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Increasing Learning Motivation Through The Use Of Clinical Examples In Biochemistry

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Abstract: This article examines the pedagogical value of using clinical examples in teaching biochemistry and their impact on learning motivation. Real-life situations in a clinical context help students connect theoretical knowledge with practice, develop analytical thinking and independent work skills. The article also highlights the possibilities of effectively organizing lessons through interactive methods, virtual laboratories, and situational games. The results of the study show that the use of clinical examples increases learning motivation, makes lessons more interesting, and makes biochemistry more understandable for students.

Keywords: Biochemistry, clinical examples, learning motivation, pedagogical approach, interactive methods.

INTRODUCTION:

Biochemistry is an important subject in the natural sciences system, helping students understand complex biological processes. This subject is focused on the study of chemical processes occurring in cells and body systems, and it develops not only theoretical knowledge, but also practical skills. However, maintaining a high level of motivation among students in the process of teaching biochemistry is often difficult. This is mainly due to the complexity of the subject, the abstractness of concepts, and the limited opportunities for working with laboratory experiments.

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METHOD

1. The role of clinical examples in the pedagogical process

In teaching biochemistry, linking theoretical concepts with practical aspects helps students understand the subject faster and more deeply. Through clinical examples, topics such as complex metabolic pathways, enzyme activity, or the effects of hormones are connected to real-life situations. For example, clinical cases such as diabetes, anemia, or liver diseases allow the student to understand not only theoretical knowledge, but also the mechanisms of disease and the principles of their treatment. In this way, theoretical knowledge is given context, making it much easier to remember and apply in practice.

2. The importance of increasing learning motivation

Clinical examples make the lesson interactive and involve students in active participation. For example, in a laboratory session, blood test results from a diabetic patient are analyzed. Students observe the processes related to glucose, insulin, and glucose metabolism in action. This process increases motivation, as the student feels that he is applying his knowledge to a real-life situation. This not only improves knowledge acquisition, but also develops analytical and decision-making skills.

3.Compatibility with innovative methods

The use of clinical examples is more effective when combined with interactive methods and digital

resources. For example:

• • Simulation programs can be used to visually demonstrate various diseases and metabolic processes.

• • Case studies Through it, students work in groups to solve problems, discuss them, and come to scientific conclusions.

• • Virtual labs allows complex experiments to be performed safely and quickly.

These approaches make the lesson interesting and facilitate the mastery of complex topics. At the same time, students learn to connect scientific theory with practice, which increases their professional motivation.

4.Practical examples

When choosing clinical examples, the age, level of preparation and the purpose of the lesson should be taken into account. For example:

• Laboratory results of a patient with diabetes mellitus on the topic of glycolysis and glycogen metabolism.

• Clinical situations associated with atherosclerosis or increased cholesterol levels on lipid metabolism.

• Examples of hyperuricemia or anemia on the topic of proteins and enzymes.

Such examples encourage students to actively engage with the topic and allow them to apply their knowledge to real-life situations.

CONCLUSION

The use of clinical examples in teaching biochemistry makes the learning process more effective and interesting. Connecting theoretical knowledge with real-life situations helps students to understand the subject more deeply, develop analytical thinking, and apply their knowledge in practice. At the same time, clinical examples increase learning motivation, make lessons interactive, and develop students' independent work skills. Clinical examples, combined with innovative pedagogical approaches, including virtual laboratories, simulation programs, and situational games, significantly improve the quality of education. On this basis, the use of a clinical context in teaching biochemistry not only facilitates the mastery of the subject, but also strengthens students' professional interest and motivation to apply knowledge in practice.

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