Empathy in Medicine

Insights on the Nationwide Project in Osteopathic Medical Education and Empathy (POMEE)

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Financial Disclosures:
None reported.

Support: Funding for POMEE is provided by the American Association of Colleges of Osteopathic Medicine and the American Osteopathic Association.

Disclaimer: Dr Newton is a member of the POMEE Research Advisory Council. He emailed the questions to Drs Hojat, Calabrese, and Shannon. Their responses, as written and edited in this manuscript, were approved by the respondents. Dr Newton is the JAOA "Empathy in Medicine" section editor.

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Submitted
January 9, 2018;
revision received
February 15, 2018;
accepted
March 12, 2018.

Initial data from the first phase of a nationwide study of cognitive empathy, the Project in Osteopathic Medical Education and Empathy (POMEE), have been gathered. At the beginning of their first year of medical school, more than 6000 osteopathic medical students filled out the Jefferson Scale of Empathy. The POMEE principal investigator and co-investigators—Mohammadreza Hojat, PhD; Leonard H. Calabrese, DO; and Stephen C. Shannon, DO—responded to a series of questions posed by the author pertaining to the importance of POMEE and the impact the findings will have on educating osteopathic medical students. Continued success of this large-scale study will depend on the deans of the 41 participating osteopathic medical schools to continue to encourage student involvement in the study as they progress through their 4 years of undergraduate medical education. Study results will be disseminated via national and international meetings and professional journals.

J Am Osteopath Assoc. 2018;118(6):e28-e32. Published online April 30, 2018
doi:10.7556/jaoa.2018.076

Keywords: empathy, medical education

Recent single-institution, cross-sectional studies led by Calabrese et al,¹ Kimmelman et al,² and Newton and Vaskalis³ revealed that empathy scores of osteopathic medical students remain relatively stable during undergraduate medical education. These data led the American Association of Colleges of Osteopathic Medicine (AACOM), in collaboration with the Sidney Kimmel Medical College at Thomas Jefferson University and the Cleveland Clinic Lerner College of Medicine, with support from the American Osteopathic Association, to sponsor the nationwide Project in Osteopathic Medical Education and Empathy (POMEE). The goal of this large-scale study is to explore correlates and empathy variations in different years of medical school in a national sample of osteopathic medical students. These data will be used to develop national norm tables for the assessment of empathy scores of osteopathic medical students at different levels of medical education.

Study findings will improve our understanding of factors contributing to the development and erosion of empathy in physicians-in-training, with implications for the assessment and enhancement of empathy in osteopathic medical students. The Jefferson Scale of Empathy (JSE), a validated instrument developed specifically to measure empathy in the context of patient care, is used in the project.⁴ Mohammadreza Hojat, PhD, a research professor of psychiatry and human behavior at Thomas Jefferson University and

developer of the JSE, serves as the principal investigator; Leonard H. Calabrese, DO, a professor of medicine at the Cleveland Clinic, and Stephen C. Shannon, DO, MPH, president and CEO of AACOM, are principal co-investigators of POMEE.

This project is a 2-phased study with an initial cross-sectional phase and a second longitudinal phase. The first wave of data collection in the cross-sectional phase has been collected from a national sample of first-year matriculants to colleges of osteopathic medicine (COMs) who completed an online survey at the beginning of the 2017-2018 academic year. The second wave of cross-sectional data collection will begin at the end of the 2017-2018 academic year and will include a nationwide sample of all OMS I through OMS IV students. Contingent upon funding, the longitudinal phase of POMEE will start after completion of the cross-sectional phase.

Current Status of the Cross-Sectional Phase

The first wave of data collection for the cross-sectional phase of the study has been successfully completed. Forty-one of 44 COMs and their branch campuses/additional locations participated, and usable data for 6009 first-year osteopathic medical school matriculants are being analyzed. Response rates for 33 of 41 participating COMs (80%) were above 75%. Of all participating COMs, the median response rate was 92% and the mean was 85% (range, 33%-100%). Dr Hojat presented a brief report on the highlights of some of the preliminary findings in a closed meeting with research coordinators from participating colleges and members of the POMEE Research Advisory Council at the 2017 OMED conference in Philadelphia, Pennsylvania. Investigators are planning a broad dissemination of findings in professional journals, including *The Journal of the American Osteopathic Association*, and national and international meetings.

