Letter to the Editor

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Fostering a research culture in osteopathic medical education

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To the Editor,

After reading the published article “Barriers to Research Opportunities Among Osteopathic Medical Students” [1] in the February 2023 issue of the Journal of Osteopathic Medicine, we would like to share comments on this timely study.

The study reveals that US osteopathic medical students have fewer research experiences compared to their allopathic counterparts, with the main barriers identified as lack of time, feeling overwhelmed, uncertainty about how to start, and limited access to resources. Among the students surveyed, 34.7% (232) reported a lack of access to resources or uncertainty about their availability. Furthermore, 86.9% (344) of respondents not currently involved in research expressed a strong interest in pursuing it, indicating a desire to engage in research. The study’s striking results reveal significant barriers that may explain why fewer research experiences were reported by matched vs. unmatched osteopathic medical students compared to their allopathic counterparts in matched and unmatched categories [2, 3]. The authors acknowledge and appreciate these barriers and would like to add factors that make research more challenging in the osteopathic medical curriculum, particularly for founding faculty, along with suggestions for eliminating these barriers and fostering a research culture in the colleges of osteopathic medicine (COMs).

Osteopathic medical students face significant barriers to research opportunities, including a lack of time and resources. These barriers extend throughout the osteopathic medical journey, including a gap in NIH R01 grant funding reported [4]. Several factors may explain this disparity. As a result of changes in the Comprehensive Osteopathic Medical Licensing Examination of the United States (COMLEX-USA) grading and advancements in healthcare practice outpacing those in the classroom, medical educators are continually involved in curriculum improvement. In addition, with the rapid increase in the number of osteopathic medical schools in the United States [5, 6], founding faculty in these programs often need to spend significant amounts of time designing, developing, and delivering new curricula, thus limiting the availability of research opportunities for students. The ongoing demands of curricular development may also contribute to stress, burnout, and decreased vitality for osteopathic faculty, making it even more challenging to conduct research [7]. With osteopathic and allopathic first-year medical students reporting similar undergraduate research experiences [8], unique aspects of the osteopathic medical curriculum create and widen this gap that must be explored and better understood.

Osteopathic medical students typically have a heavy course load, numerous curricular and extracurricular commitments, and service activities related to the school’s mission, making it challenging to find time to pursue research [9]. In addition to the demanding medical school curriculum, osteopathic medical students must complete more than 200 h of osteopathic manipulative treatment (OMT) compared to allopathic students who do not have OMT or an equivalent curricular requirement [5]. The majority of osteopathic students study for and take the United States Medical Licensing Examination (USMLE) examinations, although they are not required, along with the required COMLEX-USA examinations to help improve match opportunities. In the National Resident Matching Program (NRMP) report, only 31.9% of Doctor of Osteopathic Medicine (DO) seniors in the 2023 match did not report USMLE Step 1 scores, which requires more time for preparation in the preclinical and clinical years [10]. These time constraints and commitments can impede their ability to engage in research activities, leading to missed opportunities for skill...
building, networking, and learning about the available resources to support research. Another barrier is that many academic faculty with research experience are usually trained in highly molecular bench research, which may be far removed from patient/clinical care and less relevant and interesting to osteopathic medical students [11]. Lastly, the gap in NIH grant funding for research and the lack of research infrastructure impact the research exposure and training that osteopathic physicians and faculty receive, which is more likely to affect the research culture in these programs [12]. Research can serve as a valuable professional pursuit for physicians at any point in their career, including osteopathic medical students, because it showcases the ongoing dedication to the medical field and the ability to create impactful contributions. Despite the American Osteopathic Association requiring all COMs to commit to research and scholarly activities, almost half of the osteopathic graduates reported an insufficient amount of time devoted to research during medical school [13]. In a survey of first-year osteopathic medical students, Nguyen et al. [13] found that 96.0% (315) of students understood the benefits of research in their future career development and were interested in participating in research, but 88.1% (289) of participants believed that research, in addition to curricular and extracurricular activities, would hinder their coursework performance [13]. Additionally, research has been identified as critical in keeping the profession alive and closing the gap between osteopathic and allopathic contributions to the scientific literature [14].

Osteopathic medical students can undertake several types of research, given their competing priorities, such as medical education research, case reports, literature reviews, surveys, utilizing data banks or biological banks, and meta-analyses [13]. Medical education research offers constructive insights into teaching and learning, integrates pedagogical development and innovation with curriculum improvement, and is expected to take less time than most clinical or bench research, making it a feasible option for osteopathic medical students with time constraints. A survey of 38 COMs found that nearly all of them provided a research symposium, similar event, or fourth-year research elective rotations [15]. The study also found that only 14 had mandatory research requirements, 20 had service research projects (SRPs), and osteopathic medical students worked predominantly in the summer, with an average of 4–10 weeks of dedicated time [15]. Osteopathic medical students may also consider taking a research year to dedicate more time to research, especially for students considering a research-heavy and competitive medical specialty. These exposures can help differentiate osteopathic medical students from other candidates during residency application [5].

We propose suggestions for eliminating these barriers, including increasing access to research awareness, encouraging scholarly activities led by DOs, identifying research resources, and increasing faculty development support and early mentorship to expand research opportunities. This includes an emphasis on funding, training, and support for all DO-led research, not simply research focused on osteopathic medicine. To encourage research participation, COMs could consider devoting more protected time in the curriculum to research and scholarly activities, implementing a pass-fail grading system, increasing research funding and infrastructure for DO-led research, and recruiting research faculty [13]. Studies also suggest that COMs can begin eliminating these barriers by: (1) investing in faculty with clear expectations and accountability for research productivity; (2) fostering a research culture, specifically the values, beliefs, and behaviors about research; (3) increasing instruction in research methodology and student mentoring; and (4) developing comprehensive research accreditation standards [16]. COMs must begin by recognizing the importance of cultivating a research culture as an investment in our future. The larger osteopathic community must engage in introspection to determine who we are as researchers, what type of research is important to us, and what our perceptions are about implementing research at the individual, leadership, and institutional levels. Additionally, COMs should recruit and retain enough professional clinician-researchers or clinician-scientists and support formal research training and mentorship for clinical faculty and students. This may improve the research impact through access to larger, more competitive grants and publications in high-impact journals. Studies have found that as the size of the full-time faculty increases at COMs and there is adequate support in teaching, service, and administration, a productive research program and culture can be realized [17]. COMs can also increase their reach by promoting research on social media, displaying research papers and posters on their websites and campus, and emphasizing research events as ways of fostering a research culture.

This study sheds light on the unique challenges faced by osteopathic medical students in pursuing research opportunities. We hope it serves as a catalyst for future research and prompts COMs to provide more support and opportunities for osteopathic medical students interested in research and more faculty recruitment, training, and funding to support this.

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