

A Pilot Study to Compare the Standardized Patient's Perception of Empathy Among the American Medical Graduates and International Medical Graduates Applying for Residency Training in the United States

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ABSTRACT

Background: Empathy is an essential ingredient of patient-centered care. Traditional neurology clerkships do not provide a structured way to teach, evaluate and inculcate the virtue of empathy among our medical students while dealing with various complex neurological conditions. We designed an innovative Objective Structured Clinical Evaluation (OSCE) entitled as Empathetic Neurological Care (ENC) OSCE as a part of clerkship evaluation to assess empathy among American Medical Graduates (A.M.G.s) and International Medical Graduates (I.M.G.s). We aim to illustrate the model of Empathetic Neurological Care (ENC) OSCE and to report the comparative analysis of empathy scores among the A.M.G.s and I.M.G.s.

Methods: This is a pilot study comparing empathy among A.M.G.s and I.M.G.s, measured by the Standardized Patients (SPs) using the Jefferson Scale of Patient Perceptions of Physician Empathy (5-Point Likert Type Scale) during pre-designed ENC-OSCEs. The proposed curriculum included complex neurological cases involving breaking bad news (e.g., delivering the diagnosis of A.L.S.), opioid addiction counseling, disclosing medical error (stroke), and explaining the diagnosis of non-epileptic seizures.

Results: 12 students (6 A.M.G.s, 3 Males/3 Females and 6 I.M.G.s, 4 Males/2 Females) completed the OSCE. A.M.G.s scored higher in empathy scores graded by SPs than I.M.G.s ($P=0.0004$).

Conclusion: A.M.G.s scored higher empathy as compared to I.M.G.s by the SPs during ENC-OSCEs. We highlight the importance of focused empathy training with assessment during neurology clerkship rotations for A.M.G.s and the need of formal curricular training as a part of the orientation program at the beginning of residency training for I.M.G.s.

Keywords: Empathy, American Medical Graduates, International Medical Graduates, Jefferson Scale of Patient Perceptions of Physician Empathy, Neurology

Background

Empathy is an essential ingredient of patient-centered care, the cornerstone of medical practice.¹ Physician's empathy positively impacts patient safety by providing a better patient outcome, stronger physician-patient relationship, greater patient satisfaction, and better quality of healthcare.^{2,3,4} Empathy in the clinical context is defined as "a predominantly cognitive attribute that involves an understanding of experiences, concerns, and perspectives of the patient, combined with a capacity to communicate this understanding and an intention to help."⁵

Realizing the importance of the cultivation of professional attitude and essential communication skill of expressing empathy in tomorrow's physicians, the medical schools and health institutions across the world are increasingly focusing on developing a curricular communication training.^{6,7,8} 'Being compassionate' is one of the seven learning objectives proposed by the association of American medical college as a part of the Medical School Objectives Project (M.S.O.P.) while training the medical graduates in the United States.⁹

The physicians who receive medical education from the medical schools outside the United States and Canada, commonly referred to as International medical graduates (I.M.G.s) are an integral part of healthcare in the U.S.A. I.M.G.s form around one-quarter of physicians in training and practicing physicians in the United States.¹⁰ I.M.G.s play a vital role in the United States healthcare as well as graduate medical education (G.M.E.) by adding diversity to the healthcare system, contributing to the physician workforce and by serving in underserved areas.¹¹ With the increased number of residency positions of primary care-specialties in recent years, there is increasing opportunity for I.M.G.s to pursue their career in the United States. Neurology is one of the specialties with the most significant percentage (37%) of I.M.G.s.¹¹

To be eligible to apply for the residency training in the United States, both A.M.G.s and I.M.G.s undergo the same evaluation process (U.S.M.L.E.) where communication and interpersonal skills (C.I.S.) are an integral part of clinical skill evaluation. Even after succeeding in these evaluation steps, I.M.G.s still face challenges during cross-cultural communication in practice.¹² Although there is little known about empathy and the pertinent barriers I.M.G.s face during the cultural transition, we believe that focused training of I.M.G.s as they enter residency training will be a great initiative to enhance and sustain empathy in tomorrow's physician-workforce of the United States.

