



Simulated Patient Experiences to Improve Pharmacy Student Empathy for Patients with Chronic Diseases



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Background

Living with chronic disease states can have an impact on the emotional wellbeing of patients. The difficulties that come with managing chronic disease states can lead to patients experiencing medical burnout. Some examples of situations that can greatly impact chronic disease state management include difficulty with adherence to chronic medications, dietary modifications, exercise maintenance, frequency of medical appointments, and self-monitoring.

As clinicians, it is important to acknowledge this impact and consider this when comprehensively assessing a patient and creating a patient-specific plan. The Center for the Advancement of Pharmacy Education (CAPE) Educational Outcomes states that graduating pharmacists should be able to demonstrate empathy in practice and patient care. While empathy can be developed through didactic lectures and experiential rotations, simulation activities are one way that pharmacy students may be able to obtain a glimpse into the patient experience for themselves.

Two new simulated patient experiences were implemented in the curriculum, one for second-year students and another for third-year students. The goal of developing and implementing these simulated activities were to improve student empathy for patients living with chronic disease states.

Objective

This study aims to assess the impact that two simulated patient activities have on pharmacy student empathy levels.

Methods

This study was reviewed by the University of Hawaii Institutional Review Board. Two faculty members collaboratively developed two simulated patient experiences in a skills lab course series for the Fall 2022 semester. One simulated experience was delivered for second-year (P2) students, which was focused on medication adherence. The other simulated experience was delivered for third-year (P3) students, which was focused on continuous glucose monitors (CGM). Both experiences included a traditional didactic lecture, followed by a hands-on simulation activity that lasted 1-2 weeks. Baseline, post-lecture, and post-simulation empathy levels were assessed using the Kiersma-Chen Empathy Scale (KCES). Each module included a lecture, followed by a hands-on simulation activity, and ending in a small group debriefing session. The KCES includes 15 questions, and results were collected via anonymous Google Forms.

The medication adherence module started with a lecture on the importance of and common barriers to medication adherence, then completed a one-week simulation using mints to simulate attempting to adhere to taking multiple medications. Students were given a patient case, simulating that they were the patient who had a list of conditions and six prescription medications. These medications had specific administration instructions, and each case resulted with the student having to take a medication at four different times throughout the day, in addition to a once weekly "injection". During the debrief session, students discussed the difficulties they encountered throughout the week with adhering to this medication regimen, and how the simulation impacted their views or thoughts when interacting with patients with multiple medications.

Prompt	Sample Medication Adherence Case:				
	Answer Key				
"You are a 45-year-old patient with a PMH of DM2, MDD, HLD, HTN, and plaque psoriasis. Current medications include semaglutide 3 mg PO daily, lovastatin 20 mg PO daily, escitalopram 10 mg PO daily, lisinopril 20 mg PO daily, metformin 850 mg PO TID, and adalimumab SQ every other week on Fridays. Considering proper administration times, drug interactions, etc., create your schedule for taking these medications."	Upon Waking	30+ min later	Lunch	Dinner	Fridays
	Semaglutide	Metformin, Escitalopram, Lisinopril	Metformin, Escitalopram, Lisinopril	Metformin, Lovastatin, Escitalopram, Lisinopril	Humira

The CGM module started with a lecture on CGMs, the differences between the currently available products, and how to interpret ambulatory glucose profiles. Students then placed an actual intermittently-scanned CGM on themselves and wore it for two weeks. During the debrief session, students discussed any difficulties they encountered using the CGM, as well as how they thought a CGM would improve quality of life for a patient with diabetes when compared to blood glucose monitoring with a traditional glucometer. Students also reviewed their own ambulatory glucose profiles and reviewed practice cases relating to medication adjustments from CGM data.

