Can I Get a Suggestion? Medical Improv as a Tool for Empathy Training in Obstetrics and Gynecology Residents

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ABSTRACT

Background Physician empathy is associated with improved patient outcomes. No studies have examined the outcomes of medical improvisational (improv) training on empathy.

Objective Our aims were to determine whether an improv workshop is an effective tool to deliver empathy training for obstetrics and gynecology (OB-GYN) residents, and whether that effect is sustained over time.

Methods We conducted a prospective cohort study of OB-GYN residents undergoing empathy training through 4 improv games in a 1-hour session. Empathy surveys (score range 20–140) with validity evidence were administered 2 weeks prior to empathy training, immediately after, and 1, 3, and 6 months later. Fisher's exact test, Student's *t* test, and Wilcoxon rank sum test were used to compare statistical differences at each post-intervention assessment.

Results All 22 invited residents participated in empathy training. Empathy scores improved immediately after (120.0 ± 9.8 versus 113.1 ± 10.6, $P = .026$), though they regressed toward baseline through 6 months (116.3 ± 11.0 versus 113.1 ± 10.6, $P = .43$). When asked on a scale of 1–5 how much the workshop would impact their work, there was an increase in scores both immediately after (mean 3.5 versus 4.6, $P < .001$) and 1 month later (mean 3.5 versus 4.1, $P = .039$), but this difference disappeared at 6 months.

Conclusions Using improv comedy to deliver empathy training is associated with a minor improvement in empathy scores in OB-GYN residents, which decreased at 6 months. Residents found the activity to be acceptable and reported the training would impact their clinical practice.

Introduction

Empathy is a key aspect of the patient-physician relationship. Mercer and Reynolds' definition of physician empathy is the physician's ability to (1) understand the patient's perspective and feelings; (2) communicate that understanding; and (3) act on that understanding in a therapeutic way.[1] Physician empathy has been associated with higher levels of patient satisfaction,[2–4] adherence to medical recommendations,[5,6] and improved clinical outcomes.[7–11] However, as medical professionals progress through their training, empathy tends to decrease.[12,13] Methods have been developed over the last few years in an attempt to combat this, including incorporating the humanities into medical education.[14–19]

In 2016, Watson and Fu described an innovative method termed "medical improv": an adaptation of improvisational (improv) theater principles to enhance medical skills like communication, teamwork, and cognition.[20] Incorporating medical improv into medical education might be helpful for empathy training, as improv can help learners access the empathetic, adaptive, and expressive parts of their communication skills. To the authors' knowledge, there are no studies evaluating the role of medical improv on the empathy of obstetrics and gynecology (OB-GYN) residents. The primary aim of this study is to assess the impact of an improv workshop on OB-GYN resident empathy.

Methods

This was a prospective cohort study of OB-GYN residents at a large academic hospital setting in the Northeast United States with 32 total residents in the program. Postgraduate years (PGYs) 1 to 4 were eligible to participate. The study took place at Women & Infants Hospital from May to November 2018.

Upon agreement, residents participated in a 1-hour improvisational comedy workshop designed to teach techniques for empathetic connection and communication. The workshop was facilitated by one of the authors (M.B.), a trained simulation specialist and

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Editor's Note: The online version of this article contains full descriptions of the medical improv games, a figure of JSPE scores immediate to 6 months post-intervention, and a figure and a table of residents' self-rating of the impact of the medical improv workshop.

TABLE 1
Demographics

Characteristics	Pre-Intervention (n = 21)	Immediately Post-Intervention (n = 22)	1-Month Post-Intervention (n = 17)	3-Month Post-Intervention (n = 7)	6-Month Post-Intervention (n = 15)	*P* Value
Gender, No. (%)						.19[a]
Female	17 (81)	20 (91)	17 (100)	5 (71)	13 (87)	
Male	4 (19)	2 (9)	0 (0)	2 (29)	2 (13)	
Age, No. (%)						.87[a]
21–30	15 (71)	17 (77)	12 (71)	2 (29)	10 (67)	
31–40	6 (29)	5 (23)	5 (29)	5 (71)	5 (33)	

[a] Fisher's exact test.

professional improvisational comedian. The workshop consisted of 4 separate games that were designed to be relevant to health care communication and empathy. All residents in the study participated in each game. Each game was then followed by a debrief that highlighted learning points, including building rapport, creating a shared mental model, revealing biases and stereotypes, and functioning under stress. The games are titled, "So This Morning, Right?" "Yes, And. . .," "Scene Painting," and "Late to Work." Full descriptions of the games are provided as online supplemental material.

Empathy was assessed using the Jefferson Scale of Physician Empathy (JSPE) pre- and post-intervention.[21] The JSPE is a self-assessed 20-item scale with validity evidence that measures skills in communication, empathy, and creative thinking, with a score range of 20 to 140. Residents' initial JSPE scores were assessed during a protected time didactic session. Demographic data, including gender and age ranges, were also collected. No identifying data were collected. Two weeks later, residents were offered study enrollment.