Traditional neurology clerkships do not provide a structured way for us to teach, evaluate and inculcate the virtue of empathy among our medical students while dealing

with various complex neurological conditions. To establish the need of training future professionals regarding empathy skills, while providing wholesome patient-centered care, we designed an innovative Objective Structured Clinical Evaluations (OSCEs) model as a part of neurology clerkship entitled as Empathetic Neurological Care (ENC) OSCEs, and we conducted a pilot study to compare empathy among A.M.G.s and I.M.G.s.

Methods

This study was approved by the Institutional Review Board (IRB) at the University of Missouri, Columbia, MO. A pilot study was conducted between six A.M.G.s and six I.M.G.s.

The ENC-OSCEs were developed by the clerkship director in consultation with experts in each neurological subspecialty. Four pilot OSCEs focusing on delivering bad news (A.L.S. diagnosis), counseling of non-epileptic seizure patients, counseling opioid use in headache patients, and disclosing medical errors (stroke) were chosen based on the variety and complexity of cases. Cases were built from real-life clinical encounters. The ENC OSCEs cases have been offered to both third (M3) and fourth (M4) year medical students (A.M.G.s) as a part of routine clerkship evaluation. We encouraged I.M.G.s who were working as clinical researchers in our department with a plan of residency training application to participate in the OSCEs to practice their clinical skills. Both A.M.G.s and I.M.G.s were blinded about the empathy evaluation to minimize the social desirability bias. Characteristics of the A.M.G.s and I.M.G.s are included in Supplementary file Table:1. All the participants were given handouts about the patient scenario and the expected checklist at the beginning of the clerkship. A didactic session focusing on patient-centered care was done, and the OSCEs were typically held in the middle of the clerkship just before the mid-block feedback. Participants were encouraged to practice with their peers by exchanging the roles as physicians/SP, and get the evaluation with constructive feedback from each other using the assessor checklists, including the empathetic statements and nonverbal empathetic expressions before actual OSCEs. Our emphasis with the OSCEs was for students to focus on demonstrating empathy and not on history and neurological exams, which were being taught and assessed by the traditional means. Once the OSCEs were built, the clerkship director trained the standardized patients (SPs) in different OSCE scenarios. Patients/families with these conditions were invited to talk with SPs to help with their role play. We trained four different standardized patients in all the OSCE scenarios and have used the four SPs throughout our OSCE encounters. SPs encountered and evaluated three

students each. Each session lasted for 15 min. Before the OSCE, both the A.M.G.s and I.M.G.s were given a checklist of items to discuss and a brief review of medical literature on their ENC-OSCE cases. The evaluations were collected from the Standardized patients (SPs) immediately after each encounter which were then compared for A.M.G.s v/s I.M.G.s.

Implementation Method

The Standardized patients (SPs) evaluated participants using the Jefferson Scale of Patient Perceptions of Physician Empathy (JSPPPE). The JSPPPE is a validated tool to measure empathy in the setting of medical education and patient-centered care. Each item answered on a 5-point likert scale (1 indicating “strongly disagree” and 5 indicating “strongly agree”).

The evaluation by SPs during the OSCEs was used for both formative and summative evaluation. The feedback from SPs was done immediately after the OSCE, and the comments from SPs were included in the faculty evaluation of the student. These comments have been a part of the student’s M.S.P.E.

Statistical Analysis

We performed this analysis to see the difference in Jefferson empathy score between A.M.G.s and I.M.G.s. We performed chi-square method for categorical variables and 2 sample t-test for continuous variables. All the analyses were done using Statistical Analysis Software (SAS) (Release: 3.8, Enterprise Edition).