To provide the osteopathic medical profession with an update on the current status, future plans, and

importance of the project for osteopathic medical education, I interviewed the project leaders: Drs Hojat, Calabrese, and Shannon. My questions and responses from these leaders are provided.

Questions Addressed to Dr Hojat

Do you anticipate the longitudinal portion of POMEE will be initiated?

The current cross-sectional phase of the project will be completed in 2018. A longitudinal study of changes in empathy as the students progress through medical school, and factors associated with those changes, is planned after completion of the cross-sectional phase of the project, contingent upon availability of funding. The longitudinal study phase of the project will provide another unique opportunity to examine whether empathy erodes or enhances (and reasons for such changes) as students progress through medical school, and it will have important implications for the education of physicians-in-training.

How do you propose to further increase the response rate for the participating COMs?

We are very pleased with the response rate achieved in the initial wave of the cross-sectional phase of the project. To my knowledge, the response rate we achieved is unprecedented for a national study using an online survey. We must specifically acknowledge the important roles of the following groups in achieving such satisfactory response rates:

1. The research team at AACOM for their sincere efforts in publicizing the project, contacting deans of all COMs in the country, encouraging their participation in the project, and maintaining constant contact with research coordinators from participating COMs.
2. Deans of all participating COMs for sending messages to students, encouraging their participation in

- the study, and assigning committed faculty/administrators to serve as research coordinators.
3. Research coordinators of the participating COMs who served as liaisons between students and the research teams at AACOM and Thomas Jefferson University. These individuals play a crucial role in improving response rates by informing students about the project, sending us information about orientation/registration dates when students would be assembled in one place to take the survey, informing students about the project, scheduling survey administration dates, giving pertinent information to students on completing the online survey, and sending follow-up reminders to improve response rates.
 4. Osteopathic medical students who voluntarily and willingly participated in the project.
 5. The research team at Thomas Jefferson University, the headquarters of the project, in providing constant contact with research coordinators to inform them of the status of the response rates of their COMs and giving guidelines for survey administration and follow-up reminders to students.

We are thankful to all of these groups for supporting the initial phase of the project. With continuous help from these groups, we hope to achieve satisfactory response rates in the next wave—and the next phase—of the project.

Will associations between JSE scores and other variables be evaluated? If so, what variables will be examined?

We are performing statistical analyses to examine associations between empathy (JSE scores) and the following variables: age, gender, ethnicity/race, undergraduate major, employment in a health care setting prior to medical school, planned specialty, planned subspecialty, etc. We believe findings from POMEE will be of interest to all medical educators regardless of geographic areas or medical education systems.

Will POMEE provide you with the data needed to establish normative data and cutoff scores for the JSE? If so, can they be used worldwide?

We are planning to prepare national norm tables for students in US COMs who complete the study survey at the beginning of medical school, before their formal medical education, and at the end of the first through fourth years of medical school. To my knowledge, such national norm data will be the first and only national norms of a personality attribute (such as empathy) for the assessment of individual scores (percentile rank) in medical students.

For determining cutoff scores, we need additional data on the assessments of students' clinical competence to be used as criterion measures for determining score points below which a student would be considered at a high risk of failing or in the grey zone of marginal competence.

My response to whether national norm tables (or cutoff scores) can be used worldwide is that despite the fact that the JSE has been translated into 56 languages and used in more than 80 countries, national norms data (or cutoff scores) should be developed and used in a defined target population who participated in the norm development study. Thus, our national norm tables for the population of osteopathic medical students can be used only for that population in the United States. We do not even recommend using those national norm tables for the assessment of empathy scores of medical students in US allopathic medical schools. I hope that in the future, norm tables could become available for students and practitioners in all health care professions in the United States and abroad.

Questions Addressed to Dr Calabrese

What do you believe are the implications of the initial POMEE study findings on the current education of osteopathic medical students?

