The Impact of Simulated Medical Consultations on the Empathy Levels of Students at One Medical School

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Abstract

Purpose
To examine the impact of simulated medical consultations using standardized patients (SPs) on the empathy levels of fourth- and sixth-year students at the Unicamp medical school in Brazil.

Method
Throughout 2011 and 2012, the authors conducted this study with two classes of fourth-year (n = 124) and two classes of sixth-year (n = 123) medical students. Students completed the medical student version of the Jefferson Scale of Physician Empathy before and after simulated medical consultations with SPs, followed by an in-depth debriefing dealing with the feelings of the patient about the disease, such as fear, guilt, anger, and abandonment; the feelings of the doctor towards the patient; and other topics as they arose.

Results
The simulation activity increased the empathy scores of the fourth-year students (from 115.8 to 121.1, P < .001, effect size = 0.61) and of the sixth-year students (from 117.1 to 123.5, P < .001, effect size = 0.64).

Conclusions
Although the study results were obtained via self-report—a limitation—they suggest that the effective simulation of medical consultations with SPs may improve medical students’ empathy levels. One unexpected result was that this activity, during the debriefing, became a forum for debating topics such as the doctor–patient relationship, the hidden curriculum, negative role models, and emotionally significant experiences of students in medical school. This kind of activity in itself may influence young doctors to become more empathetic and compassionate with their patients and foster a more meaningful way of practicing medicine.

A meaningful doctor–patient relationship is the foundation of the practice of medicine. Without it, the application of technical knowledge acquired by the doctor during his or her training would often not be nearly as effective. Empathy stands out as one of the most important factors to ensure the success of this relationship. It has been shown that an empathetic attitude from a doctor can promote greater treatment adherence in patients, better clinical outcomes, and greater patient satisfaction in addition to bringing benefits to the doctors themselves.

In spite of its importance in patient care, the concept of empathy is marked by a history of ambiguity, and there is currently no consensus about its definition. There being many and diverse definitions available in the literature, Empathy has been defined as a multidimensional construct with an affective component—the capacity to sensitise oneself with the experiences of others—and a cognitive component—the capacity of understanding other people and communicating to them this understanding, with the intention of helping.

Recent studies have assessed the empathy levels of students in medical school and have had divergent results. Most of the studies revealed a tendency for empathy loss during medical school. However, in one longitudinal study, no significant change was observed, and in some cross-sectional studies, greater levels of empathy were observed in students in their final year of medical school.

Several strategies have been proposed to preserve or heighten empathy levels in medical students, but there has not been much objective study of the impact of these strategies. In spite of the fact that there are reports of increased empathy after training involving communication techniques, literature courses, theatrical performances, reflective writing, experiential learning, and self-care activities, most studies did not use instruments that measure empathy specifically in the context of clinical care.

With this in mind, and given the importance of empathy to the practice of medicine, we created a simulation activity with standardized patients (SPs). We presented students with four different clinical situations that challenged them with issues related to the doctor–patient relationship. We performed a debriefing.
to address the emotions of the patient and the student, even those that were not verbalized during the consultation.

Our goal was to assess the impact of this activity on the empathy levels of fourth- and sixth-year medical students at our medical school, measured by the medical student version of the Jefferson Scale of Physician Empathy (JSPE).1,12,40

Method

Participants

In Brazil, the medical school course of study takes six years. The first two years address the basic sciences and an introduction to patient care and are followed by two years of clinical study, with students beginning to perform consultations on their own in the fourth year. The two final years of the course of study are devoted to learning by practicing in the major areas of medicine, such as internal medicine, surgery, pediatrics, and obstetrics–gynecology.

All of the students who participated in the medical consultation simulations described below had already finished, in their first years of the medical program, an introductory course on medicine and the doctor–patient relationship, three courses on clinical ethics, and one course on semiotics. These activities focused on learning how to nurture and build bonds with patients, interviewing techniques and communication, and empathy in the doctor–patient relationship.