Results

In our study, 12 students completed the OSCE. There were 6 students in the A.M.G. group and 6 in the I.M.G. group. The results are shown in Table: 1. There was not a statistically significant difference seen for age (29.7 ± 5.5 vs 24.5 ± 1.4) nor gender (50.0% vs 66.7%) between A.M.G.s and I.M.G.s. The A.M.G.s’ scores were significantly higher in empathy expression than I.M.G.s’ (110 ± 8.9 vs 81.7 ± 9.8 ; $P=0.0004$) graded by SPs using Jefferson Scale of Patient Perceptions of Physician Empathy (JSPPPE).

Discussion

Empathy in the clinical context is referred to as ‘clinical empathy,’ the term which expands beyond merely ‘being in someone’s shoes’ or ‘acknowledging feelings of others’, involving cognitive, emotive, behavioral, and moral domains.^{14,15} The cognitive attribute of empathy in contrast to sympathy (intense emotions) makes it a skill that can be learned, taught, and assessed.¹⁶ In a six-year longitudinal study of medical students in Japan, the targeted medical

Table 1: (Age, Gender and Empathy Comparison among AMG and IMG)

Variables	AMG	IMG	P-value
Total	6	6	
Age - mean \pm SD	29.7 \pm 5.5	24.5 \pm 1.4	0.0687
Male - number (%)	3(50.0%)	4(66.7%)	0.5582
Empathy -mean \pm SD	110 \pm 8.9	81.7 \pm 9.8	0.0004

education program with the emphasis on communication skills training for empathy development has been proven to improve the quality of patient care significantly.¹⁷ Engaging medical students in focused communication skills training has enhanced empathy in several other research studies.¹⁸ Medical professionalism will be fragmentary without empathy training.

Empathy in medical students represents the future of doctor-patient relationships and compassionate care during residency training and clinical practice.¹⁹ The curricular activity of the art of expressing clinical empathy towards the patients has been undervalued in medical education.²⁰ The primary emphasis of clerkship training used to be only on developing clinical thinking by achieving expertise in history taking and physical examination. Unfortunately, empathetic communication and rapport building are perceived as less important skills to learn than the medical students' clinical skills as they progress to the higher level of clinical training during medical school.²¹

The American Board of Internal Medicine (A.B.I.M.) has recommended the training of empathy and humanistic qualities as an integral part of graduate medical education during the first and second year of medical school.²² Most of the students swore by the Hippocratic Oath as they enter this noble profession of medicine with the goal to serve and ease human sufferings. In an empiric study conducted at the Jefferson medical school, Hojat et al. have reported that empathy among the medical students gradually declined as they proceeded to a higher level of medical education during medical school.²³ Results of the systemic review of 11 studies by Neumann et al.; to evaluate empathy in medical students has also demonstrated a significant decrease in empathy during medical school in 3 longitudinal and six cross-sectional studies.²⁴ Ironically, the need of empathy from physicians in training is crucial at the point of bed-to-bench transition during the third year when they interact with patients and their families. Redesigning the curriculum to change the focus of this training from the first two years to the last two years of training has been focused on the recent years. Also, understanding the underlying causes of the decline in medical student's empathy and addressing these issues is a crucial part of medical education. There is limited insight available regarding the factors responsible for this conflicting behavioral change during the transition

from pre-clinical years to clinical clerkships. As reported in the literature, distress in the form of burnout due to study and work overload, depression, low self-esteem, etc., is considered as a major cause of the empathy decline in medical students.^{25,26,27,28} Other reasons for lack of empathy in medical professionals include biographical experiences, personality traits, lack of role-models, improper learning environment, ill-treatment by superiors, and social support, etc.^{29,30,31,32,33} A survey was done to understand the medical student's perception of factors affecting empathy during medical education. The results showed that professional growth-promoting clinical experiences and mentoring were the topmost important medical students' factors rated by the medical students.³⁴

