Teaching empathy to undergraduate medical students: Translation to practice

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Abstract

Introduction: Clinical empathy is the cornerstone of a good patient–clinician relationship. This study aims to examine the impact of an empathy teaching innovation (ETI) on empathic communication in medical students, which was introduced in a new medical curriculum and incorporates clinical skills and patient contacts from students' first-year study.

Method: A cluster randomised controlled trial (RCT) collected data on medical students' self-reported empathy using the Jefferson Scale of Physician Empathy (JSPE), simulated patients' ratings of each student using the Jefferson Scale of Patient Perception of Physician Empathy (JSPPPE) and students' performance in an objective structured clinical examination (OSCE). Half of the medical students (n = 39) received the ETI and the other half (n = 40) acted as the control group. The ETI is a 1-hour actor-led empathy workshop focusing on "being-in-role" and how to "walk a mile in the patient's shoes", previously shown to improve medical students' empathy scores.

Results: The medical students who received the ETI were rated as more empathetic by the simulated patients, with statistically significant correlations between patients' perception of empathy and the consultation performance for the intervention group, but not for the control group. However, the ETI did not significantly enhance student self-reported empathy.

Conclusions: This study presents the ETI as a short intervention tool for improving medical students' portrayal of clinical empathy, as perceived by simulated patients. Findings raise interesting questions for medical educationalists regarding the use of simulated (or actual) patients' reports on empathy.

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Introduction

Clinical empathy is a significant contributor to good patient–clinician relationships, and a good patient–clinician relationship has been shown to positively correlate with higher levels of patient satisfaction and health outcomes (Hannah, Lim, & Ayers, 2009; Stewart, 1995). Clinical knowledge and technical skills are important elements of medical education; however, interpersonal skills and empathy are increasingly recognised as core clinical skills (Epstein & Hundert, 2002). Hojat (2007) defined empathy as a "predominantly cognitive attribute that involves an understanding of the patient's experiences, concerns, and perspectives combined with a capacity to communicate this understanding and an intention to help" (p. 80).

Clinical empathy has historically been part of the "hidden curriculum" (i.e., not formally taught), despite studies demonstrating the influence of clinicians' communication skills on patient satisfaction, compliance, psychosocial adjustment and health outcomes (Berg, Majdan, Berg, Veloski, & Hojat, 2011; Del Canale et al., 2012; Hojat et al., 2011; Hojat et al., 2010a; Kim, Kaplowitz, & Johnston, 2004; Lelorain, Bredart, Dolbeault, & Sultan, 2012; Schneider, Kaplan, Greenfield, Li, & Wilson, 2004). Effective and clear communication is especially relevant to patients who experience health disparities (Beach, Rosner, Cooper, & Duggan, 2007) or who have particularly high medical risk and comorbidities (Barclay, Blackhall, & Tulsky, 2007). Clinicians who are more empathetic benefit from higher job satisfaction and less malpractice litigation (Livinson, 1994). A lower level of empathy was associated with a higher rate of self-reported medical errors in one study (West, Tan, Habermann, Sloan, & Shanafelt, 2009).

A public perception that clinicians are growing too "detached" to care (Safran, 2003) has been reinforced by cross-sectional and longitudinal studies on the decline in communication of empathy during medical training (e.g., Chen, Lew, Hershman, & Orlander, 2007; Hojat et al., 2009). The infrequent formal testing in the psychosocial aspects of patient care and a general decrease in curriculum hours devoted to the teaching and discussion of psychosocial care skills are considered key contributing factors to a decline in empathy. Little empathy training and formal assessment in the curriculum and the paucity of explanatory modelling by clinical preceptors may socialise students to perceive that empathy is not valued in medical training, perpetuating the decline in empathy (Michalec, 2011). These findings suggest that formal and formative attempts should be made to improve empathy skills.

Approaches implemented to enhance and sustain empathy in medical students include interpersonal skills training, exposure to role models, role playing, studying literature and arts, and reviewing audio or video recordings of students' encounters with patients (Batt-Rawden, Chisolm, Anton, & Flickinger, 2013; Hojat, Axelrod, Spandorfer, & Mangione, 2013; Stepien & Baernstein, 2006). Perspective taking, which involves asking participants to imagine another person's situation and "walk a mile in that person's shoes" has been shown to be particularly effective (Blatt, Lelacheur, Galinsky,

Simmens, & Greenberg, 2010). Blatt et al. (2010) found that students given brief instructions on "perspective taking" received significantly higher patient satisfaction scores from simulated patients than their control group counterparts.

