

Evaluation of Medical Students' Knowledge, Skills, and Attitudes Related to the Oral Health Screening Component of Score 1 for Health Program



Maicel Sims
D2 Dental Student
Kansas City University
College of Dental Medicine

Brian Pholvichitr
D3 Dental Student
Kansas City University
College of Dental Medicine

Keaton Wilczynski
D3 Dental Student
Kansas City University
College of Dental Medicine

Aldo Del Sol Martinez, DMD
Assistant Professor of Pediatric Dentistry
Kansas City University
College of Dental Medicine

Latasha Vick, DDS
Assistant Dean for Community Health and Practice
Kansas City University
College of Dental Medicine

Sharon M. Gordon, DDS, MPH, PhD
Associate Dean for Academic Affairs and Research
Kansas City University
College of Dental Medicine

Abstract

Purpose: Score 1 for Health is a program providing free health screenings and education to local elementary school children. With the opening of Kansas City University's College of Dental Medicine (CDM), the program introduced interprofessional collaboration between medical and dental students on the Joplin campus. This study evaluated KCU Joplin medical students' knowledge, skills, and attitudes about performing oral health screenings. Medical students were assessed before and after didactic training by CDM faculty, and before and after participating in an experiential oral health screening rotation. Findings aim to support ongoing development of interprofessional education initiatives between the medical and dental programs.

Hypothesis: Oral health screening training will improve 2nd year Joplin COM student doctors' (a) knowledge, (b) skills, and (c) attitudes related to performing oral health screenings as part of the Score 1 for Health program.

Methods: Second-year medical students received didactic training for the oral health screening component of the Score 1 for Health program. Participants completed pre- and post-training surveys. After 1.5 weeks, students completed a second set of pre- and post-surveys for the experiential Score 1 screening event.

Results: Following the didactic and experiential sessions, more than half of respondents reported feeling somewhat or extremely confident in their oral health knowledge (59% and 54%, n=17 and n=107). Knowledge outcomes were mixed: one treatment-urgency question showed significant improvement (37% to 70% correct, P< .05), while another declined (76% to 50% correct, P< .05). Qualitative feedback supported additional training, more hands-on experiences, and greater integration of oral health content into the medical curriculum.

Conclusion: Although confidence improved, inconsistent knowledge gains demonstrated enhanced oral health training and clearer guidance on treatment urgency and caries assessment are needed. Students would benefit from expanded hands-on practice and increased collaboration with CDM faculty and students.

Background

- Missouri third graders have a higher percentage of untreated decay by about 8% compared to the national average¹
- Score 1 for Health was established by Kansas City University to evaluate and improve the overall health of local elementary school children. The program provides free health screenings in-school for low income and urban families in the Joplin and Kansas City areas²
- In fall of 2025, 420 elementary school students were served by Kansas City University- Joplin campus medical and dental students. This created a unique opportunity for interprofessional education between Kansas City University medical and dental students.

Objective

- This investigation aimed to evaluate medical students' knowledge, skills, and attitudes related to the oral health screening training session and oral health screening component of the Score 1 for Health program.

Methods

- Participants completed a pre-training survey.
- Smiles 4 Life curriculum was provided to teach medical students about oral health and how to conduct screenings.
- Participants completed a post-training survey.
- Oral health screenings were performed among Joplin elementary school students by dental and medical students and dental faculty from Kansas City University.
- Participants completed pre- and post-training surveys again after conducting the Score 1 for Health screenings.
- SPSS software was used to analyze pre and post intervention knowledge surveys.
- Thematic analysis was used to cluster topics, find patterns, and identify related content

