

Fake it 'til you make it: Training first-year psychiatry residents in the evidenced-based management of agitation using standardized patients in a simulation center



Jacob Cross, MD; Emmad Karmouta, MD; supervisor Joshua Eloge, MD. Rush University Department of Psychiatry

Background

Intern year is stressful (1). First-year residents are immersed in many intense clinical situations they are managing for the first time. This includes the psychiatric emergency room, where the evaluation and treatment of agitation and risk of violence can be challenging. Novel approaches leveraging real-time simulation may address an unmet educational need for psychiatric emergencies, as traditional didactics do not capture the unique dynamic of this clinical setting. Our project is a contribution to the already growing body of literature exploring the use of simulation training in psychiatry residency, which can result in improved knowledge and clinical skills (2) as well as improved confidence (3) however despite these clear benefits simulation trainings still remain relatively under-utilized nationwide in psychiatry training programs.

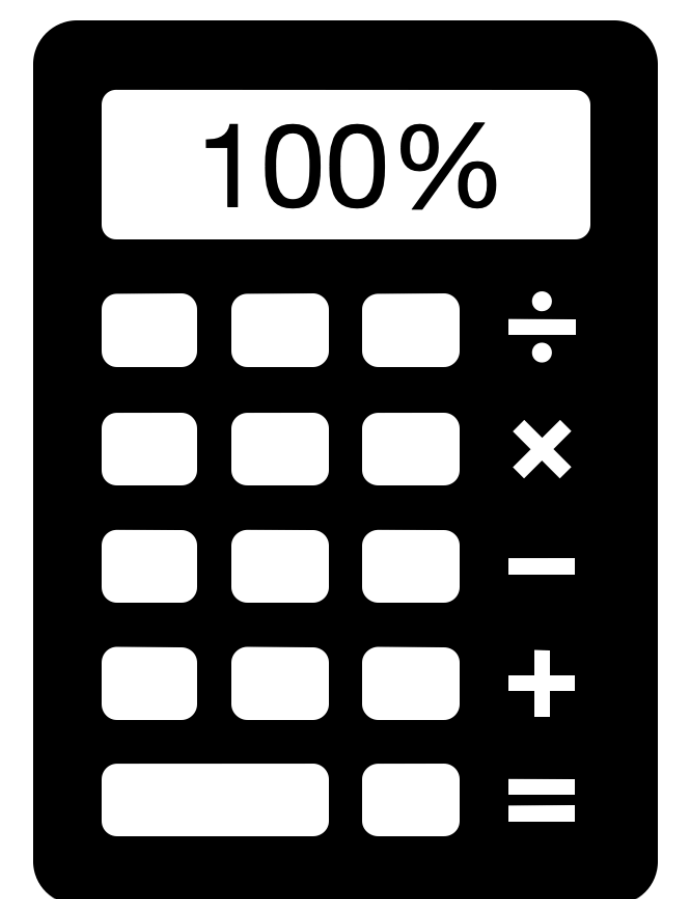
We describe a resident-initiated and developed intervention consisting of two phases assessing the feasibility and efficacy of teaching agitation management through simulated cases with the goal of improving the knowledge and comfort of psychiatry interns in managing agitation. Through this project, we show that simulation-based education modules are a feasible strategy to address the unmet need of teaching PGY-1 psychiatry residents how to manage acute agitation. This training allows for deliberate practice and aligns well with adult learning theory and behavioral learning theory (4).

Methods

In Phase 1, eight psychiatry residency interns completed three simulation cases with standardized patients, each with one type of agitation in the emergency room setting – stimulant intoxication, alcohol withdrawal, and unspecified psychosis. Each intern actively managed two cases and watched their peers complete a third case via live video feed. During the simulations, participants practiced real-time clinical decision making, choosing when to use specific techniques such as verbal de-escalation, collateral calls, and pharmacologic interventions. Each intern received feedback from a senior resident immediately following their clinical simulation. In Phase 2, an additional eight psychiatry residency interns completed the same simulation cases, and answered surveys before and after the cases assessing knowledge of evidence-based management of agitation, subjective experience during the training, as well as their clinical confidence.