In a longitudinal empathy project, our team investigated empathy skills development. Our empathy teaching innovation, taught by professional actors and using "perspective taking", focused on students putting themselves "in the patient's shoes" to improve interpersonal and communication skills (Lim, Moriarty, & Huthwaite, 2011). These skills were taught in the context of learning the counselling skills of motivational interviewing and brief intervention (MI/BI). Research tools chosen for the project included the Jefferson Scale of Physician Empathy (JSPE), which has been validated, with evidence supporting the JSPE's construct and criterion validity (Hojat, Gonnella, Nasca, Mangione, Veloski et al., 2002; Hojat et al., 2001), internal consistency (Hojat, Gonnella, Nasca, Mangione, Vergare et al., 2002; Hojat et al., 2001) and test-retest reliability (Hojat, Gonnella, Nasca, Mangione, Vergare et al., 2002; Hojat et al., 2001). In our previous study, while the empathy teaching innovation was effective in improving self-reported empathy skills (Lim et al., 2011), we observed that the increase in empathy scores was not sustainable, with a significant decline in medical students' self-reported empathy scores from Year 5 to Year 6 (Lim et al., 2013).

Beginning in 2008, a revision to our undergraduate medical curriculum, "Early Learning in Medicine" (ELM), was introduced in the first 2 years of the program. ELM introduces medical students to clinical skills and contacts earlier than had previously been the case. Courses that emphasise integrated case-based learning, clinical skills acquisition and community-based exposure were added to existing modules on various body systems (Perez et al., 2009), preparing students for Advanced Learning in Medicine (ALM) in the final 3 years. There is evidence that early practical experience raises medical student awareness of the importance of skills such as empathic communication (Loureiro, Severo, Bettencourt, & Ferreira, 2011; Yardley et al., 2010). We (Lim et al., 2011) had found short-term improvements in self-reported empathy scores for medical students who went through the old curriculum, but unexpected findings were observed in our new curriculum cohort of students, with a trend to lower baseline empathy scores, albeit non-statistically significant, compared to the old curriculum medical students (Gallagher, Moriarty, Huthwaite, & Lim, in press).

To clarify these findings and to better understand the impact of the empathy teaching innovation on the empathy and clinical skills of these medical students, a cluster randomised controlled trial was designed. Half of the new curriculum cohorts were exposed to the ETI. The hypotheses were:

1) Medical students exposed to the EMI should self-report higher levels of empathy (as measured by the JSPE) and receive higher patient empathy scores (as measured by the Jefferson Scale of Patient Perception of Physician Empathy, JSPPPE);

2) Higher ratings on the JSPPPE scale would be positively associated with tutor and student self-rated performance in the objective structured clinical exam (OSCE);

3) Higher ratings on the JSPPPE scale would be positively associated with self-reported empathy scores on the JSPE.

Method

Setting and participants

The cluster RCT participants included 79 consenting Year 5 medical students in a single year cohort at University of Otago, Wellington. These students had been through the new curriculum in Years 2 and 3. Three medical students from that cohort (2 males; 1 female) did not consent to taking part in the study. The control group consisted of 40 medical students (20 males; 20 females) and an intervention group of 39 students (15 males; 24 females). Participants' ages and ethnicity were not recorded because that data could lead to inadvertent identification of individual students.

Ethical approval was obtained from the University of Otago "B" process for research on human subjects. A key ethical consideration was to ensure blinding of the tutors and simulated patient assessors to the students who were or were not participants to ensure research integrity and prevent assessment bias.

Measures

The Jefferson Scale of Physician Empathy (JSPE)

The 20-item self-report JSPE (Hojat, Gonnella, Nasca, Mangione, Veloski et al., 2002; Hojat et al., 2001), each item rated on a 7-point Likert scale (1 = *strongly disagree;* 7 = *strongly agree*), is used to assess empathy in relation to patient care among health professionals. Two example statements from the JSPE are: "*Patients value a physician's understanding of their feelings which is therapeutic in its own right*" and "*I believe that empathy is an important therapeutic factor in medical treatment.*" Factor analyses conducted with JSPE consistently yield three factors, namely perspective taking (10 items), compassionate care (8 items) and "standing in the patient's shoes" (2 items) (Hojat et al., 2002).

