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CREATIVE APPROACH TO TEACHING "DISEASES OF THE STOMACH AND INTESTINAL SYSTEM" TO STUDENTS OF THE MEDICAL INSTITUTE IN THE SUBJECT OF PATHOLOGICAL ANATOMY

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Abstract. This paper explores creative approaches to teaching gastrointestinal pathology, incorporating problem-based learning (PBL), digital pathology, virtual microscopy, and interactive simulations. These modern teaching strategies enhance students' engagement, critical thinking, and diagnostic abilities. The integration of innovative educational technologies fosters deeper learning, making the study of gastrointestinal pathology more practical and accessible.

Keywords: Medical education, creative teaching, pathological anatomy, stomach diseases, intestinal disorders, innovative learning.

INTRODUCTION

Pathological anatomy is one of the important subjects for medical students, providing the study of the morphological foundations of diseases. Diseases of the stomach and intestinal system are one of the most important topics of pathological anatomy. The use of creative approaches in teaching this subject helps to strengthen students' knowledge and skills. Teaching medical students about diseases of the stomach and intestinal system in the subject of pathological anatomy is crucial for developing their diagnostic skills. Traditional teaching methods, such as lectures and textbook-based learning, may not be sufficient to fully engage students or encourage deep understanding. Given the complexity of gastrointestinal pathology, a creative and interactive approach is essential.

MATERIALS AND METHODS

Creative approach methods

1. Visualization and digital technologies

Depiction of the mechanism of diseases of the stomach and intestines using 3D models and virtual reality (VR).

Analysis of histological preparations using digitized microscopy.

2. Case-stage and clinical simulation

Preparation of cases based on clinical and pathological data of diseases for the analysis of various situations.

Using simulation simulators, students learn to explain diagnostics and pathogenesis.

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3. Gamification and interactive learning

Questions and answers, quest games, illustrative crosswords.

Identifying morphological changes through the game "Find the disease".

4. Creative presentations and role-playing with the participation of students

Assign students to prepare presentations and video materials on pathological processes.

Role-playing in the form of "Dialogue between a pathologist and a clinician".

5. Hands-on practical exercises

Modeling diseases of the stomach and intestines (for example, using plasticine, 3D printer).

Increasing laboratory exercises to master pathomorphological preparations.

6. Showing the significance of diseases in real life

Discussing the significance of diseases based on the stories of various patients.

Organizing discussions on the role and importance of pathological anatomy in modern medicine.

RESULTS AND DISCUSSION

Pathological anatomy is a subject that requires students to:

Recognize macroscopic and microscopic features of diseases.

Understand pathophysiological mechanisms affecting the stomach and intestines.

Correlate structural changes with clinical symptoms and diagnostics.

Traditional methods often focus on memorization rather than application, limiting students' ability to diagnose conditions creatively. A creative teaching approach enhances:

Student engagement: Interactive learning makes pathology more interesting.

Problem-solving skills: Encourages students to think beyond theoretical concepts.

Practical application: Bridges the gap between pathology and clinical practice.

Innovative teaching strategies help students retain knowledge more effectively and apply it in real-world clinical settings.

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Problem-based learning (PBL) is an interactive teaching strategy that encourages students to solve real-life clinical problems. In teaching gastrointestinal pathology, PBL involves:

Analyzing patient cases with symptoms related to gastritis, ulcers, or colorectal cancer.

Group discussions where students diagnose and propose treatment plans based on pathological findings.

Critical thinking exercises that require students to correlate histopathological changes with radiological and clinical features.

PBL shifts the focus from passive learning to active engagement, reinforcing students' diagnostic abilities.

Virtual reality (VR) and augmented reality (AR) provide immersive experiences for understanding pathological anatomy. Key applications include:

3D models of the stomach and intestines, showing disease progression (e.g., from gastritis to gastric cancer).

Augmented visualization of microscopic pathology, allowing students to interact with tissue structures.

Simulated dissections where students explore anatomical and pathological changes in a virtual environment.

These technologies enhance students' spatial understanding and improve retention of pathological concepts.

While innovative teaching methods offer many benefits, some challenges must be addressed:

Resource limitations: Advanced tools such as VR, AI, and digital pathology require significant investment.

Faculty training: Educators must be skilled in using modern teaching technologies effectively.

Student adaptation: Some students may find digital learning challenging and require additional support.

Balancing traditional and modern methods: It is crucial to combine classical histology with digital approaches for comprehensive learning.

To overcome these challenges, medical institutes should invest in faculty development, provide financial support for technology integration, and offer hybrid learning models that combine traditional and digital methods.

CONCLUSION

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Teaching pathological anatomy with creative approaches helps students better absorb knowledge. The effectiveness of the educational process increases through visualization, interactive exercises, gamification, simulations, and creative approaches. These approaches strengthen not only theoretical knowledge, but also practical skills. The teaching of "Diseases of the Stomach and Intestinal System" in pathological anatomy can be significantly improved through creative and interactive approaches. By incorporating problem-based learning, digital pathology, virtual reality, AI-assisted diagnostics, and gamification, educators can enhance students' engagement, critical thinking, and diagnostic reasoning skills.

Medical education must continuously evolve to incorporate innovative teaching strategies that better prepare students for clinical practice. The integration of technology-driven learning tools fosters deeper understanding, improves knowledge retention, and ensures future medical professionals can apply pathology concepts effectively in real-world settings.

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