In Phase 2, participants were asked eight Pre-Test and ten Post-Test questions regarding their experience and their comfort with aspects of treating agitation such as verbal de-escalation skills and evidenced-based management of agitation using psychopharmacology (5,6). The interns also completed three questions to evaluate information acquisition via clinical vignettes for a quantifiable measure of how much information was retained before and after the simulation. Those three questions explored the management of agitation in alcohol intoxication, undifferentiated agitation without psychosis, and how to discuss emergency medications with patients. The surveys were anonymous and included three multiple choice clinical vignette questions which analyzed using a chi-squared test (proportion of correct/incorrect for pre vs. post), the remaining questions had responses based on the Likert scale and were analyzed using paired t tests.

Overall Experience Of Interns

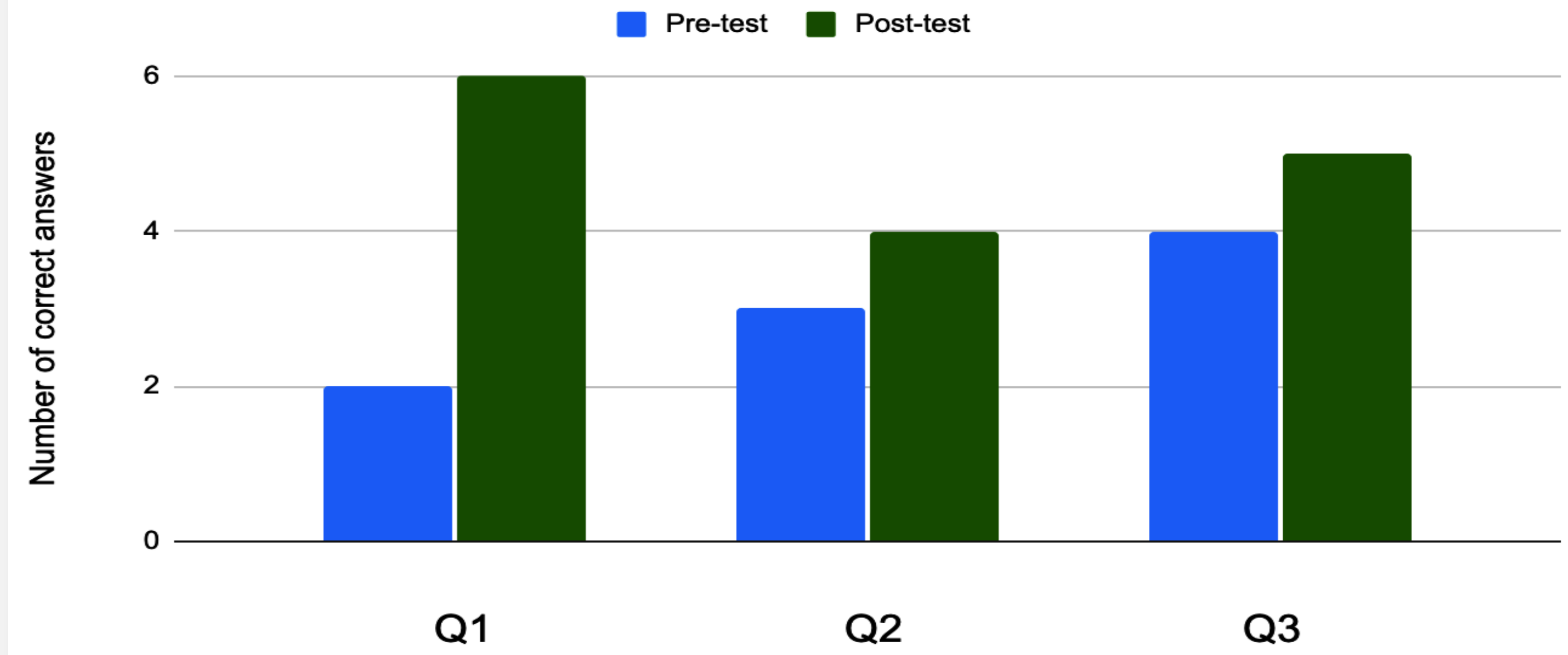


- 100% of participants agreed or strongly agreed that the quality of the feedback they received from supervisors was high.
- 100% of participants agreed or strongly agreed that they would recommend this simulation continue in future years.