Sixth-year students. All 123 students who were in their sixth year of medical school in the classes of 2011 and 2012 at the Faculty of Medical Sciences, State University of Campinas (Unicamp) in Campinas, Brazil, participated in the intervention, which was included as a curricular activity during their rotation in emergency medicine.

Fourth-year students. Participation in the activity was voluntary for students who were in their fourth year at the same medical school in 2011 and 2012. A total of 124 students participated, which represents around 60% of the total number of students in the two classes.

The simulation activity was consistently overseen by two of us (M.S. and M.A.C.F.). When the activity took place, the sixth-year students were involved in the emergency medicine rotation, in which M.S. and M.A.C.F. are professors. The fourth-year students were not involved in a rotation that any of us were responsible for evaluating.

Instruments

JSPE. The empathy levels of the students were measured before and after the simulation activity through the JSPE, medical student version,40,44 a 20-question Likert scale specific to the medical context. For the sixth-year students, the interval between the two measurements was approximately one month, because each student filled out the scale at the beginning of the first day and after the last day of the 30-day period in which he or she participated in the activity. For the fourth-year students, although for each student the simulation activity was also performed over a 30-day period, the intervals between measurements were approximately three months, because each student filled out the pretest scale several weeks before the beginning of the simulation activity, at the time we presented the idea and requested informed consent.

Interpersonal Reactivity Index. The empathy levels of students were also measured, during the same times, with the Interpersonal Reactivity Index (IRI) scale,42 a Likert scale with 28 questions, not specific to the medical context.

Simulation with SPs

The sixth-year students participated in the simulation activity (described below) and debriefings (described in the next section) during their emergency rotations. Each group was composed of seven to nine students and had four weekly meetings during a 30-day period. Because there were so many students, we carried out the activity throughout 2011 for all groups in the class of 2011 students, and we did the same throughout 2012 for all groups in the class of 2012. In other words, for the sixth-year students, we carried out the simulation activity and debriefing weekly over the two years, with a different group each 30 days.

The fourth-year students did not have an emergency medicine rotation. Each of their groups was also composed of seven to nine students. During 2011, we scheduled the eight 2011 fourth-year groups; during 2012, we scheduled the eight 2012 fourth-year groups. As with the sixth-year students, each group had four weekly meetings in a 30-day period, but on different days of the week than the days used by the sixth-year students.

Before the beginning of the activity for each group, we explained the exercise to the students and stated that the purpose of the activity was not summative but, rather, formative. Furthermore, we emphasized that the main focus of the activity was discussion and that the simulated consultations were an occasion to reflect more deeply on the doctor–patient relationship. We did not mention anything about empathy.

During each of the four weekly meetings when we carried out the simulation activity, two students, chosen at random, consulted individually with an SP (i.e., two consultations per meeting), while the rest of the group and professors watched the interaction from an adjoining room. Each student in a group consulted with an SP only once, but saw the consultations of his or her colleagues in the other three meetings and participated in the debriefings of all four meetings. At each of the weekly meetings, an SP portrayed one of four clinical cases (summarized in List 1), which we had created based on our clinical and teaching experience and with the aim of generating discussions of key issues related to the consultations that the students had carried out.

Three SPs participated in the 2011 exercise, and three other SPs participated in the 2012 exercise. The SPs were professional actors who constructed their characters influenced by Stanislavsky’s system and Brecht’s techniques. They were also experienced in teaching and were trained to bring out feelings triggered by the disease during the consultation in each clinical case, in a way that permitted the facilitators (M.S. and M.A.C.F.) to discuss these feelings during debriefing.

