Can empathy be taught to medical students?
Redesign and reevaluation of experiential empathy training curriculum

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Background

- A positive patient-provider relationship has been shown to improve patient outcomes and has a protective effect against physician burnout.
  - Patients who saw a physician categorized as having “high empathy” were 80% more likely to A1c levels in the target range when compared to patients seen by the “low empathy” physicians.
- Empathy is documented to have a profound decrease over the course of medical education, especially when students begin to gain clinical experiences.
- Researchers have found that empathy can be taught through experiential learning, patient narratives, reflective writing and communication skill development

Adopt-a-Disease Empathy Training program

- Developed in 2014 as an intervention to increase student empathy those living with chronic conditions.
- Executed twice with no significant change in empathy among students, as measured by the Toronto Empathy Questionnaire.
- Students consistently provided anecdotal feedback regarding the value and importance of the training.

<u>This project:</u>

- Redesigned two conditions for execution of a week-long experience of living with Type 1 diabetes or with simulation of aging.
- Included opportunity for reflective writing and patient narrative exploration/discussion following the experience.
- Selected new tools for evaluation of impact

Methods

- 24 second year medical students in the CUSOM Rural Track were enrolled
- Administered the Jefferson Scale of Empathy, Student version (JSE-S)

Aging simulation:

- Students were asked to fill their pill box properly with simulated visual impairment.
- Each day, asked to record their blood pressure, take all pills as prescribed, wear/wet an adult diaper and to wear visual and hearing impairment devices for 1 hr.

Type 1 Diabetes simulation:

- Students were given tools and instruction for how to calculate basal and short acting insulin based on carbohydrate consumption.
- Instructed to inject “insulin” into an orange when needed and to test their blood sugar at meals and bedtime.

- After 1 week, 18 students returned for debrief and to engage with patient narratives and discussion.
- Participants were administered the Brief Resilience Scale (BRS) and the JSE-S.

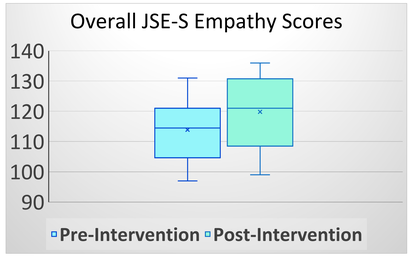
Materials

Students were randomly divided into two groups and given supplies as detailed in the table below:

Aging	Type 1 diabetes
Simulation glasses	Glucometer
Ear plugs	Testing Strips
14 Prunes	Lancet device with refills
7 medication bottles labeled with common medications for elderly patients (filled with colorful candy simulating pills)	Alcohol wipes
	Bandages
	Cotton balls
	27gauge insulin needles (25 per student)
Pill organizing box	Sharps Container
4 adult diapers	Orange
Blood Pressure machine	2 vials of sterile water labeled “Lispro” and “Glargine”

Results

- Participants were more likely to have higher scores of empathy on the JSE-S following the intervention. [$t(15)= -3.179$, $p < 0.005$).



- There was no relationship between overall JSE-S score and overall BRS score.
- There were no differences between men and women in how they responded to the intervention, overall scores of empathy or overall scores of resilience.

Conclusion

- **There was a significant increase in empathy after the experiential learning intervention simulating the experiences of patients.**
- Empathy can be taught! Using the right tool to measure changes in empathy is crucial to understanding how curriculum can have an impact on empathy.
- All students agreed that the curriculum was a valuable addition to their medical education

Limitations

- <u>Sample size</u> was very small and non-representative of the full student body. Rural Track cohort members tend to lean more towards careers in primary care and may have higher baseline empathy.
- <u>There was no control group</u>, thus it is not possible to determine that the change in empathy was due to the intervention alone.

Future Directions

- Curriculum development should focus on cultivating empathy among medical students and trainees through experiential learning, patient narratives and reflective writing.
- Future simulations to be considered could include living with features of Substance Use Disorder, Schizophrenia, wheelchair use, ostomy care, etc.
- It is important to acknowledge the ways in which simulation curriculum can sometimes inadvertently promote ableism and cultivate a sense of pity for people living with chronic diagnoses instead of empathy and understanding.

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