameters. Furthermore, positive changes in psychological state are observed: heightened self-esteem, increased self-confidence, and enhanced motivation. The training also fosters the development of social skills, improving interactions with others and reducing stress levels. During the classes, using the integration of knowledge, skills and abilities from the field of IT technologies and the field of physical education and sports, within the framework of which, along with obtaining theoretical information, students of the special group master the skills of developing digital content, designing lesson programs, performing sets of exercises aimed at developing physical qualities and maintaining a healthy lifestyle. Physical education is of great importance for students of special medical groups. During classes, students develop not only their physical activity and body ca-

pabilities, but also have the opportunity to socialize in society. It is very important that physical education helps students develop teamwork skills, and with it communication skills [1, 5, 6].

The author analyzes the role of health systems for students of special medical groups. The article examines the indicators identified by students for addition to the health system to improve physical and mental health, and also examines adaptive methods of physical activity for special medical groups. [3, 7].

A 2018 study conducted by Lyudmila and Soslan Adyrkhaev demonstrated the positive impact of adaptive physical education on students with special needs. The authors' multi-year experimental research into methodologies showed improvements in students' physical health and fitness, along with their successful integration into the student environment. The obtained results prove that the presence of diverse illnesses, impairments, and/or a lack of motivation for physical activity necessitate a personalized approach for individuals with special health needs, requiring the selection of individualized conditions for their physical development. The results also provide evidence of students living within the student community where they feel comfortable and confident [2, 4].

Expert opinions indicate that the objectives of adaptive physical education can assist people with special needs, including students diagnosed with flat-valgus foot deformity, in improving their quality of life across various aspects, promoting their comprehensive development and social integration.

Objective of the study To examine how adaptive physical education influences the realization of the individual personal potential of students diagnosed with flat-valgus foot deformity.

Methodology and Research Design. The study involved 15 students aged 18 to 25 years, assigned to a special health needs group and diagnosed with flat-valgus foot deformity. The primary condition for participation was the regular performance of adaptive physical exercises over the course of one academic semester. These sessions incorporated a variety of techniques and methodologies aimed at preventing progression and improving the condition of the feet:

Strengthening Exercises: Calf raises, heel walking – improves muscle tone and stabilizes the feet. Achilles Tendon Stretching and Mobilization Techniques: To increase flexibility. Massage and Self-Massage: Foot massage and use of massage balls to relax muscles and improve blood circulation. Special Footwear and/or Orthopedic Insoles: Utilization of specialized footwear and/or insoles to ensure correct load distribution across the feet.

The study was conducted via an anonymous questionnaire survey. The questionnaire comprised 20 questions, divided into four sections: Physical Abilities, Psychological Qualities, Social Skills, and Emotional State. This questionnaire was designed to investigate how adaptive physical education sessions impact various aspects of the personal development of students with flat-valgus foot deformity.

The individual and personal potential of a student includes a set of personal qualities, abilities, interests and motivations that contribute to his development and successful self-realization in various spheres of life. For people with disabilities, it may be difficult to realize their potential due to their characteristics, but adaptive physical activity can help in self-realization and acceptance.

Results of the study and their discussion. Survey data confirms the positive impact of adaptive physical education (APE) on physical abilities.

The first section addressed the following questions:

"How do you rate your strength since starting APE?" Responses: Significantly improved - 9 students; Moderately improved - 4 students; Unchanged - 2 students; Worsened - 0 students. "Have you noticed improved flexibility since starting classes?" Responses: Significant improvement - 40%; Moderate improvement - 33%; Unchanged - 27%. "Has endurance increased since starting classes?" Responses: Significantly increased - 40%; Slightly increased - 33%; Unchanged - 20%; Decreased - 7%. "How often do you experience foot pain after classes?" Responses: Never - 20%; Rarely - 40%; Often - 27%; Constantly - 13%. "Do students feel an overall improvement in physical condition due to regular classes?" Responses: Yes, significant - 6 students; Yes, moderate - 5 students; No change - 3 students; Condition worsened - 1 student.

The second section evaluated the impact of APE on students' psychological qualities. "How have APE classes affected your self-esteem?" Responses: Significantly increased - 3 participants; Moderately increased - 4 participants; No change - 7 participants; Decreased - 1 participant. "Do you feel more

self-confident due to the classes?" Responses: Yes, significantly - 5 participants; Yes, somewhat - 6 participants; No change - 4 participants; Confidence decreased - 0 participants. "How have the classes affected your motivation for studying and other activities?" Responses: Unchanged - 40%; Moderately increased motivation - 33%; Significantly increased motivation - 20%; Motivation decreased - 7%. "Have you noticed reduced stress levels due to the classes?" Responses: Yes, significantly - 46%; Yes, somewhat - 27%; No change - 27%; Stress increased - 0%. Summary Question: "Do you feel more positive and emotionally stable due to the classes?" Responses: Significantly - 6 participants; Somewhat - 5 participants; No change - 4 participants; Condition worsened - 0 participants.

