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I-RANT: Training session on a novel, scripted, bystander microaggression intervention tool for medical students



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Abstract

Background Microaggressions, subtle and often unintentional acts of hostility, have been recognized as a significant issue in healthcare, adversely affecting learners' emotional and physical well-being. Current strategies for addressing microaggressions are broad frameworks without empirical substantiation that leave learners without a clear direction for intervention. This study introduces a novel scripted, succinct, bystander intervention tool to combat microaggressions. The intervention tool developed by the research team, named I-RANT, follows the script of introduction, role naming, affirming the target, negating the microaggression, and transitioning within patient encounters. The study goal was to assess the ability of a training session to impact learners' recognition of microaggressions, confidence in intervening, and competency in applying the I-RANT tool.

Methods A pre-experimental study was conducted with 97 second-year medical students at a large academic center in the Southeast United States. The I-RANT tool was taught through a 90-minute training session. The session included an introduction lecture, small group discussions, and role-play scenarios. Pre- and post-intervention surveys assessed microaggression recognition via a multiple-choice questionnaire (MCQ) and self-reported confidence in intervening on a Likert scale. Differences were compared via paired T-test. Role-play scenarios were observed by trained faculty and graded for competence using a rubric.

Results Participants showed significant improvement in microaggression identification with increase in MCQ score from 4.17 (SD 0.75) pre-intervention to 4.74 (SD 0.42) post-intervention (p < .001) and increased self-reported confidence from 3.2 (SD 1.0) to 4.2 (SD 0.63) (p < .001). Trained faculty evaluated a random sampling of students' role-play scenarios (n = 30) revealing that 97% of sampled students demonstrated competence in utilizing the I-RANT tool.

Discussion The I-RANT training session empowered learners to address microaggressions. Learners demonstrated a statistically significant improvement in recognition of microaggressions and confidence in intervening. The majority of learners demonstrated competency in utilizing the I-RANT tool by the end of the training session.

Conclusions This study supports the effectiveness of our training session in enhancing medical students' ability to recognize and address microaggressions. I-RANT empowers learners with a tool to intervene against microaggressions within patient encounters.

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Keywords microaggressions, medical school, training, diversity, medical education

Background

Microaggressions, described as commonplace verbal communications, behavioral cues, or environmental insensitivities that can be intentionally or unintentionally negative or hostile towards individuals from marginalized groups [1-3] have gained widespread recognition as a pressing issue that causes emotional and physical harm to learners [4-7]. The most extensive study of the experiences and influences of microaggression among medical students in the United States found that 61% of participants experienced microaggressions at least once weekly and 98% at least once during medical school [8]. Harassment and discrimination during medical training found patients and patients' families to be a common source [9]. The prevalence of microaggressions perpetrated by patients is unknown but likely results in underreporting of the total microaggressions experienced by medical students [8]. Despite this acknowledgment, a critical gap exists regarding effective strategies for addressing microaggressions from patients and maintaining the patientphysician therapeutic relationship. Existing frameworks often rely on theoretical foundations or personal experiences. For example, Wheeler et al. presented twelve recommendations for responding to microaggressions when a patient offends a learner [3]. These recommendations include establishing a culture of openness, recognizing microaggressions, addressing them with unconditional positive regard, repeating the patient's statement, using objective statements, and sharing your response to the microaggression [3]. However, these suggestions lack thorough empirical substantiation. Medical students have suggested the need for "the establishment of a toolkit for tackling future encounters" where microaggressions are experienced in response to the twelve recommendations [10]. Similarly, other studies discuss general interventions when patients request to be treated by physicians of a specific ethnicity, gender, or religion, yet they are rooted in personal experiences and offer broad, non-specific frameworks (11-12).

A scoping review has been conducted to focus on current recommendations for training healthcare providers to respond to patient microaggressions [13]. This review identified twenty-seven relevant studies, with only seven specifically addressing training approaches. Among these, the ERASE framework stands out, proposing that attending physicians anticipate, recognize, address, support, and foster a positive culture to combat mistreatment [14]. Other methods, such as the OWTFD approach, the ACTION model, and the stop, talk, and roll communication tool share a common framework of pausing, reflecting, addressing, and debriefing [2, 7, 15, 16]. A detailed comparison of the features of existing microaggressions intervention tools with the proposed novel I-RANT tool is presented in Table 1.