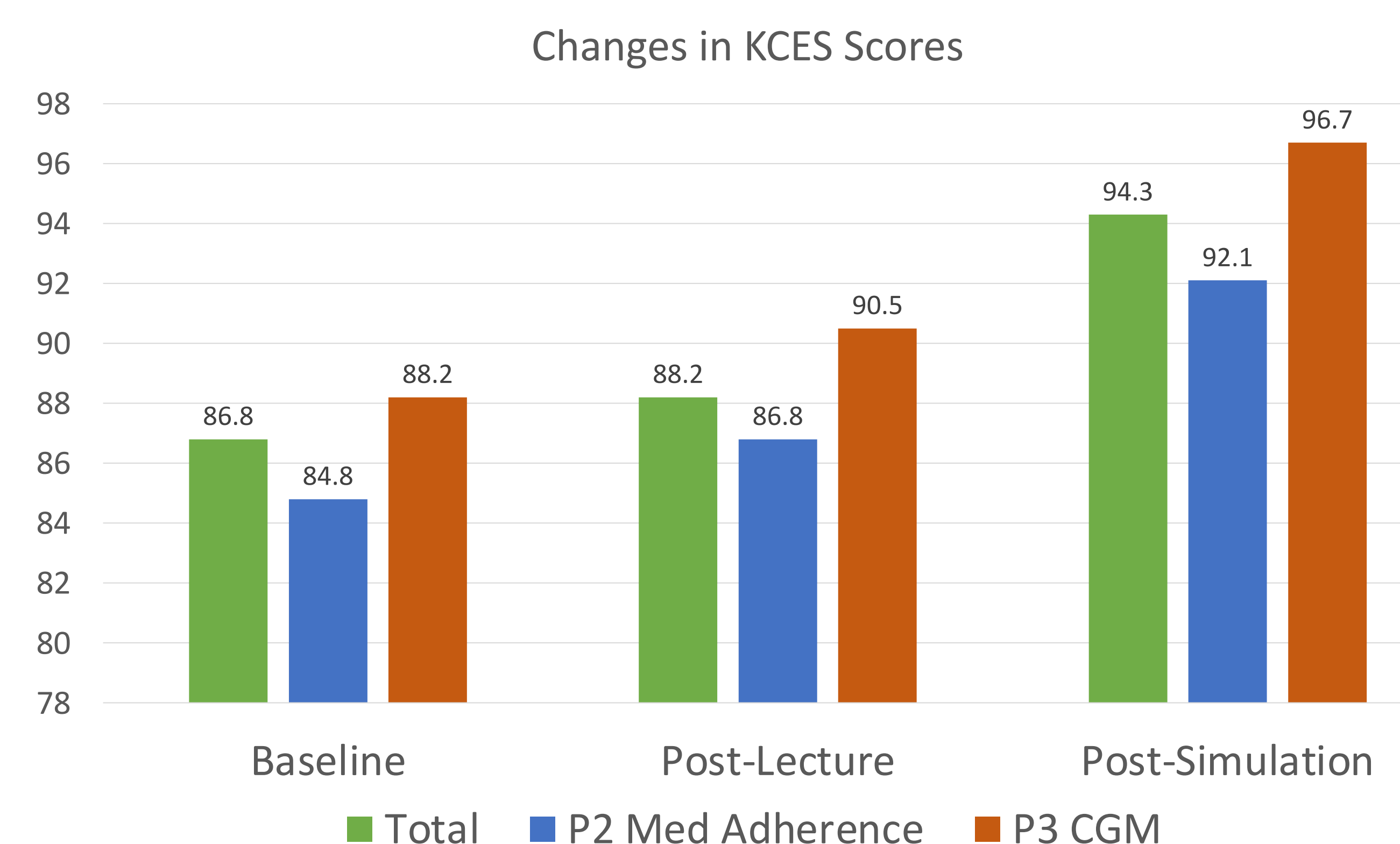
Results

A total of 77 students completed a module, with 40 P2 students completing the medication adherence module and 37 P3 students completing the CGM module.

Overall average KCES scores (out of 105) were 86.8 at baseline and 88.2 after lecture ($p=.06$). After simulation, the average KCES score was 94.3 ($p=.007$ compared to baseline, $p=.01$ compared to post-lecture).

For the P2 medication adherence module, average KCES scores were 84.8 at baseline and 86.8 after lecture ($p=.07$). After simulation, the average KCES score was 92.1 ($p=.006$ compared to baseline, $p=.01$ compared to post-lecture).

For the P3 CGM module, average KCES scores were 88.2 at baseline and 90.5 after lecture ($p=.06$). After simulation, the average KCES score was 96.7 ($p=.008$ compared to baseline, $p=.01$ compared to post-lecture).



Discussion

This study demonstrated that the two simulated patient experience activities improved student pharmacist empathy levels as measured by KCES scores. After a traditional lecture, KCES scores increased from baseline, though at a non-significant level. After completion of the simulation activity, KCES scores significantly increased. Additionally, anecdotal data collected verbally during debriefing sessions found that students valued the simulation experience and believed it provided valuable insight that they can apply to their future patients.

A major limitation of this study is that KCES scores were collected three times in a 3 week period. The frequency of assessing empathy levels may be a barrier to true assessment of empathy levels. Additionally, long-term impacts of these experiences have not yet been assessed.

Based on these results and feedback from students, these two activities will be continued in the curriculum moving forward. Potential adjustments to these activities include adding a dietary aspect to the CGM activity such as carbohydrate tracking, as well as exploring the possibility of transitioning this activity into an interprofessional education simulation with other programs.

Future studies will aim to assess the impact of these activities on other aspects of student pharmacist development, as well as the longer-term impacts of the experiences.

Conclusion

This study found a non-significant increase in empathy scores after a lecture, but significantly increased scores after a simulation. Inclusion of a simulation activity in education can be helpful to develop empathy in pharmacy students.

Disclosures & Acknowledgements

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