I look at POMEE as the beginning of the osteopathic medical profession's serious study on the role of

empathy in health care. Although there have been a number of smaller studies examining various facets of empathy in COMs, POMEE is unique because it is so broad in scope and penetrates across the COM landscape. At a minimum, and by virtue of the fact that it will create the largest biorepository of information on empathy in medical school education of any kind, it highlights the osteopathic medical profession's commitment to investigating all facets of empathy in health care. As the results of the study are shared with osteopathic medical students, I believe it will generate new and innovative initiatives to grow and maintain empathy in COMs, with students leading the way through projects focused on empathy and its implications for patient care.

How can the POMEE data be used to enhance the empathy of osteopathic physicians who are in residency training?

Once there is a better sense of the empathy profile in undergraduate medical education, we will have a starting point for examining the same variable (ie, empathy) in graduate medical education. I am hopeful that POMEE will ignite new interest in this area of research to examine how empathy can have a positive influence on the experiences of both patients and health care professionals.

Do you believe POMEE will have an impact on allopathic medical schools? For example, could it show the need for empathy training to establish empathic bonds of trust with patients?

I would like to emphasize that there is no intention of POMEE to demonstrate a difference or even a superiority of empathy in the osteopathic vs the allopathic profession. Our goal is to contribute substantially to the current and future understanding of the role of empathy in all of health care. If we learn positive lessons from POMEE, then we will gladly share them with all health care professionals.

Questions Addressed to Dr Shannon

What do you believe are the 2 most important aspects of POMEE that can contribute to the enhancement of osteopathic medical education?

The cross-sectional measure of empathy of nearly all osteopathic medical students will enhance our understanding of the variables associated with a baseline empathy level and subsequent changes in the empathy level of students. It will also inform individual COMs of the differential impact their training curriculum and clinical education environment may have on the measure of empathy of their students as they progress through the curriculum.

The proposed longitudinal aspect of POMEE, by which we can follow individuals through their osteopathic medical education experience, will provide data to gauge which underlying factors or experiences might affect student empathy during their 4 years of training.

Will the POMEE data be a catalyst for either initiating or increasing empathy training in undergraduate medical education?

Yes, we believe the data will enable assessment of several factors influencing student empathy and enable interventions designed to either enhance empathy or offset the loss of empathy.

What do faculty members have to do to support or enhance the empathic communication skills of their students?

Faculty will need to be educated on the factors affecting empathy of individual students and assess their curriculum and learning environment to support this aspect of the characteristics of their students. Methods to teach communication skills and other aspects of professionalism, team-based care, and resilience can be incorporated into the curriculum as appropriate.

Conclusion

From the responses garnered above, POMEE aims to enhance the understanding of empathy in the osteopathic medical profession. The data will provide the information needed to form a national norm table and produce cutoff scores for US osteopathic matriculants, as well as provide educators of these students the information needed to gauge their empathic abilities. The interview responses reveal that the overarching intent of POMEE is that the results will be the nidus for educators to enhance osteopathic medical student communication abilities and resilience so that students can better form empathic bonds of trust with their patients. Concurrently, COM faculty will have the data needed to heighten student understanding of empathy and to emphasize the importance of establishing those empathic bonds of trust.

The first wave of data collection on entering first-year osteopathic medical students was highly successful owing to the efforts of those acknowledged by Dr Hojat. The continued support of the deans and POMEE liaisons will help ensure that the spirit of volunteerism shown by the first-year osteopathic medical students will also be reflected in the response rates from second- through fourth-year osteopathic medical students for future waves of data collection. Their continued participation is vital to the success of POMEE.

Acknowledgments

I thank Drs Hojat, Calabrese, and Shannon for their time and insights into the importance of POMEE.

References

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Editor's Note: For additional information and updates about POMEE, please visit the following websites:

- https://www.aacom.org/news-and-events/news-detail/2017/08/01/080117_empathy
- <https://www.aacom.org/reports-programs-initiatives/initiatives/empathy-project>
- <https://www.jefferson.edu/university/news/2017/08/01/aacom-launches-study-on-medical-student-empathy-with-jefferson.html>