Medical students can thrive and learn to achieve clinical expertise but creating a strong and trustworthy doctor-patient relationship is an art every medical student must learn. As with the clinical skills, the 'use it or lose it' principle is also applicable to the medical professionalism attributes such as empathy. Medical students can be trained via lectures, simulations, discussions of video clips, reviews of their clinical encounters, experiential learning, focused empathy training, role-playing, creative arts, poetry writing, literature reviews, and dramas.²³ Some of the approaches tried by medical educators to reinforce and maintain the practice of empathy among undergraduate medical students have been found to be significantly effective.³⁵ Training and evaluating the medical students in providing holistic, patient-centered care during clerkships assures that what is learned in the classrooms will be translated into compassionate bedside care. In addition to succeeding in providing patient-centered care, physicians can also reap the benefits of practicing empathetic skills. Studies have shown a significant reduction in burnout, increased professional satisfaction, and well-being among those who express empathy in their practice.^{35,36,37}

With globalization in the modern era, physicians and patients from diverse ethnocultural backgrounds encounter with each other more frequently. Approximately 24% of residents and 26% of physicians from various specialties practicing in the United States are I.M.G.s.³⁸ International medical graduates face several communication barriers as they switch between different cultural environments. In a qualitative analysis of communication barriers perceived

by I.M.G.s, Dorgan et al. have reported two broad categories - education-related barriers and interpersonal barriers³⁹. Educational barriers include science-focused training without emphasizing the physician-patient communication and a lack of formal communication training. Interpersonal barriers entail unfamiliar dialects, new power dynamics, and different rapport-building expectations³⁹. Forming a substantial part of the U.S. physicians' workforce, I.M.G.s' training concerning empathy should be equally emphasized while adopting empathy enhancing interventions in the graduate medical education (G.M.E.) curriculum to optimize patient-centered care.

Several complex neurological conditions affect the quality of life of patients. Patients and their families rely on physicians to exchange information, decision-making, and emotional support during these tough periods of their lives. Breaking bad news such as diagnosing fatal diseases such as Amyotrophic Lateral Sclerosis, educating patients about their addiction to opioids, declaring the diagnosis of non-epileptic seizures, and disclosing medical errors, affect patients and families psychosocially. These challenging issues can significantly influence the doctor-patient relationship in either way. However, accepting these challenges as opportunities to express empathy can strengthen the doctor-patient relationships while providing patient-centered care. Learning and practicing how and when to provide empathetic care by communicating effectively, medical students can deal comfortably with real-life complex clinical scenarios in daily practice. With this philosophy, we designed the ENC-OSCEs specifically for complex neurological conditions.

The OSCEs are used for both formative and summative evaluation of the students. The feedback from the OSCEs (including feedback from standardized patients) will be a part of the medical school performance evaluation (M.S.P.E.). Our pilot study is a primer to show the impact of educational intervention during the neurology clerkship on SPs' perception of physician's empathy and the need of focused intervention strategies for I.M.G.s as they enter into neurology residency training in our institute.

We found that both M4s and M3s performed better than international graduates in terms of empathy scores as perceived by standardized patients. Student feedback on the ENC OSCE was highly positive, ranging from 'humbling experience' to 'highlight of clerkship.' Randomly chosen videos of different OSCE encounters were reviewed with patients and their families who have repeatedly validated its authenticity and its reflection of a real-life encounter, with some saying that they felt it was them as the SPs in the video. The school of medicine highlighted the opioid counseling OSCE as one of the educational tools being developed/

taught to students in combating opioid addiction/epidemic in its L.C.M.E. report. To our knowledge, our study is unique in the comparative evaluation of empathy among the A.M.G.s and I.M.G.s as perceived by standardized patients and scored on JSPPPE utilizing an innovative ENC-OSCEs model.

We believe that sustaining the skill of empathy or regaining the lost art of medicine during the practice is a challenging but certainly not impossible task for medical educators. The metamorphosis of medical students into compassionate physicians/caregivers can be achieved through focused training during their clerkship rotation.

