

Interactive Module for Medical Student Education in Type I Renal Tubular Acidosis

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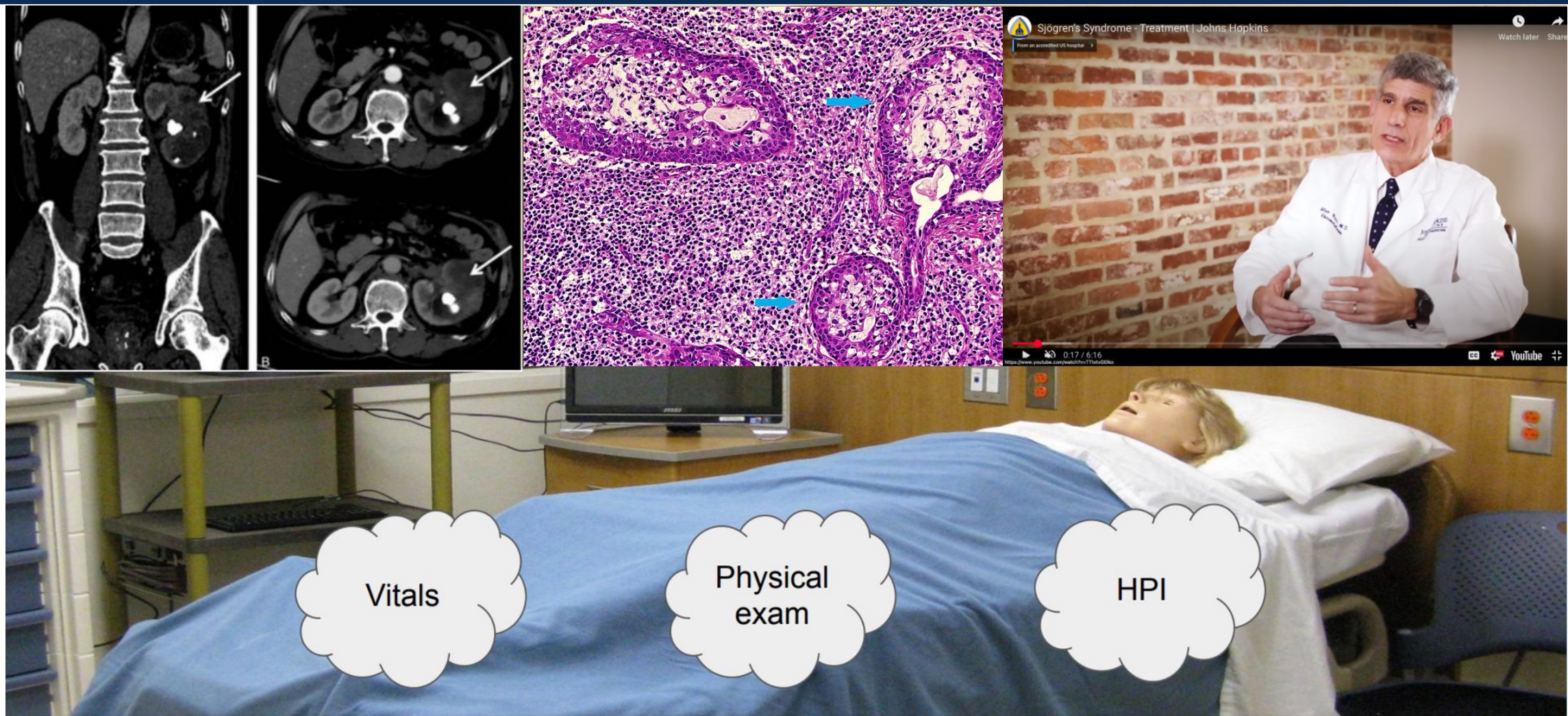
Introduction

- Online Interactive modules can help supplement traditional teaching methods to translate theoretical knowledge into practical clinical skills¹.
- This study investigates the use of online interactive modules to enhance medical students' understanding of Renal Tubular Acidosis (RTA), evaluating their effectiveness in complementing traditional education and improving engagement, clinical reasoning, and knowledge retention.
- We hypothesize that the innovative asynchronous interactive module will increase engagement, critical thinking, motivation, and comprehension when applied in the medical education curriculum⁵.