Debriefing

After the end of each of the simulated consultations and a brief 10-minute break, we joined the students and actors at the debriefing table and let the conversation flow freely, even when it turned to subjects unrelated to the activity. This initial
During 2011 and 2012, the authors presented a total of 123 sixth-year and 124 fourth-year students at their medical school with simulated consultations using standardized patients. The consultations were based on the four clinical situations summarized above, and challenged the students with issues related to the doctor–patient relationship. Empathy levels of the students were measured before and after the simulated consultations using the Jefferson Scale of Physician Empathy. The discussion topics shown above helped guide the development of the debriefing was structured to allow a discussion about the frailty of the human condition, especially when persons are challenged by disease. During debriefing, the group reflected on the feelings of the patient about the disease, such as fear, guilt, anger, and abandonment, and the feelings of the doctor towards the patient, based on the students’ experiences with the SP and on their previous experiences. Given the nature of the issues discussed and the variety of students’ reactions, debriefing each case took approximately two to three hours.

To foster a constructive debate and a safe environment for the student, it was essential for us, as facilitators, to promote a situation free of hierarchy, opting for education through positive reinforcement. All the facilitators’ suggestions for improvement in students’ behavior during the consultation, when necessary, were expressed in a way that ensured that the students did not feel negatively judged by the facilitator.

The main resource we used for the development of the debriefing was our clinical experience, as well as our reflections on the human condition. Using case observations and student comments, we discussed feelings related to illness, such as fear, guilt, anger and loneliness. Knowledge of philosophy, especially the field of ethics, was an important element in our preparation for the depth of the discussions.

The mean pretest JSPE empathy score of the fourth-year students was 115.8 (SD = 8.8); it increased to 121.1 (SD = 8.6) after the activity (P < .001), with an effect size (ES) of 0.61. We also observed an increase in the mean IRI empathy score, from 64.6 (SD = 11.2) to 66.8 (SD = 12.0; P = .003), with an ES of 0.19. Figure 1 gives a visual presentation of the mean pre- and posttest JSPE scores for these students.

The mean pretest JSPE empathy score of the sixth-year students was 117.1
(SD = 10.0); it increased to 123.5 (SD = 9.9) after the activity (P < .001), with an ES of 0.64. We also observed an increase in the mean IRI empathy score, from 66.1 (SD = 11.1) to 68.3 (SD = 12.9; P < .001), with an ES of 0.20. Figure 1 gives a visual presentation of the mean pre- and posttest JSPE scores for these students. Although the sixth-year students had higher pretest and posttest mean empathy scores than the fourth-year students, these differences were not statistically significant.

Because the posttest was administered within 30 days for the sixth-year students but after three months to the fourth-year students, we wondered whether there was any evidence for a decrement in empathy after the exercise. We are using questionnaires to periodically reassess all the fourth-year students and to reassess the sixth-year students who have remained at our institution as residents. However, we do not yet have these follow-up findings.

Also, because the simulations were weekly for four weeks, we wondered whether there was any evidence of improvement of empathy from week to week. Although we did not formally assess empathy levels during the four weeks of simulation activities for each group, we did informally observe changes in students’ behavior during that period. The students who consulted an SP on the second, third, and fourth meetings used, in their consultations, ideas and conclusions they had gained from the previous meetings; many of them also demonstrated more empathetic attitudes every week in their activities within the hospital.

Discussion and Conclusions

In the reality of Brazilian medical education, students are frequently found to have difficulties in establishing channels of communication with their patients and in demonstrating the sort of empathetic attitude necessary to the success of the doctor–patient relationship. We believe that this situation may lead the student to be dissatisfied with the quality of his or her own consultations and give rise to a feeling of impotence, which may lead to cynicism and the deterioration of medical professionalism.

The students who participated in the medical consultation simulation activity reported here showed a significant posttest increase in empathy as measured by the JSPE, with ESs of 0.61 for fourth-year students and 0.64 for sixth-year students. Several factors related to the simulation activity may have contributed to the increase in empathy levels observed in these students.

One of these factors is adequate time to reflect. Professional competence depends on developing the ability to reflect critically on past actions, but medical students’ overload may limit their time and ability to make the commitment necessary for adequate reflection after each professional action. Thus, the student will not reinforce those attitudes that lead to good outcomes, nor will he or she always notice those attitudes that lead to negative patient outcomes, especially when it comes to the doctor–patient relationship. Furthermore, the student may not easily understand that the outcome of a consultation (good or bad) also affects his or her satisfaction in practicing medicine.

