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TEACHING THE TOPIC OF INTESTINAL INFECTIONS USING THE EXAMPLE OF ACL (ACTIVE COLLABORATIVE LEARNING)

Abstract: Intestinal infections remain a significant public health concern worldwide, requiring effective educational strategies for healthcare students. This article explores the application of the Active Collaborative Learning (ACL) model in teaching intestinal infections, emphasizing student engagement, critical thinking, and teamwork. The ACL model promotes active participation, peer learning, and practical problem-solving, which enhances knowledge retention and application in clinical settings.

Keywords: medical education, just-in-time teaching, audience response system, think-pair-share, Active Collaborative Learning.

Introduction

Intestinal infections, caused by various pathogens such as bacteria, viruses, and parasites, are a major cause of morbidity and mortality. Understanding their etiology, transmission, diagnosis, and treatment is crucial for medical and health sciences students. Traditional lecture-based teaching often leads to passive learning, while the ACL model encourages active participation, collaboration, and hands-on experiences to reinforce learning outcomes.

One collaborative and active educational approach has been the Peer-Instruction (PI) method which has been employed with great success in the fields of science, technology, engineering, and mathematics (STEM) for several decades.2–4 PI involves students working in small groups to engage with course material through active discussion and collaboration, focusing on peer-to-peer teaching and learning. This method has been shown to increase student engagement, participation, and knowledge retention and is a popular choice for instructors looking to promote active understanding [1].

Despite its proven efficacy in STEM fields, PI has been underutilized in medical education, as evidenced by the limited body of research on this matter.2 Incorporating PI in medical education could significantly enhance the learning experience for medical students, potentially leading to better outcomes for both students and patients. With the increasing recognition of the importance of active learning in medical education, there is a growing interest in exploring the potential of PI to enhance the learning experience for medical students. In this review, we explore the “PI” method and its potential application to graduate and post-graduate medical education [1,2].

Implementing the ACL Model in Teaching Intestinal Infections

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Group-Based Case Studies. Students are divided into small groups and given real-life or simulated case studies of patients with intestinal infections. Each group analyzes the case, identifies the pathogen, determines the mode of transmission, and suggests diagnostic and treatment strategies. This approach fosters collaborative problem-solving and critical thinking.

Role-Playing and Simulation. Students engage in role-playing exercises where they assume the roles of doctors, nurses, and patients. Through simulated patient interactions, they practice history-taking, clinical reasoning, and patient education on infection prevention [4]. This method enhances communication skills and empathy.

Peer Teaching and Discussion. Students are assigned specific intestinal infections to research and present to their peers. This technique not only reinforces the presenter's understanding but also encourages active participation and knowledge sharing among peers.

Hands-on Laboratory Activities. ACL incorporates practical sessions where students examine stool samples, perform diagnostic tests (e.g., stool culture, PCR, microscopy), and interpret results. Engaging in laboratory work strengthens theoretical knowledge with hands-on experience.

Problem-Based Learning (PBL) Sessions. Facilitators present students with clinical problems related to intestinal infections, prompting them to research and propose solutions[5]. This self-directed learning approach motivates students to actively seek knowledge rather than passively receive it.

Benefits of ACL in Teaching Intestinal Infections

- **Enhanced Engagement:** Students actively participate in discussions, role-plays, and laboratory activities, making learning more dynamic.
- **Improved Critical Thinking:** The model fosters analytical skills by encouraging students to solve complex clinical cases collaboratively.
- **Better Knowledge Retention:** Interactive learning strategies reinforce information more effectively than traditional lectures.
- **Preparation for Clinical Practice:** ACL bridges the gap between theoretical knowledge and real-world application, making students more confident in clinical settings.

CONCLUSION

Applying the ACL model to teaching intestinal infections transforms traditional education into a dynamic and interactive experience. By incorporating group discussions, simulations, peer teaching, and hands-on activities, educators can significantly enhance student engagement, comprehension, and clinical preparedness. As medical education continues to evolve, embracing active learning methodologies like ACL will play a crucial role in training competent healthcare professionals.

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