Conclusion

As seen in our pilot study, A.M.G.s scored higher than I.M.G.s in empathy evaluation by SPs. We wish to highlight the importance of a designed curriculum to train and evaluate medical students during their clerkships to inculcate empathy as a professional skill while dealing with complex neurological conditions during neurology clerkship rotations. We also wish to highlight the need of empathy-building training as a part of the orientation program/residency curriculum explicitly addressing the needs of international medical graduates from diverse ethnocultural backgrounds.

Assessment of empathy by the standardized patients can serve as constructive feedback to the medical students and reinforce the practice of empathy as a second nature. Our ENC-OSCEs model may serve as a promising tool to improve the neurology patient experience.

Future Direction

Future large-scale studies are needed to validate Jefferson Scale of Patient Perceptions of Physician Empathy (JSPPPE) as a tool to evaluate empathy during medical encounters of complex neurological conditions. We intend to do a large-scale study to direct our attempts to enhance empathy among both A.M.G.s and I.M.G.s as they enter residency training and eventually the US-physician workforce. At our institute, the ENC-OSCEs will be offered to incoming neurology residents with constructive feedback as a part of their orientation. New OSCEs involving an end-of-life discussion with a patient who suffered a massive stroke, a telemedicine encounter with a chronic migraine patient, and counseling of a patient with Huntington's disease will be added to the ENC-OSCEs.

Limitations of the Study

We have conducted this pilot study with a small number of participants, and to establish the effectiveness of our intervention, we intend to do a large-scale study in

the future with more A.M.G.s and I.M.G.s. The drawback of empathy assessment during OSCE, as reported by Chen et al., may be a social desirability bias as the participants may exhibit the desired behavior pattern during these OSCEs. However, we tried to minimize this bias to some extent by blinding the participants about their empathy evaluation by SPs. We encouraged them to perform as in their routine clerkship OSCEs. There are several other factors other than formal training during medical school that attributes to low empathy among the I.M.G.s, such as language proficiency, personality traits, cultural upbringing, attitude, cultural competence, prior clinical and professional experiences in the United States etc. These factors are not addressed in our pilot study. Further study to investigate the factors affecting empathy among I.M.G.s is needed before future empathy training interventions.

List of abbreviations: Objective Structured Clinical Evaluations (OSCEs), Empathetic Neurological Care (ENC), American Medical Graduates (A.M.G.s), International Medical Graduates (I.M.G.s), Standardized Patients (SPs), *Amyotrophic Lateral Sclerosis (A.L.S.)*, Medical School Objectives Project (M.S.O.P.), Graduate Medical Education (G.M.E.), Jefferson Scale of Patient Perceptions of Physician Empathy (JSPPPE).

Declarations

- Ethics approval and consent to participate: This study was performed under the relevant guidelines and regulations of ethical principles and approved by the local ethics committee of the University of Missouri I.R.B.
- Consent for publication: Consent was obtained from the participants before submission for publication.
- Availability of data and materials: The datasets used during the current study are available from Mukaish Kumar (M.K) and Raghav Govindarajan (R.G) on reasonable request.
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- Authors' contributions: M.K and R.G involved in designing concepts, literature search, writing and in drafting the article. W.E performed the analytical calculations. All authors contributed to the final manuscript.

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Supplemental Material

Table S1: Baseline characteristics of AMG and IMG

No:	Age (Years)	Gender	IMG/AMG
1	23	F	IMG
2	24	F	IMG
3	24	M	IMG
4	27	M	IMG
5	25	M	IMG
6	24	M	IMG
7	28	M	AMG
8	25	M	AMG
9	40	M	AMG
10	26	F	AMG
11	31	F	AMG
12	28	F	AMG

Abbreviations:

F=Female, M=Male,

IMG= International Medical Graduates

AMG=AMG American Medical Graduates