Results

Figure 1. Knowledge Questions Responses

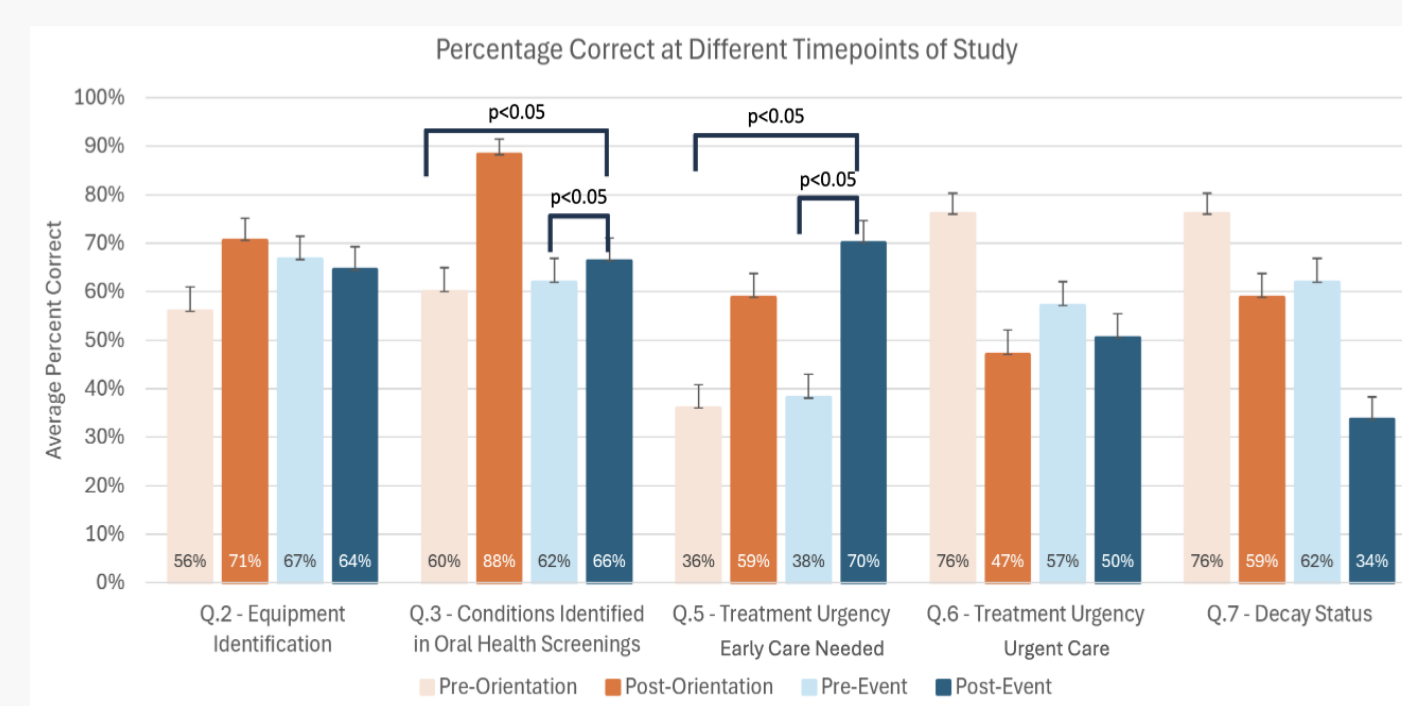


Figure 3. Percentage of Questions Correct by Question Type

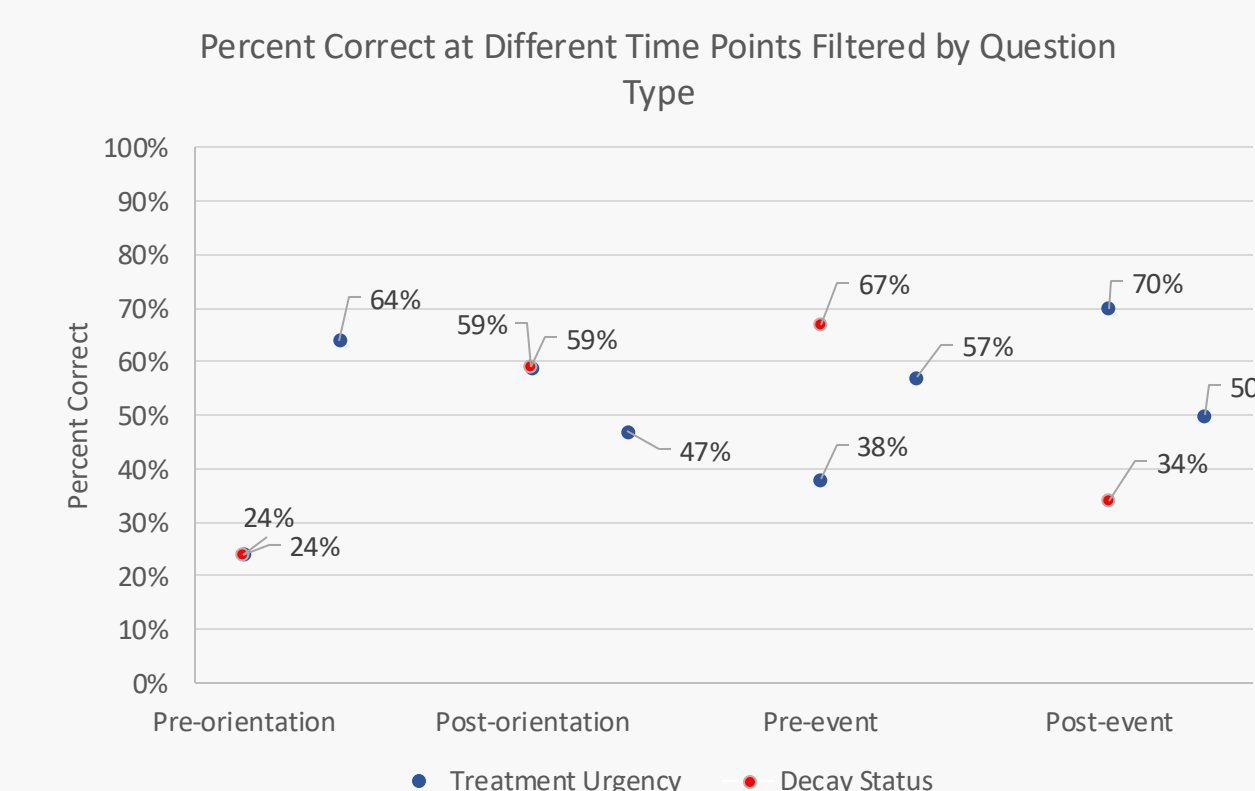


Figure 2a. Attitude – Screening Knowledge

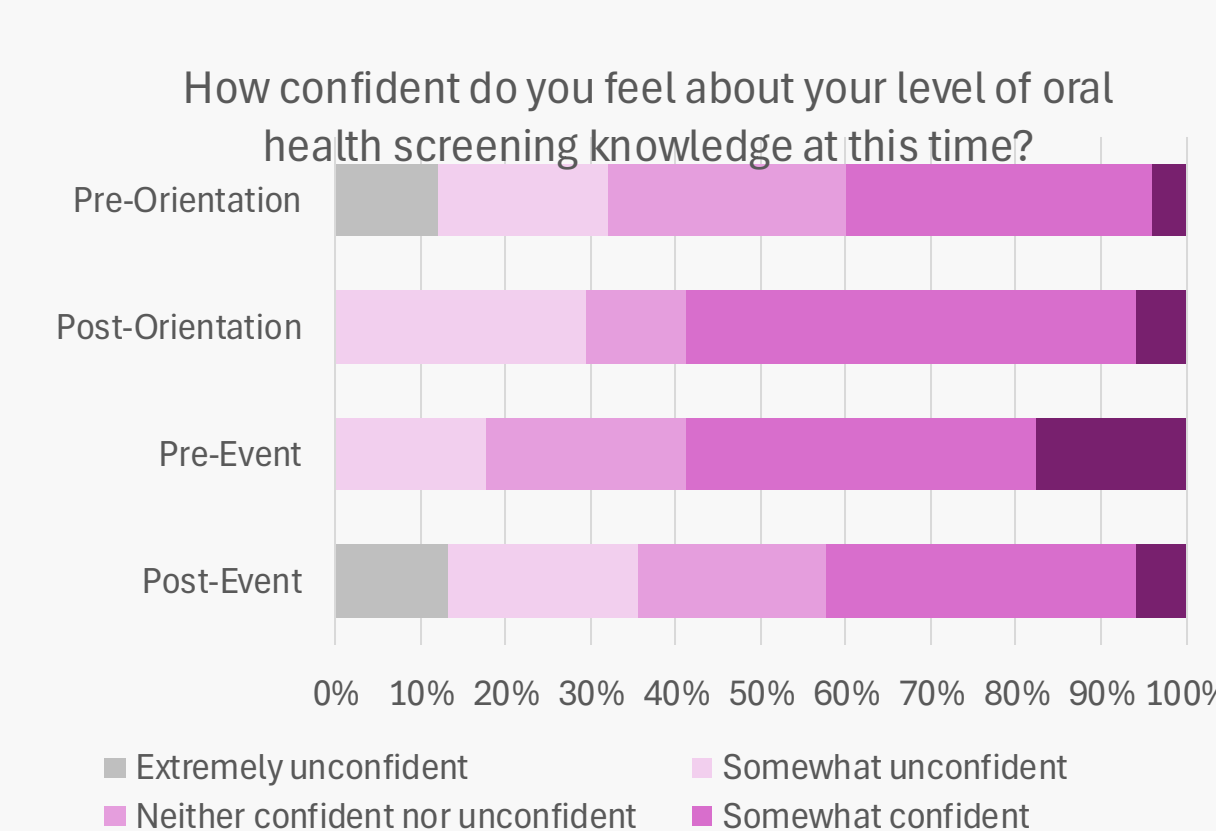


Figure 2b. Attitude – Training Should Be Provided

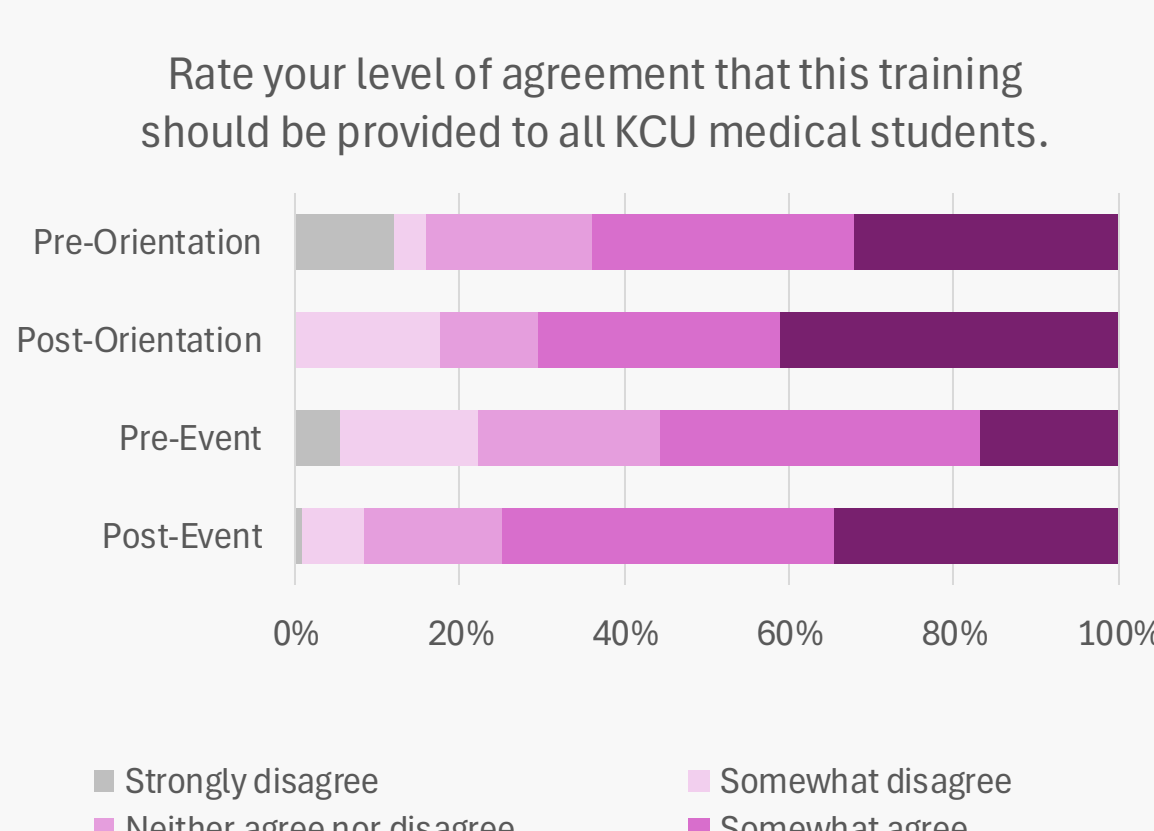


Figure 2c. Attitude – Curriculum Content

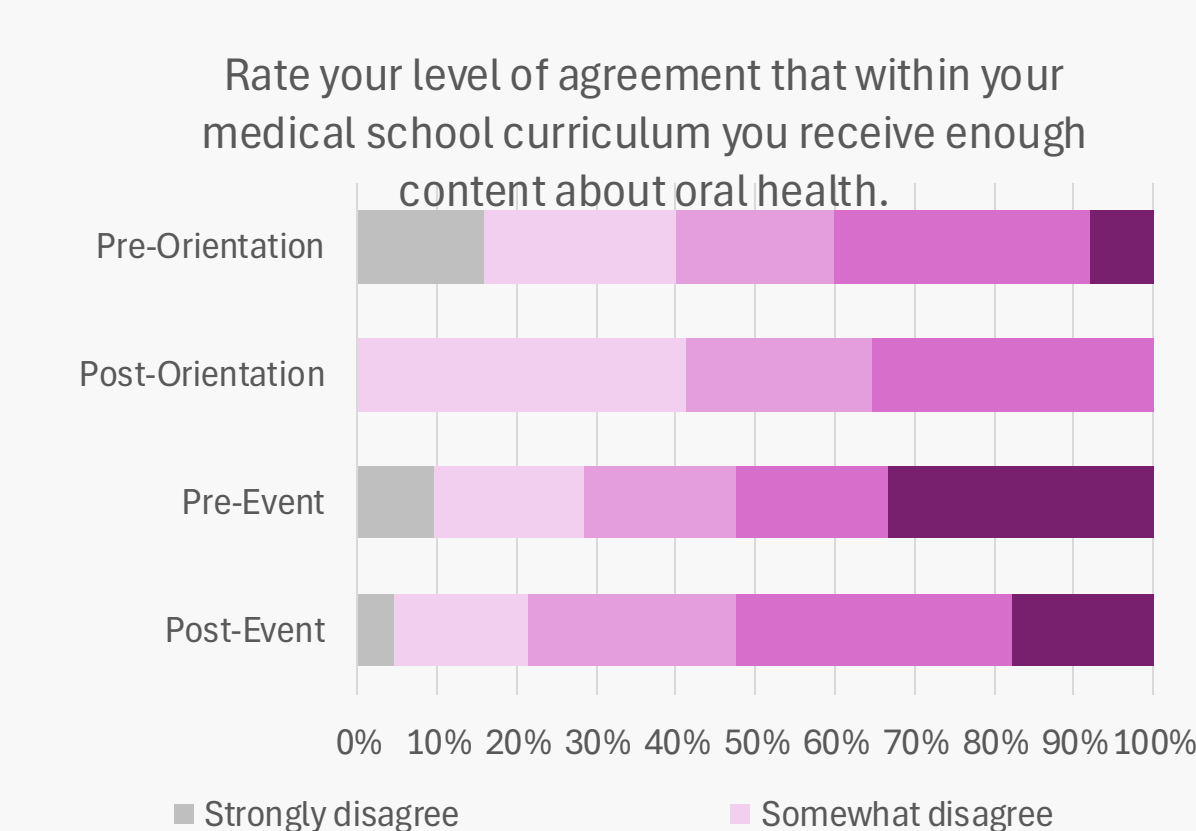


Table 1. Areas in which Medical Students Desire More Oral Health Training

Themes	Comments by medical students
Desire for More Oral Health Education and Hands-On Practice	<ul style="list-style-type: none"> “need more hands-on practice like this. I thought this was a good experience and the only way to learn would be to continue to do things like this.” “should have a proper oral health lecture.” “recommend a hands-on lab to practice oral screenings.”