The Jefferson Scale of Patient Perception of Physician Empathy (JSPPPE)

This five-item questionnaire, rated on a 7-point Likert scale (1 = *strongly disagree*; 7 = *strongly agree*) is used to measure empathic engagement of the physician, as perceived by the patient. An example statement is: "*My doctor understands my emotions, feelings and concerns.*" Good psychometric properties have been reported for this scale with family medicine residents (Glaser, Markham, Adler, McManus, & Hojat, 2007), internal medicine residents (Kane, Gotto, Mangione, West, & Hojat, 2007) and with 535 outpatients who responded to a mail survey (Hojat et al., 2010b). The internal consistency for the JSPPPE in this last study ranged from .97 to .99 for the total sample and for patients in different gender and age groups (Hojat et al., 2010b).

Procedures

All students participated in a teaching workshop on motivational interviewing and brief intervention skills. Six rotating groups of medical students were randomised to either receive the previously validated empathy teaching innovation or normal teaching

practice (i.e., three groups received the empathy teaching innovation and three did not) to determine if and how exposure to the empathy teaching innovation had contributed to the changes in medical students' empathy and clinical skills.

The empathy teaching innovation is a 1-hour actor-led empathy workshop focusing on "being-in-role" and how to "walk a mile in a patients' shoes". The actor shared his skills with students and imparted the feelings of a patient consulting with a doctor. During the session, students watched demonstrations and then rehearsed ways of re-phrasing empathic communication specifically with the patient's perspective in mind.

All participating students completed two JSPEs (pre and post workshop), sat the end-of-rotation consultation OSCE (both tutor- and student-rated) and were rated using the JSPPPE. The cluster RCT collected data only from the consenting students. The OCSE was held 2–3 weeks after the workshop. The OSCE performance was scored using a structured marking sheet, and this was in standard use prior to the RCT. The OSCE performance for all students was video-recorded. Medical students underwent one of six OSCE scenarios, including stations with advice about alcohol cessation and explanations of bipolar disorder, panic disorder and postnatal depression. OSCE examiners were blinded to whether the medical students were research participants or assigned to the empathy teaching innovation intervention. All students completed an OSCE self-assessment, involving self-reflection and viewing the video recording of themselves in the role of a clinician.

The simulated patients in the OSCE rated their perceptions of the medical student's performance using the JSPPPE and rated their likelihood of returning to the medical student for future consultations (rated immediately after the consultation). Simulated patients were blinded to the allocation of participating students.

Statistical analyses

The analyses were performed by a research team member who was not involved in student teaching and assessment (BTL) using SPSS for Windows (version 22.0). A p-value of less than 0.05 was considered significant. Any missing data were automatically adjusted for in each analysis using expectation-maximization (EM) imputation. Pearson's correlation coefficient was used to examine relationships among the variables. Analysis of variance was used for group comparisons.

Results

Table 1 and Figure 1 show the descriptive statistics of the outcome measures, separated by control and intervention groups. The Cronbach's alpha for both the baseline and post-intervention JSPE in this RCT was .83. The Cronbach's alpha for the JSPPPE was .92 for this RCT.

Self-report empathy scores as indicated by JSPE scores

No statistically significant difference in the baseline empathy score was observed ($t(77) = -.27, p = .79$), suggesting that the assignment of student rotation in groups resulted in an unbiased sampling at baseline. Similarly, no statistically significant difference was observed between the control and intervention groups for post-intervention self-report

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Table 1

Means and Standard Deviations of Tutor-Rated and Student Self-Rated OSCE Performance by Control and Intervention Groups

	Control (n = 40)		Intervention (n = 39)	
	M	*SD*	*M*	*SD*
Tutor-rated OSCE:				
Content	8.80	1.14	9.10	1.10
Clinical skills	4.05	0.61	4.33	0.74
Patients' likelihood to return	1.54	0.52	1.65	0.50
Process	5.76	0.68	6.01	1.00
Overall	5.05	0.82	5.26	0.88
Student-rated OSCE:				
Content	8.66	1.50	9.22	1.66
Clinical skills	4.14	0.69	3.87	0.79
Patients' likelihood to return	1.25	0.23	1.25	0.36
Process	5.22	0.21	5.29	0.77
Overall	4.80	0.52	4.75	1.02