In our simulation activity, students were invited to reflect on their own and as a group about the consultations performed. This exercise was guided by professionals accustomed to reflection, so that the students, by example, might be encouraged to incorporate this practice into their daily lives. Furthermore, students were able to watch their colleagues’ consultations and reflect on what they could have done in the same situation, many times displaying relief on noting that their colleagues’ challenges were the same as their own, both during the consultation and during the discussion.

We believe that a distinguishing characteristic of our activity is the fact that it was performed by professors who practice medicine daily with their students in an emergency unit, an intensive care unit, an internal medicine ward, and an outpatient clinic. In this way, the topics discussed during the activity were not viewed by the students as idealized, intangible, or detached from reality, because they were discussing models of real medical practice.

During the debriefing, the students were encouraged to truly reach out to understand the feelings of the patient. We sought for students to realize that each one of us, as a basic challenge in life, must deal with the perception of time, which gives us a past, with both its successes and joys and also its regrets and possible feelings of guilt, and a future, with both its hopes and goals and also its fears and angst, particularly those related to death. Although this challenge is universal, the form it takes for each individual is
extremely personal. Thus, there is no way of knowing what is best for patients without listening to them, getting to know and understand them, including their feelings. In this context, the doctor can help the patient to see that being sick can be an opportunity for reflecting on positive elements of his or her life, such as past accomplishments and future goals.

Because our study’s participants were undergraduate students, the discussion focused on themes of how to communicate and provide comfort to the patient, as well as on the phenomena of transference and countertransference. This approach facilitated the understanding of certain feelings of the patient brought about by disease, such as anger, which is often projected onto the doctor and should not interfere with the task of comforting the patient.

The perception of the need for recognizing and promoting patient autonomy permeated every discussion. Also part of the discussion were situations that bother students, such as prolonged silences during medical consultation and moments when patients cry. The discussions also involved the patient’s feelings of loneliness and abandonment brought about by disease, and how the availability and support of the doctor, and the development of a shared treatment plan, may relieve these tensions.

In the case 4 debriefing (see List 1), we took the opportunity to discuss the importance of recognizing the presence of the family in the consultation, their interactions with the patient, and how identifying the dynamics of conflicts may be important to uphold the treatment plan. In that moment, we discussed how a hasty judgment of the behavior of the patient or family members may jeopardize the resolution of conflicts that, if left unresolved, could interfere with the treatment plan.

One limitation of our study is the possibility that our results were affected by the maturation bias, a natural process that leads participants to change over time, and by the Hawthorne effect, the tendency of people to perform better when participating in an experiment and being observed, which may have led to higher posttest empathy scores.

The main limitation of our results is that empathy was assessed through self-report. Even though our students had higher empathy scores after the simulation activity, this does not necessarily translate into future empathetic behavior. In other words, we do not know whether the increase in self-assessed empathy after the simulation activity correlates with real empathy, perceived by the patients in real consultations.

We believe that patients’ evaluations, rather than self-reports, are the most fitting method of assessing the empathetic attitude of the doctor and the quality of the consultation. However, we also believe that the increase in the levels of empathy observed in our study may indicate at least the intention of being more empathetic, which is important, because the will precedes the act and the attitude.

Our study approach is generalizable, provided that excellent SPs are used and that the faculty involved are imaginative, empathic, and have good clinical and reflection skills.

Our findings show that the simulation of medical consultations with SPs may improve medical students’ empathy levels. One unexpected result was that this activity became a forum for debating topics such as the doctor–patient relationship, the hidden curriculum, negative role models, and emotionally significant experiences of students in medical school. This kind of activity in itself may influence young doctors to become more empathetic and compassionate with their patients and foster a more meaningful way of practicing medicine.

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