Desire for More Integration into Existing Curriculum	<ul style="list-style-type: none"> “would like to learn at least a little about teeth when we look at the oral cavity in MSK.” “would appreciate a station for basic oral screen on our physical exam curriculum.”
Desire for More Guidance on Findings / Treatment Urgency	<ul style="list-style-type: none"> “would like to be talked through what the dental students are looking at.” “highlight the findings that merit urgent treatment.” “would need to learn more to be able to distinguish early actions vs immediate urgency.” “cavity assessment”

Limitations

- All medical students did not have to fully complete all surveys given in this study-all surveys were presented as optional and anonymous.
- Participants completion of the required Smile 4 Life Curriculum could not be verified due to it being on an external platform
- Student post-orientation responses were influenced by the instructor's immediate explanation of concepts just learned. Therefore, responses did not accurately show a full understanding and knowledge retention of oral health concepts

Conclusion

- There was evident COM student support for oral health to be integrated into their curriculum.
- The quantitative and qualitative data collected from the oral health screenings will contribute to improving the knowledge, skills, and attitudes of the medical students performing future oral health screenings.
- By increasing medical students' knowledge on oral health and interprofessional collaboration with dental students, need can be addressed more effectively.

References

- Oral Health in Missouri -2020: A burden report by the Missouri Department of Health and Senior Services : Missouri Department of Health and Senior Services, Office of Primary Care and Rural Health, Office of Dental Health : Free Download, borrow, and streaming. Internet Archive. (2020, November 1). <https://archive.org/details/2020OralHealthBurdenRpt/page/n15/mode/2up>
- Kansas City University. (2019). Score 1. <https://www.kansascity.edu/about-kcu/reports-and-publications/kcu-magazine/spring-2019/score-1>
- Sievers K, Clark MB, Douglass AB, Maier R,Gonsalves W, Wrightson AS, Quinonez R, Dolce M,Dalal M, Rizzolo D, Simon L, Deutchman M, SilkH. Smiles for Life: A National Oral Health Curriculum.

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