A notable limitation of these existing approaches is their open-ended nature, requiring learners to make choices regarding what to say. This can create significant stress for unprepared learners, leading to potential moral injury [18]. Our research aims to address this limitation by introducing a novel intervention tool, I-RANT, that is structured, succinct, and scripted, contributing to the existing body of knowledge on addressing microaggressions from patients effectively. We hypothesized that an educational session for second-year medical students on this novel intervention tool could increase recognition of microaggressions, confidence in addressing microaggressions with patients, and ability to apply the intervention tool in a role-play scenario.

Methods

Procedures

The study design is a pre-experimental study (one group pre-post design) conducted in November 2023. Participants were second-year medical students who were enrolled in the Integrative Practice of Medicine course at a large academic institution in the southeastern United States. Ninety-seven students gave informed consent to participate in the study after an informative introduction session. A total of eighty-five students completed both the pre- and post- intervention surveys. The study was evaluated by the institutional IRB and designated as exempt.

The study intervention was a training session on a novel microaggressions intervention tool created by the research team called I-RANT. The structure of the I-RANT tool is based on Wheeler's twelve tips for responding to microaggressions [3]. These recommendations were refined into a developed I-RANT tool through an iterative, collaborative process involving a modified Delphi method, which included multiple stages of discussion, creation, and refinement. Initially, faculty members met several times to discuss and define the overarching goals of the microaggressions intervention tool. These discussions focused on identifying key components that would make the tool both practical and effective in realworld scenarios. Following these meetings, each faculty member worked independently to create examples and draft potential elements of the tool. These drafts were then brought back to the group, where faculty members re-convened to review and formalize the tool's structure, ensuring that it aligned with the intended objectives. After achieving consensus, the tool was shared

Tool	I-RANT	ERASE [14]	ACTION [17]	Stop, Talk, and Roll [15]	OWTFD [16]
Туре	Scripted Tool	Framework	Framework	Communication Guide	Communication Tool
Implementation	Direct and quick application	Requires ongoing implementation	Involves dialogue and reflection	Immediate action and follow up	Involves questioning and dialogue
Scripted	Yes (fully scripted)	No	No	No	No
Key Components	Introduction, Role, Affirm, Negate, Transition	Expect, Recognize, Ad- dress, Support, Establish	Ask, curiosity, tell, impact, own, next	Stop encounter, talk to supervisor, roll	Observe, why, think, feel, desire

Table 1 Comparison of microaggressions interventions tools/frameworks characteristics

 Table 2
 I-RANT microaggressions intervention tool

	Steps	Example
I - Introduction	Uniform across all en- counters: "You might not have meant it this way, but some people would find that comment hurtful."	You might not have meant it this way, but some people would find that comment hurtful.
R - Role	Clearly state the role of the recipient	Dr. X will be the physician taking care of you today.
A - Affirm	Affirm the recipient	She is an excellent board- certified physician.
N - Negate	Negate the offensive comment	Her age does not have anything to do with her ability to care for you.
T - Transition	Transition the conver- sation back towards relevant patient care	Now, let's focus on your care and helping you feel better

with institutional experts for additional feedback and validation. A total of 13 h of meeting time was spent on the I-RANT tool development. This feedback was instrumental in refining the I-RANT tool further, ultimately resulting in a robust, scripted intervention that was ready for implementation in the training session.

The I-RANT tool is a bystander intervention tool designed to be utilized by healthcare team members when addressing microaggressions from patients against members of the healthcare team. The I-RANT is scripted, brief, and can be applied to a wide variety of microaggressions. The components of the I-RANT tool include five features: Introduction, Role, Affirm, Negate, and Transition (Table 2).

The 90-minute training session consisted of three sections: introduction lecture (20 min), small group discussions (30 min), and role play scenarios (40 min). The introduction lecture focused on defining microaggressions, providing examples of microaggressions, and introducing the I-RANT tool. The students then divided into groups of 9–10 for small group discussions with a trained faculty moderator. Discussion topics included personal experiences with microaggressions, barriers to microaggressions intervention, and thoughts on the I-RANT tool. Students then participated in role play scenarios with the goal of demonstrating competence in applying the I-RANT tool.

