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

Keywords: empathy, medical education

Recent single-institution, cross-sectional studies led by Calabrese et al., Kimmelman et al., and Newton and Vaskalis 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. 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/adminis-
trators 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 infor-
mation 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 stu-
dents 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 (per-
centile rank) in medical students.

For determining cutoff scores, we need additional
data on the assessments of students’ clinical compe-
tence to be used as criterion measures for determining
score points below which a student would be consid-
ered at a high risk of failing or in the grey zone of mar-
ginal 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 lan-
guages 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 stu-
dents 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.

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

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References


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

- https://www.aacom.org/reports-programs-initiatives/initiatives/empathy-project