Following the intervention, residents were given the JSPE immediately, then at 1 month, 3 months, and 6 months prior to protected didactic time. In addition to the JSPE, the residents were also asked on a scale of 1 to 5, "How much do you think this workshop will impact your work?" At the 6-month mark, residents were asked an additional question: "Would you want to participate in this workshop again?"

Comparisons between each assessment post-intervention to the pre-intervention assessment were conducted using Fisher's exact test for categorical data. Continuous variables were compared using Student's *t* test; if data were not normally distributed, Wilcoxon rank sum test was used. Presuming a 2-sided test (alpha = 0.05 and beta = 0.2), the minimal detectable difference (delta) was between 5.9 and 8.3 if 24 residents were recruited.

All statistical analyses were conducted using Stata/SE 15.1 (StataCorp LLC, College Station, TX). All tests were 2-sided, and $P < .05$ was considered statistically significant.

This study was deemed exempt for review by the Women & Infants Hospital of Rhode Island Institutional Review Board.

Results

Twenty-two OB-GYN residents were approached. All elected to participate in the study and completed the medical improv workshop. Twenty-one residents completed baseline surveys, and 22 residents filled out immediate post-intervention surveys. At 1 month, 17 residents responded (77% response rate); at 3 months, 10 responded (45%); and at 6 months, 15 responded (68%). There were no significant differences in resident demographics (TABLE 1).

There was a significant difference in the mean JSPE score immediately post-intervention compared to pre-intervention (113.1 versus 120.0, $P = .026$), but this difference was not statistically significant at the 1-month, 3-month, or 6-month follow-up (TABLE 2; FIGURE provided as online supplemental material). When asked, on a scale of 1 to 5, "How much do you think this workshop will impact your work?" residents reported an increase from a baseline of 3.5 pre-intervention to 4.6 ($P < .001$) immediately post-intervention and 4.1 ($P = .039$) 1-month post-intervention (provided as online supplemental material). This effect was not sustained at 3 months and 6 months. After 6 months, 13 (87%) residents wanted to participate in the workshop again.

Cost of the session was low and it required few materials. As the games had already been developed and the nature of the games was improvisational, approximately 1 hour of preparation time was needed to go over the games prior to the session. The session itself lasted approximately 1 hour. One session leader was needed, and simulation space with seating for approximately 30 people was already available at the hospital.

TABLE 2
Jefferson Scale of Physician Empathy (JSPE) Pre-Intervention and Post-Intervention

Characteristics	Values	JSPE Scores	*P* Value
Pre-intervention (n = 21)	Mean (SD) Median (min–max) IQR (Q1–Q3)	113.1 (10.6) 115 (90–129) (111–119)	N/A
Immediately post-intervention (n = 22)	Mean (SD) Median (min–max) IQR (Q1–Q3)	120.0 (9.8) 122.5 (100–137) (115–126)	**.026**[a]
1-month post-intervention (n = 17)	Mean (SD) Median (min–max) IQR (Q1–Q3)	117.2 (14.3) 119 (81–138) (111–119)	.11[a]
3-month post-intervention (n = 10)	Mean (SD) Median (min–max) IQR (Q1–Q3)	115.3 (12.8) 117 (88–126) (114–124)	.44[a]
6-month post-intervention (n = 15)	Mean (SD) Median (min–max) IQR (Q1–Q3)	116.3 (11.0) 115 (92–133) (109–125)	.43[a]

Abbreviations: IQR, interquartile range; N/A, not available.
[a] Wilcoxon rank sum test.

Discussion

A single session improv comedy workshop increased OB-GYN resident empathy a small degree, although the effect was not sustained over time. The vast majority of residents expressed interest in participating in the workshop again. The workshop required little preparation or materials other than a facilitator of improv games. While our study employed an improv-trained faculty member, we do not believe formal training is needed to be a leader of these sessions.

This study is one of the first to directly examine the effects of a medical improv workshop on empathy training, and suggests that a one-time, stand-alone empathy workshop has a positive impact on OB-GYN resident empathy. Few studies have assessed empathy levels in OB-GYN residents. In one such study, Ghetti and colleagues proposed an intervention with a method of case-centered discussion that has been shown to increase job satisfaction and reduce burnout. However, empathy scores did not change in a 12-month period.[22,23] In another multicenter study, general surgery residents scored comparatively lower for emotional factor, empathy, and emotion expression compared to other residents.[22]

This study has limitations. It was conducted at a single site, limiting generalizability, and the sample size of 22 residents who completed the intervention was below the power analysis requirement of 24 residents. While we did find a difference in empathy scores immediately after the intervention, our study was underpowered to detect differences at the 1-, 3-, and 6-month marks. There were also decreasing response rates after the initial intervention.

Along with our findings, further research needs to be done to expand the scale and intervention of medical improv in order to assess its generalizability and its effects. Also, more work is needed to determine sustainment and the ideal interval between targeted training or periodic "refresher" sessions.

Conclusions

OB-GYN residents in this study had a small increase in empathy immediately after a medical improv workshop, although its effect diminished over time. The workshop itself requires limited resources and is feasible in an OB-GYN residency program. It was also deemed highly acceptable by residents who reported that the training would impact their clinical practice.

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