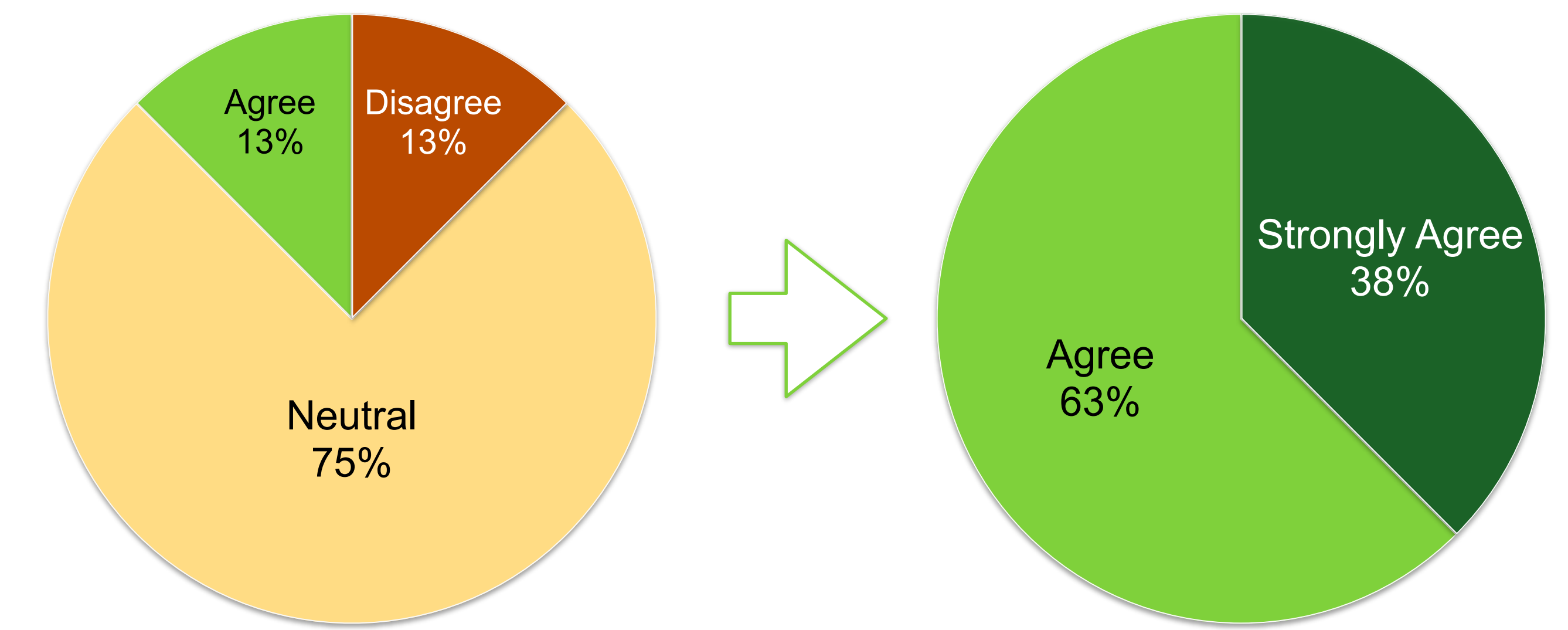
Results

Our novel simulation-based educational approach for agitation management was successfully implemented and all interns completed the three modules. Phase 1 of the study included informal feedback from participants which was positive and senior residents noted learners were able to reflect effectively on their own performance. Because Phase 1 suggested that this education module may be a successful strategy to facilitate hands-on learning in agitation, we completed Phase 2 in July of 2024 with another cohort of interns, the results are outlined below.