The training was led by two Integrated Practice of Medicine (IPM) faculty members who played a key role in the development of the I-RANT tool. For more information on the faculty members' backgrounds and perspectives, please refer to the positionality statement. The faculty members involved in evaluating the students during the role-play scenarios were IPM faculty members. These individuals were chosen based on their roles within the medical education framework, and while not all had prior experience with justice work, they were deeply committed to the educational mission of the study. Each faculty member underwent a debriefing and training session on I-RANT the week prior and was provided with preparatory materials in advance to ensure they were well-equipped to support the session. The faculty training included role-play exercises, discussions on the nuances of microaggression intervention, and detailed instructions on using the assessment rubric. We acknowledge that the lack of prior justice work experience among all faculty members could be a limitation. However, the faculty's dedication to medical education and their involvement in the IPM course is a strength. Importantly, these faculty members had pre-existing relationships with the students as small group instructors throughout the entire year. This established rapport helped create a safe and supportive space for the students, fostering trust and openness, which is important for engaging in this type of sensitive work.

Measures

Outcomes were assessed based on surveys completed both pre-intervention and post-intervention as well as role play scenario grading rubric scores assessed by faculty. A single multiple-choice questionnaire was administered both before and after the intervention to assess students' ability to recognize microaggressions. The questionnaire consisted of five true/false items, each equally weighted at one point. Each questionnaire item was a theoretical statement from a patient to a healthcare team member. Learners were tasked with identifying whether or not that statement represented a microaggression. Scores ranged from 0 to 5. A paired two-sample t-test was performed to compare the mean pre-test and post-test scores within the group, allowing for an analysis of the intervention's impact on microaggression recognition. The multiple choice questionnaires were evaluated by five attending physicians to provide expert judgment on content validity. Students' change in their self-reported confidence level in addressing microaggressions was assessed via paired t-test of a 5-point Likert scale pre- and post-intervention. The role-play observation assessment rubric evaluated six aspects of the students' ability to address the microaggression in the role play scenario to assess for competency in using the I-RANT tool. Each section was scored on a 4-point scale. Rubric outcomes were measured in the following ranges: superior 23–24 points, competent 18–22 points, nearing competency 12–17 points, and incompetent 6–11 points. The observation grading rubric is included in the supplementary material.

The role-play scenario rubric for the I-RANT training was developed through an iterative process involving independent drafting and collective refinement by the research team. Each scoring criterion was directly linked to specific assessment objectives, ensuring the rubric's appropriateness and coverage of all key competencies [19]. Content validity was further established

Table 3	Demograp	hics of	participants

Category	Count	Percentage (%)
Age		
20–25	60	72.29%
26–30	21	25.30%
31–35	2	2.41%
Prefer not to answer	2	2.41%
Gender Identity		
Female	42	50.60%
Male	38	45.78%
Non-Binary	2	2.41%
Prefer not to answer	3	3.53%
Race/Ethnicity		
White or Caucasian	50	58.82%
Asian or Pacific Islander	12	14.12%
Black or African American	11	12.94%
Hispanic	9	10.59%
Other	1	1.18%
Prefer not to answer	1	1.18%
Sexuality		
Straight	68	81.93%
Bisexual	6	7.23%
Gay	4	4.82%
Asexual	3	3.61%
Prefer not to answer	2	2.41%
Political Tendencies		
Socially/Fiscally Liberal	36	43.37%
Socially/Fiscally Conservative	14	16.87%
Socially Liberal/Fiscally Conservative	7	8.43%
Socially Conservative/Fiscally Liberal	6	7.23%
Other	3	3.61%
Prefer not to answer	16	19.28%

by seeking feedback from institutional DEI experts and experienced medical educators, which was incorporated into the final rubric. The range for competency was established through expert consensus. Each scenario was independently evaluated by a single faculty member, precluding the assessment of inter-rater reliability due to logistical constraints. Limited resources and the absence of recorded scenarios prevented multiple faculty members from evaluating the same scenario.

Results

Complete self-reported demographics of the participating students can be found in Table 3. Participants were mostly female, white, and between ages 20–25.

Analysis revealed statistically significant improvements in both microaggression identification and self-reported confidence levels among participants. Students' microaggression identification scores on the multiple-choice questionnaires increased from 4.17 (SD 0.75) pre-intervention to 4.74 (SD 0.42) post-intervention (p<.001). Participants reported an increase in their self-reported confidence levels in addressing microaggressions, with the mean confidence score rising from 3.2 (SD 1.0) preintervention to 4.2 (SD 0.63) post-intervention (p<.001).

Faculty members conducted evaluations using the role-play scenario observation grading rubric, randomly selecting a representative sample of 30 out of 85 students for assessment. Ten faculty members participated in the evaluation process, each assessing three distinct scenarios. Faculty members completed a one-hour training session on the I-RANT tool and role play grading rubric the week before the intervention. The results, displayed in Fig. 1, reveal that 97% of students demonstrated competence in utilizing the I-RANT tool.

