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| Research Article

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The Importance of Monitoring Water Balance in the Body to Improve the Physical Condition of Teachers

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Annotation: In the modern higher education system, the professional activity of teachers involves significant physical and psychological stress. Stress, prolonged static postures, poor nutrition, and dehydration have a direct negative impact on their health. Studies show that disturbances in the body's water balance can lead to fatigue, headaches, muscle weakness, sleep disorders, and reduced attention among teachers. Therefore, maintaining adequate water balance is considered one of the key factors in improving their overall physical condition.

Keywords: Balance control, teacher health, physical activity, hydration, Mobile Program "EduHealth", BMI, healthy lifestyle, Correctional exercise, stress, habit of drinking water.

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Research objective. To determine the importance of Water Balance Control in improving the physical condition of teachers operating in higher education institutions, as well as to study the practical effectiveness of the formation of a hydration culture using the Mobile Program "EduHealth".

Research tasks:

- Theoretical justification of the physiological and pedagogical significance of the water balance.
- Identify drinking habits and dehydration problems among teachers.
- Development of the water drinking monitoring and wellness exercise system of the mobile program" EduHealth".
- Analysis of the impact of water balance control on physical condition on the example of experimental and control groups.
- Assessment of the role and effectiveness of digital technologies in the formation of a healthy lifestyle in teachers.

Physiological importance of water balance.

About 60–70% of the human body is composed of water. This water is found in intercellular spaces, blood, lymph, and the fluids of internal organs, and it plays an essential role in:

metabolism, thermoregulation, toxin removal, and energy production. Teachers often do not consume enough water during lessons or throughout their working day, which leads to dehydration. Water deficiency in the body causes: reduced energy production, slower oxygen delivery to the brain, increased muscle tension and pain, decreased concentration and memory. Therefore, it is essential to promote hydration awareness and develop healthy hydration habits among faculty members.

There is a direct link between dehydration and a teacher's physical and mental well-being. Even a 2–3% loss of body water can lead to: increased heart rate, decreased blood pressure, reduced work capacity by 15–20%. During physical activity or under stress, the body consumes more fluid. In such situations, planned and regular water intake plays a crucial role in maintaining homeostasis. According to the World Health Organization, the recommended daily water intake for a moderately active adult is: 1.8–2.2 liters for women, 2.5–3.0 liters for men. For teachers, depending on workload, room temperature, stress level, and physical activity, this amount may need to be increased by 20–30%. It is most effective to drink water in small portions every 30–40 minutes throughout the day.

Today, digital tools play a vital role in monitoring water balance. Mobile apps, smartwatches, and hydration reminders can help track water intake. Health-promoting apps like EduHealth, designed specifically for teachers, assist in: calculating daily water requirements, sending reminders before and after each teaching session, adjusting water intake based on activity level. This demonstrates the importance of a technological approach in improving health, physical condition, and well-being. In an observational experiment, teachers in the experimental group began drinking 2.5–3 liters of water per day and performing special corrective exercises. After 8 weeks: their average heart rate normalized by 5–7 bpm, fatigue and headaches were reduced by 60%, their BMI improved by an average of 1.5 units. Meanwhile, no significant changes were observed in the control group. These results confirm the positive effect of water balance on teachers' physical condition.

Based on the research findings and the critical importance of hydration, the following recommendations were made for teachers: Install water stations in educational institutions; Develop the habit of drinking 1 glass (200–250 ml) of water between each class; Use smart apps or daily reminders to encourage water intake; Increase hydration during hot seasons and physical exertion; Prefer clean drinking water over sugary or carbonated beverages.

Conclusion

Monitoring the water balance in the body is strategically important in strengthening the health and improving the physical condition of university teachers. Dehydration harms health, reduces work productivity, and decreases resilience to stress. Scientifically based approaches, technological tools, and healthy habits can help normalize water balance and ensure that teachers remain physically active and professionally efficient.

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