The next group of questions aimed to determine the influence of classes on participants' social skills.

"Interaction with other students?" Responses: Significantly improved - 5 participants; Slightly improved - 6 participants; Unchanged - 4 participants; Worsened - 0 participants. "Do you feel more comfortable in social settings due to the classes?" Responses: Yes, significantly - 6 participants; Yes, somewhat - 4 participants; No change - 5 participants; Comfort decreased - 0 participants. "How have classes affected your ability to form friendships?" Responses: Significantly improved - 3 participants; Slightly improved - 5 participants; Unchanged - 7 participants; Worsened - 0 participants. "Have you noticed increased social activity due to the classes?" Responses: Significantly increased - 9 participants; Slightly increased - 5 participants; Unchanged - 1 participant; Decreased - 0 participants. Summary Question: "Do you feel more integrated into the student community due to the classes?" Responses: Yes, significantly - 4 participants; Yes, somewhat - 6 participants; No change - 5 participants; Integration decreased - 0 participants.

Additional Questions: "How have APE classes affected your emotional state?" Responses: Significantly improved - 8 students; Moderately improved - 4 students; Unchanged - 3 students; Worsened - 0 students. "Do you feel less anxious due to regular classes?" Responses: Yes, significantly - 20% of respondents; Yes, somewhat - 47%; No change - 33%; Anxiety increased - 0%.

Conclusions. Based on the student survey, the following findings were identified:

Significant improvements in strength can be attributed to the regular physical exercises included in the adaptive physical education (APE) program, which target foot muscle strengthening. This contributes to enhanced overall physical fitness. Improved flexibility is linked to leg muscle strengthening and stretching exercises. The reduction in frequency of pain symptoms may result from specialized exercises designed to strengthen foot muscles, improve support, and promote better blood circulation. The overall physical improvement observed in most participants is likely due to APE's holistic approach to addressing their specific needs.

Increased self-esteem and self-confidence may stem from successful achievements and progress in physical exercises, fostering a sense of accomplishment and personal capability. Enhanced motivation for academic and other activities, along with reduced stress levels, is explained by tailored physical activities that prevent functional limitations and mitigate the impact of pain/discomfort on daily life.

APE positively impacts social skills in students with special needs. Participants reported improved peer interaction, greater comfort in social settings, increased social activity, and better integration into student life. These changes may be associated with growing self-assurance among students from specialized groups.

Enhanced emotional well-being and reduced anxiety in most participants may correlate with endorphin release during physical activity, which simultaneously alleviates stress. Increased relaxation likely results from exercises targeting the relief of physical and mental tension.

References

1. Antonov A.V., Prokhorenko A.A. Physical rehabilitation for meniscus injury. Current issues of health and adaptive physical education and sports, and ways to solve them. Proceedings of the Interuniversity Scientific and Practical Conference. St. Petersburg, 2024. Pp. 28-33.
2. Adyrkhaiev S., Adyrkhaieva L. The influence of adaptive physical education on physical health and fitness of students with disabilities. Social welfare interdisciplinary approach – 2017 – №7 (2) – P. 96 – 104.
3. Grigan S.A. The role of physical education in improving the physical and mental state of students of a special medical group. Second-

ary vocational and higher education in the field of physical education and sports: current state and development prospects. Collection of materials of the All-Russian scientific and practical conference. Chelyabinsk, 2024. pp. 90-92.
4. Grigan S.A. Problems of motivation for physical education of students of higher educational institutions. Actual problems of physical education and sports in modern socio-economic conditions. Materials of the International scientific and practical conference. Cheboksary, 2024. pp. 318-323.
5. Grigan S.A. The influence of health systems on the physical and mental state of students of a special medical group. Herzen readings. Physical education and sports in the educational space: innovations and development prospects. Collection of materials of the All-Russian scientific and practical conference. St. Petersburg, 2024. pp. 331-334.
6. Grigan S.A., Butenko T.V., Nagornykh V.N., Tokarev G.N. Use of digital content in organizing physical education classes for students of a special medical group. Teoriya i praktika fizicheskoy kultury. 2025. No. 4. P. 60-62.
7. Federal Law of 29.12.2012 No. 273-FZ (as amended on 08.08.2024) "On Education in the Russian Federation" (as amended and supplemented, entered into force on 01.09.2024) // Consultant Plus: reference and legal system.