Aims and Objectives

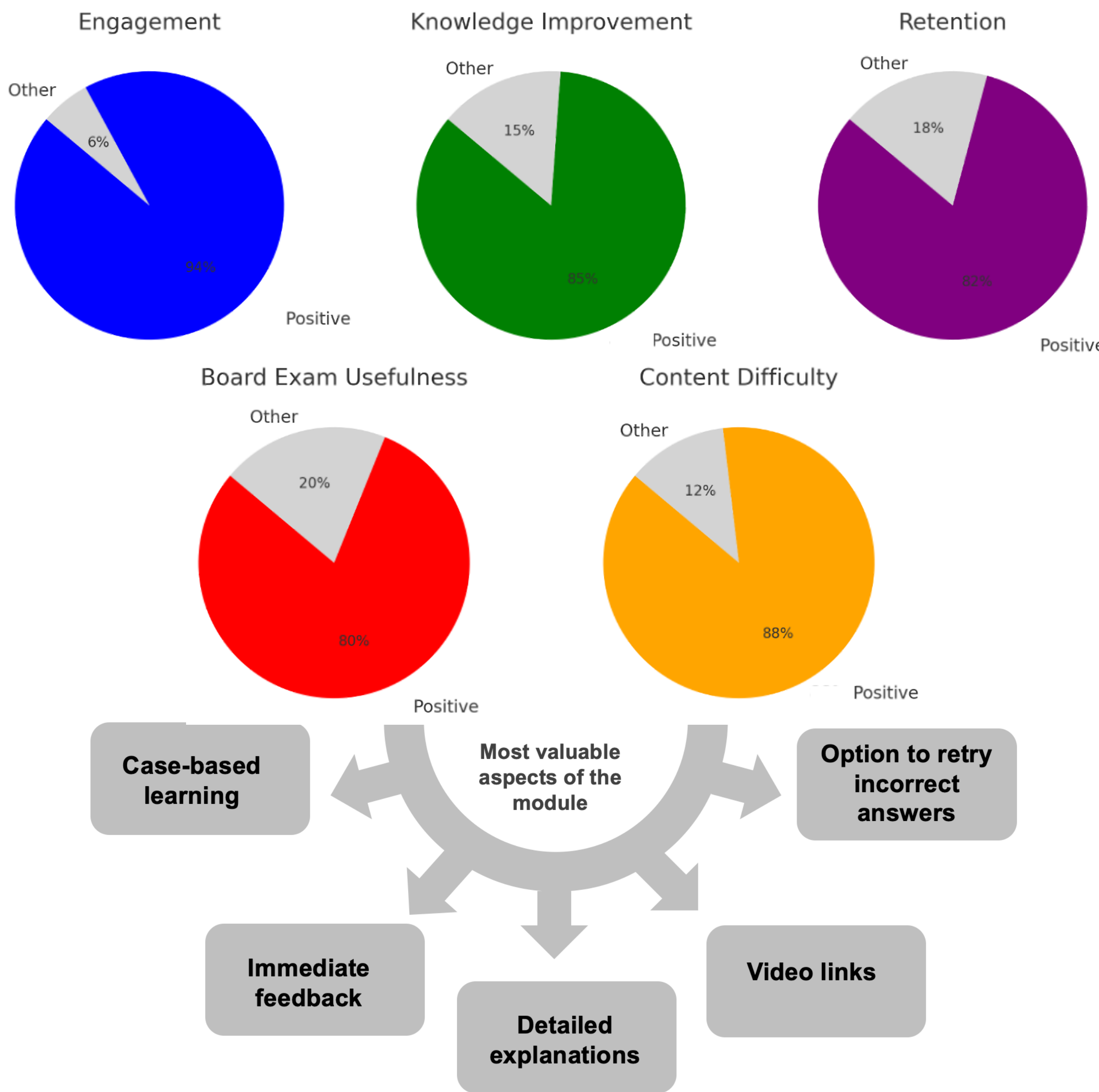
- This study aims to help revolutionize medical student education and enhance understanding of renal physiology and RTA, through the use of an interactive educational module. The study has two main objectives:
- Determine if students perceive knowledge and retention benefits from the module.
 - Identify valuable aspects and areas for improvement.

Approach/Process



A 50-year-old female presents to the emergency room with a chief complaint of colicky flank pain. On review of systems, the patient endorses fever and dysuria. Vital signs show a heart rate of 110, temperature of 100.4 F, and blood pressure of 130/90. Physical exam is notable for flank tenderness, dental caries, parotid gland enlargement, and dry mucous membranes. The patient has a history of chronic dry eye and takes artificial tears for symptom management.

Results



Discussion

- The majority of participants found the interactive module engaging and effective for learning renal physiology and Type I RTA.
- The interactive module was positively received by medical students, demonstrating effectiveness in engagement, knowledge retention, and clinical reasoning.
- Future modules will incorporate student feedback to improve usability and broaden the module's scope.

Future Directions:

- Enhance usability/better visuals (e.g., clearer navigation, visible "back" button, e.g., normal vs. abnormal histology slides).
- Expand content (e.g., more RTA types, mixed-condition cases).
- Make it more game-like for an even more engaging experience.

Conclusion

- These findings demonstrate that interactive modules hold promise as valuable supplements to traditional pre-clinical medical education.
- The case-based format, immediate feedback, and structured approach to problem-solving were particularly beneficial.
- Expanding the use of these tools can help students develop essential problem-solving abilities required for their future careers in medicine.

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