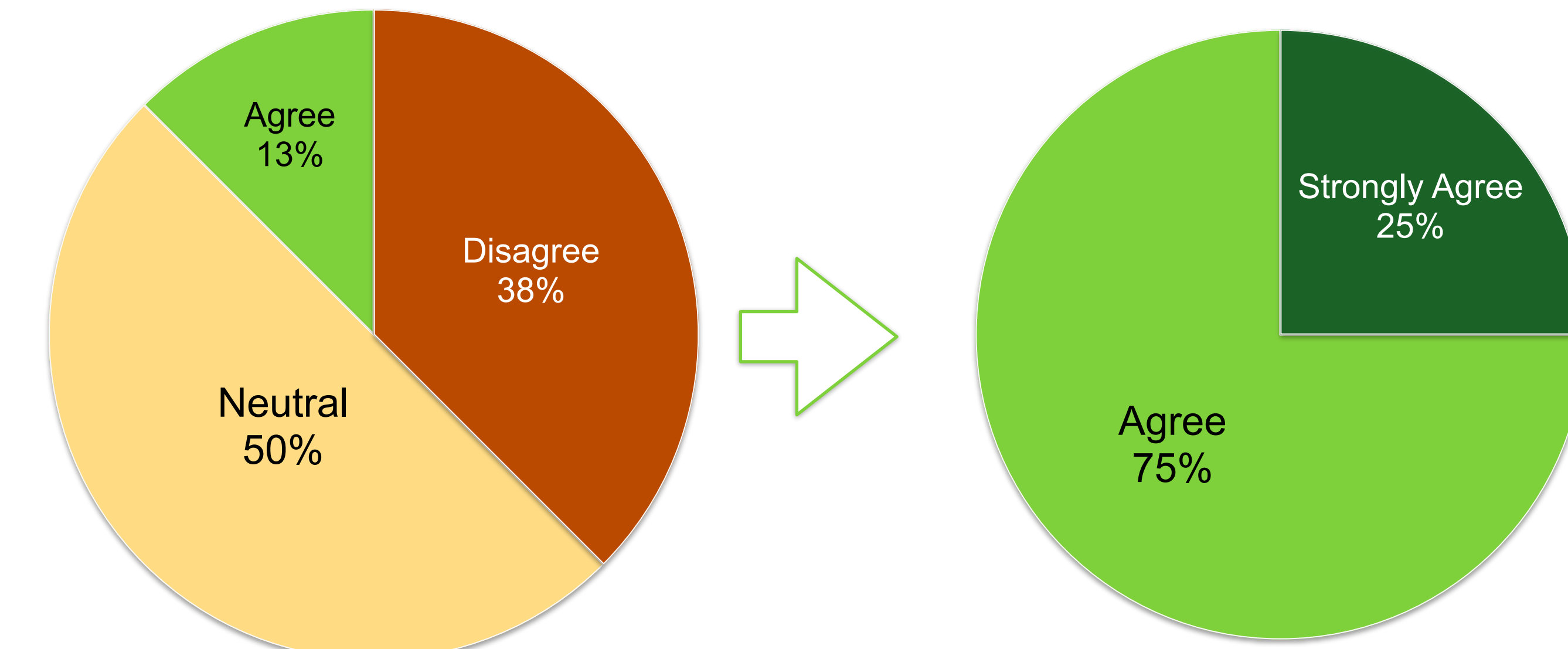
Acquisition of knowledge in the evidenced-based treatment of agitation



The graphs above show Pre and Post Test results showing knowledge acquisition of the BETA guidelines, which is a publication outlining the professional consensus around agitation management), analyzed using two sided chi-squared test showing a P value of 0.1835. The rest of the questions numbered four through eight did demonstrate statistical significance, analyzed with a paired t-test showing an average P value of <0.0001. The chart below demonstrates the improvement in confidence of verbal de-escalation skills as well as confidence in evidence based strategies for managing agitation.