Note: No statistically significant difference was observed in consultation performance, as indexed by OSCE, between control and intervention groups (all $p > .05$).
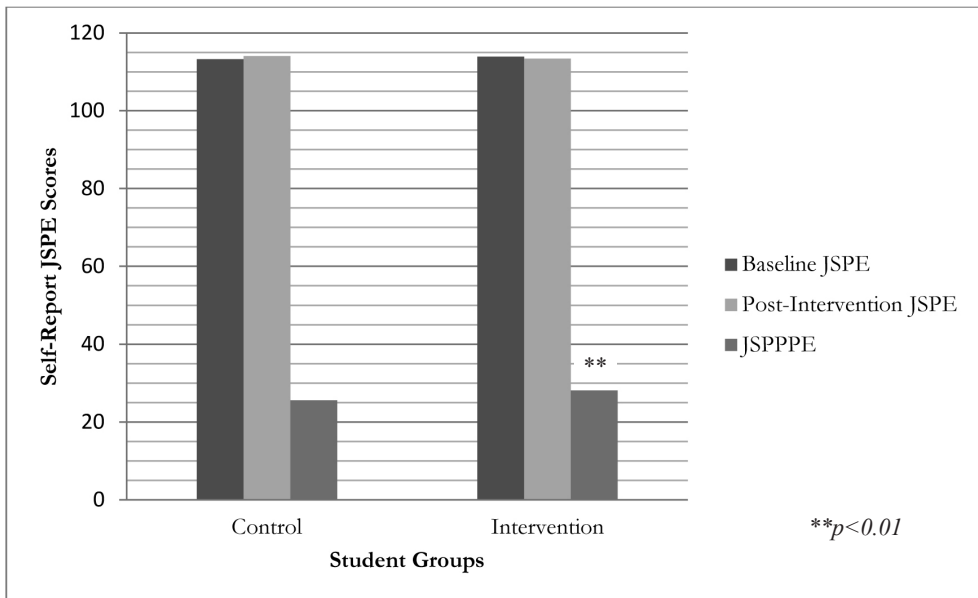

Figure 1. Pre- and post-intervention self-report (JSPE) and simulated patients' rated empathy (JSPPPE) scores for control and intervention group.

empathy scores (t(77) = .34, p = .74), suggesting that the ETI did not have a statistically significant impact on self-reported empathy skills for the medical students undertaking the new curriculum. Independent samples t-tests examining control and intervention group students' individual responses to the JSPE items found no statistically significant difference between the two groups (all p > .05).

Patients' perception of physician empathy as indicated by JSPPPE scores

As shown in Figure 1, medical students' display of empathy, as rated by simulated patients, differed between the students who had received the empathy teaching innovation and those who had not. Intervention students were perceived by the simulated patients as significantly more empathetic compared to the medical students in the control group (t(61.82) = -3.13, p = . 003).

Correlations between patients' perception of physician empathy and consultation performance

For the control group, no significant correlations were observed among the patients' perception of physician (student) empathy and tutor-rated and student self-rated consultation performance (all p > .05). For the intervention group, simulated patients' perception of physician (student) empathy significantly correlated with patient's likelihood to return (r(39) = .43, p = .006), process (r(39) = .36, p = .03) and tutor rating of overall OSCE performance (r(39) = .36, p = .03). Additionally, simulated patients' perception of physician (student) empathy was related to medical students' self-rated performance on OSCE content (r(39) = .47, p = .002), clinical skills (r(39) = .51, p = .001) and overall OSCE performance (r(39) = .56, p < .001).

Correlations between patients' perception of physician empathy and medical students' self-report empathy

For the control group, there was no statistically significant correlation between the simulated patients' JSPPPE and baseline or post-intervention JSPE scores (all p > .05). For the intervention group, simulated patient perceptions of physician (student) empathy was significantly correlated with the baseline self-report empathy scores (r(39) = .41, p = .01), but not with post-intervention self-report empathy scores.

Differences were identified in the correlation between individual responses to JSPE and the total summed score of JSPPPE. For the control group, the only JSPE item that significantly correlated with JSPPPE was: *"Patients value a physician's understanding of their feelings which is therapeutic in its own right"* (r(40) = .44, p = .03). However, for the intervention group, two JSPE items (both falling within the "perspective taking" factor) significantly correlated with the JSPPPE. These were: *"Empathy is a therapeutic skill without which the physician's success is limited"* (r(39) = .68, p = .02) and *"Physicians should try to think like their patients in order to render better care"* (r(30) = .67, p = .02). Surprisingly, no items from the "compassionate care" or "standing in the patients' shoes" factors significantly correlated with the JSPPPE.