A post-training feedback survey was completed by participants. The most well-liked aspect of the training session was the role-playing scenarios and the ability to practice the I-RANT tool. Several participants requested expansion of the training to include instruction on how to intervene on microaggressions between team members or from superiors. The few negative comments primarily expressed a fundamental disagreement with the premise that addressing microaggressions is necessary.

Discussion

The I-RANT training session demonstrated a statistically significant improvement in learners' MCQ scores, underscoring the training session's effectiveness in enhancing participants' ability to correctly identify microaggressions. Additionally, the statistically significant improvement in self-confidence suggests that the I-RANT training session not only equips students with knowledge but also empowers them to feel more prepared for addressing microaggressions in healthcare settings. The



Fig. 1 Role play scenario scores

I-RANT microaggressions intervention training is a way to empower our learners to intervene on microaggressions. Therefore, learners support each other to promote inclusive learning environments. By fostering a culture of mutual support and resilience, we can create a more inclusive learning environment where all learners feel valued, respected, and safe.

This study's limitations include its single-center design, which may not generalize across different institutional contexts, including regional and political differences. Additionally, the study did not evaluate the application of learned skills in clinical settings, a gap that needs addressing to understand the real-world efficacy of the I-RANT training. The absence of longitudinal data limits our understanding of the long-term retention of knowledge and skills imparted by the training session. Logistical constraints prevented multiple faculty members from evaluating the same scenario, precluding the assessment of inter-rater reliability for the observation role-play scenarios. Furthermore, despite an extensive literature search across multiple databases limited research exists on the impact of microaggression interventions on the patient-healthcare team therapeutic relationship. Valdez et al. note that healthcare professionals often face a dilemma when responding to microaggressions due to potential risks to the therapeutic alliance and patient satisfaction ratings [20]. They recommend developing institutional support to help clinicians navigate these encounters without compromising professional rapport, although this has not been studied. The I-RANT tool's influence on this relationship was not assessed in this study.

Future studies should focus on adapting the I-RANT training to encompass strategies for addressing inter-professional and team member microaggressions especially traditional hierarchical relationships with supervisors and learners in the clinical environment. Additionally, assessing knowledge retention and application of the I-RANT tool in clinical settings is needed. Lastly, the impact of addressing microaggression and the impact on the patient-physician relationship needs to be evaluated. Plans are underway to expand the training sessions to include faculty development, graduate medical education, nursing disciplines, and ancillary healthcare staff, aiming to broaden the scope and impact of the I-RANT tool across various healthcare sectors. By addressing these limitations and expanding the scope of the study, future research can further validate and refine the I-RANT tool, ensuring it meets the diverse needs of the healthcare community and effectively contributes to the creation of inclusive and respectful learning and working environments.

Conclusions

The findings of this study support the hypothesis that an educational session utilizing the I-RANT microaggressions intervention tool can contribute to enhancing medical students' recognition of and preparedness for handling microaggressions. These training sessions can empower medical students with the tools and training necessary to intervene on behalf of their colleagues against microaggressions and help mitigate the negative effects.

Ultimately, our goal is to prepare healthcare professionals who are not only clinically proficient but also culturally empathetic and capable of navigating the challenges posed by microaggressions. The I-RANT microaggressions intervention tool training session is a step in the right direction towards fostering more inclusive, supportive, and safe learning, training, and working environments for all members of the healthcare team.

Supplementary Information

The online version contains supplementary material available at https://doi.or g/10.1186/s12909-024-06481-0.

Supplementary Material 1

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Author contributions

E.G. analyzed and interpreted data, co-created microaggressions intervention tool, facilitated training session, and was the major contributor in writing the manuscript. C.A. co-created microaggressions intervention tool, assisted with facilitating the training session and editing the manuscript. J.L. participated in training session planning and editing the manuscript. All authors read and approved the final manuscript.

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Data availability

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

Declarations

Ethics approval and consent to participate

– All participants gave informed consent prior to being enrolled in the study. The study was found to be exempt by the Prisma Health IRB and the Homewood IRB of Johns Hopkins University.

Consent for publication

Not applicable.

Competing interests

The authors declare no competing interests.

Positionality statement

When the manuscript for this article was drafted, one author self-identifies as male, white, straight, socially liberal, and fiscally conservative. One author self-identifies as female, white, straight, socially liberal, and fiscally conservative. One author self-identifies as female, white, lesbian, socially liberal and fiscally liberal.

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