Q5: "I am confident in my skills in the verbal de-escalation of agitated patients" P value 0.0001



Q7: "I am comfortable with applying evidence based strategies for managing agitation, such as the BETA guidelines" P value 0.0025

Discussion

By preparing PGY-1 psychiatry residents with evidenced-based strategies to treat agitated patients, we hoped to improve their knowledge and comfort in appropriately supporting patients who present a higher risk of violence, as well as reinforce strategies to optimize intern safety in high intensity clinical situations such as the emergency room.

Our research study included two phases. The first phase was subjective reporting that suggested an overall positive resident experience during the simulations, highlighting the feasibility of implementation. The second phase included surveys containing clinical vignette questions evaluating acquisition of knowledge consistent with practice guidelines. The first question showed a 300% improvement in correct responses between the pre and post tests, with an average improvement in correct responses of 186% between all three clinical vignette questions. The results of these surveys were positive, suggesting directional improvement in knowledge, however did not reach statistical significant (P value of 0.1835) potentially due to small sample size. This intervention has the potential to be repeated annually, thus analysis of longitudinal trends in multiple cohorts of interns could help increase sample size.

The remaining questions were clinically significant, showing an impressive shift of confidence and comfort in the context of agitation management. Affirmative responses regarding confidence in verbal de-escalation and use of evidence-based treatments of agitation increased 800%. Before the intervention, 62.5 percent of interns did not feel comfortable managing acute agitation in the emergency room. After our simulated agitation training, that same percentage of interns, 62.5 percent, reported they did indeed feel ready to independently manage severe agitation in the psychiatric emergency room. This highlights a categorical and statistically significant switch from overall discomfort in managing agitation before the intervention to an overall comfort with evidenced based strategies for agitation management afterwards.

Limitations of this study include small sample size, all residents came from the same residency program, and not using a validated instrument for testing.

Simulations offer many benefits over traditional didactics including facilitating improvement of communication skills, allowing learners to translate academic theory into clinical practice in a safe environment, and fostering curiosity about one's own patterns and knowledge base. Early training on evidenced-based management of agitation is essential for both patient and resident safety.

Future considerations could be developing simulations for the management of psychiatric emergencies such as Serotonin Syndrome, Neuroleptic Malignant Syndrome, Malignant Catatonia. Additionally, any psychiatry program that does not already have a simulation-based training to teach agitation management, but does have access to a simulation center and funding to hire Standardized Patients could create a similar training for their interns.

References

- 1) Ridout, Kathryn K et al. "Physician-Training Stress and Accelerated Cellular Aging." *Biological psychiatry* vol. 86,9 (2019): 725-730
- 2) Vestal, Heather S et al. "Simulation-Based Training for Residents in the Management of Acute Agitation: A Cluster Randomized Controlled Trial." *Academic psychiatry : the journal of the American Association of Directors of Psychiatric Residency Training and the Association for Academic Psychiatry* vol. 41,1 (2017): 62-67.
- 3) Williams, J Corey et al. "Comparing the Effectiveness of a Guide Booklet to Simulation-Based Training for Management of Acute Agitation." *The Psychiatric quarterly* vol. 90,4 (2019): 861-869.
- 4) Felix, Heidi M. and Leslie V. Simon. "Conceptual Frameworks in Medical Simulation." *StatPearls*, StatPearls Publishing, 26 September 2022.
- 5) Wilson, Michael P et al. "The psychopharmacology of agitation: consensus statement of the american association for emergency psychiatry project Beta psychopharmacology workgroup." *The western journal of emergency medicine* vol. 13,1 (2012): 26-34. d
- 6) Richmond, Janet S et al. "Verbal De-escalation of the Agitated Patient: Consensus Statement of the American Association for Emergency Psychiatry Project BETA De-escalation Workgroup." *The western journal of emergency medicine* vol. 13,1 (2012): 17-25.