Discussion

In our newly revised curriculum that exposes students to clinical communication skills and contacts earlier, with more hours dedicated to the psychosocial aspects of care, we hypothesised that this might impact on the development of empathy in our students.

This RCT was designed to evaluate the impact of the newly revised medical curriculum on a previously validated and effective empathy teaching innovation. In line with Batt-Rawden et al.'s (2013) recommendation, a randomised controlled design with intervention and control cohorts was adopted. Contrary to expectations, receiving the empathy teaching innovation under the new curriculum did not lead to enhanced self-reported empathy skills in medical students. This contrasts with findings from medical students under the old curriculum (Lim et al., 2011). Despite this, new curriculum students who received the ETI intervention were rated as more empathetic by the simulated patients, and the patients' perception of empathy was related to the medical students' self-rated and tutor-rated consultation performance. Examination of responses to individual items in the JSPE and its relationship to the JSPPPE suggested that exposure to our teaching intervention had resulted in the significant correlations for items related to the "perspective taking" component of the JSPE (Hojat, Gonnella, Nasca, Mangione, Vergare et al., 2002) for the intervention group.

Consistent with Blatt et al. (2010), medical students who went through the ETI received significantly higher patient satisfaction scores than the control group. Blatt and colleagues suggested that perspective taking, which involves asking participants to imagine the patient's situation and "walk a mile in the patient's shoes", is an effective empathy-enhancing technique. Despite the intervention brief, items relating to "standing in the patient's shoes" did not show significant correlations to students' self-report on the "perspective taking" component of JSPE, but was significantly correlated with simulated patients' perception of physician empathy. Studies in the field of social psychology demonstrated that perspective taking and empathy arousal significantly decreased stereotyping and prejudice (Galinsky & Moskowitz, 2000), which can be particularly helpful as clinicians attempt to understand and respond to their patients.

Our unexpected finding that medical students in the intervention group did not self-report an increase in their clinical empathy post-ETI, even though they were rated as more empathetic by the simulated patients, needs further reflection. One possible explanation is that the new curriculum also has earlier emphasis on clinical risk and clinical boundaries. This might alert or undermine the natural empathic traits of students, increasing caution about "walking in the patient's shoes". Further exploration is required to determine why medical students' own conceptualisation of their clinical empathy skills was different to that of the simulated patients. The expected strong correlations between the JSPE and JSPPPE were not observed but could be attributed to the "ceiling effect" on the JSPPPE (M. Hojat, personal communication, March 26, 2014).

The RCT findings should be interpreted in the light of several limitations. First, this study was carried out at a single institution. Second, we did not find the significant gender differences reported elsewhere (Hojat, Gonnella, & Mangione, 2002). As there were more female (n = 24) than male (n = 15) students in the intervention

group, a positive finding was expected based on the assumption that females have higher mean empathy scores, but a larger sample size would be needed to confirm any gender-related differences.

This study demonstrates ETI as a short intervention tool for improving medical students' portrayal of clinical empathy, as perceived and rated by simulated patients. A previous study showed that clinical empathy skills can be evaluated by the clinician, the patient or an external observer (Lelorain et al., 2012), and our study supports this. Both the JSPE and JSPPPE may be useful empathy assessment tools to examine the development of clinical empathy in medical students, and it is feasible to incorporate them into the curriculum assessment. Previously, they have been used with physicians post-graduation. The tools take little time to complete and have minimal costs, thus implementation should not affect an already crowded curriculum.

This study raises interesting questions for medical educationalists regarding the formal teaching and assessment of empathy in the medical curriculum. While evidence supports early practical experience in raising awareness in medical students about the importance of developing empathic communication skills (Yardley et al., 2010), the changes expected from this new curriculum are unclear, raising questions for further investigation. Although we have demonstrated value in actor-led teaching about empathy, students may need explanatory role modelling from tutors to be aware of how clinicians draw the professional boundaries—whilst remaining empathic—to understand the difference between appropriate empathy skills and undue distance or familiarity.

Acknowledgements

Funding/Support

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