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Independent Study Projects

Title

“Introduction to Osteopathic Medicine” - Osteopathic Principles and Practice

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ABSTRACT

Background. As the medical system shifts toward team-based approaches to patient care, it has become increasingly important for M.D. physicians to understand the intricacies of how different healthcare providers practice. Osteopathic medicine, a practice distinct from allopathic medicine in its philosophy of healthcare as well as the practice of osteopathic manipulative treatment (OMT), is increasing in popularity among patients and practitioners. Practicing the osteopathic core belief that each individual is the delicate balance of mind, body, and spirit, D.O. physicians approach patient care with the understanding that the human body is capable of health maintenance through homeostatic pathways. Through manual manipulation of the body’s tissues with OMT, practitioners of osteopathic manipulative medicine (OMM) serve to bring balance to the body. This balance strives to promote the body’s natural healing mechanisms. The following Independent Study Project (ISP) aims to expose M.D. students to the philosophy behind and principles of osteopathic medicine. **Methods.** The process of creating a preclinical elective involved research regarding osteopathic medical philosophy, techniques, and published studies prior to developing a curriculum consisting of didactic, hands-on teaching, and clinical shadowing sessions. The student who developed this project further performed in an administrative role by recruiting preceptors, proposing the course to the Electives Committee, recruiting students, and organizing course proceedings during the Winter Quarter 2017 at UC San Diego School of Medicine. Enrolled student qualitative assessments of the course were gathered and compiled such that future iterations of the elective would incorporate changes that reflect student feedback. **Results.** Three first year medical students enrolled in the course entitled “Introduction to Osteopathic Medicine” – Osteopathic Principles and Practice during the Winter 2017 Quarter. All students completed the required coursework and were assessed to have fulfilled the learned objectives. Recurrent themes from the subjective student feedback demonstrated gratitude for the availability of osteopathic medicine exposure during the preclinical years and the enhanced understanding of the role of touch in clinical encounters. All of the students also expressed a desire for more hands-on training and more directed learning of specific OMT techniques. **Conclusion.** The proposed ISP was successfully executed as outlined with the creation of a preclinical elective in osteopathic medicine offered at the UCSD School of Medicine during Winter Quarter 2017. Further,

the results from this pilot course will be presented at a national conference on osteopathic medicine in Spring 2017, thus completing an additional objective outlined in the proposal. This course will continue to be offered with the assistance of a medical school representative who has already been identified for the following year. Future iterations of this course will be modified based on student feedback, and the use of surveys to quantitatively gather data on student progress and satisfaction has been proposed.

DESCRIPTION

The goal of this project was to develop an educational elective made available to first and second year students at the UCSD School of Medicine. Didactic teaching sessions were used to describe the philosophy behind osteopathy, to convey the principles behind osteopathic medicine, and to teach the evolution of D.O. practice from its founding to its role in modern medical treatment. A hands-on directed teaching session was used to demonstrate and subsequently instruct basic OMT techniques, including the osteopathic physical exam. Specific exam and treatment techniques were tailored to student interest during the instructional session, including specific osteopathic treatments for obstetrical patients. Students then partook in clinical shadowing sessions, where they were introduced to the diverse roles of osteopathic therapies in patient health and wellness. The clinical exposures allowed for better understanding of treatment options for patients with chronic pain, orthopedic injuries, neurologic problems, and visceral organ complaints. The students finished this course by completed a reflection paper. Responses, details of which are included in this report, contained descriptions of their experiences in learning OMM, being exposed to the diverse applications of osteopathic medical practice, and their impressions of the osteopathic philosophy. The students were also asked to complete a questionnaire following the course, details of which are included in the Appendix of this report. Responses to the questionnaire are included in Results.

By taking this course, preclinical M.D. students were exposed to an alternative treatment modality that may benefit their future patients and were able to witness the diverse role of osteopathic therapies in patient health and wellness. Students were also able to lay the foundation for professional relationships between themselves and future D.O. colleagues.

RATIONALE

The rationale for creating, developing, and instructing the preclinical elective “Introduction to Osteopathic Medicine” – Osteopathic Principles and Practice is multifaceted. First, my committee and I wished to increase the exposure to osteopathic medicine in the preclinical years for UCSD School of Medicine students. The principles of osteopathic medicine and interactions with osteopathic medical providers were limited in the preclinical years prior to the development of this course. While UCSD School of Medicine certainly encourages holistic patient-centered care through the Practice of Medicine course, including covering the role medication supplements may have in healthcare, the preclinical curriculum did not include exposure to osteopathic treatment modalities such as OMT. The rationale of creating this elective was to allow students to become better

informed of the specific osteopathic treatments available to patients in a variety of different clinical settings.

Second, this project aimed to teach M.D. students information relevant to their future careers in medicine. As many medical systems shift toward team-based approaches to patient care, it has become increasingly important for M.D. physicians to understand the intricacies of how different healthcare providers practice. Physicians must be aware of the components necessary for holistic patient care and how this care is available through various providers, including social workers, physical therapists, case managers, etc. As increasing numbers of studies are published on the role of acupuncture, massage therapy, and osteopathic manipulative treatment, these modalities will only become more relevant to patient needs. This course aimed to educate preclinical medical students on osteopathic principles, such that they could speak intelligently to patients already receiving OMM and to recognize when referral for OMM would be appropriate for future patients. Understanding the role OMM can play in medical treatment and being informed on the principles behind the modality will allow these students to have more productive conversations and consults with D.O. colleagues. Further, the introduction to osteopathic manipulative treatment techniques may spike student interest in these modalities such that, after additionally training, they may provide OMM therapies to their patients directly in the future.

Finally, this course was to serve as a pilot project – the first preclinical elective offered at UCSD School of Medicine to increase student comfort with the principles of OMM. The innovation of this course has impact across the country, as this elective at UCSD School of Medicine is the first and only preclinical elective on osteopathic medicine offered in United States M.D. schools to the author's knowledge.

EXECUTION

This Independent Study Project was created, designed, proposed, and executed during the time frame set forth in the proposal. The following steps were performed to achieve the successful completion of this UCSD School of Medicine course.

At the onset, the intricacies of the principles and practice of osteopathic medicine were researched to better understand this medical field. Research included, but was not limited to, the historical context of osteopathic medicine's founding, the core philosophical basis of osteopathic medicine, and the published studies demonstrating efficacy of osteopathic manipulative treatment. Student research also included the basic techniques of OMT, with an emphasis placed on palpatory skills to identify different tissue layers, cranial nerve manipulative medicine, and the full osteopathic diagnostic exam.

Once research covering the above topics was complete, I worked with my advisors to develop a curriculum that would balance didactic learning and clinical shadowing experiences. After deciding that hands-on training sessions would be most beneficial to the practical understanding of osteopathic medicine and the utility of OMT in patient care, I developed and proposed a schedule for the course. I decided to include two introductory

didactic sessions that consisted largely of lecture, one hands-on session during which osteopathic preceptors instructed M.D. students on basic diagnostic and treatment techniques, followed by three afternoon sessions with osteopathic preceptors in various fields, and concluding with a reflection session covering the course and what the students learned. Using this structure, I created a syllabus that outlined the course objectives, schedule, and readings.

With the help of my osteopathic preceptors, I identified D.O. providers in the San Diego area who use OMM in their daily medical practices. For this initial class, we focused on recruiting preceptors in the fields of family medicine (with a focus on neurology), orthopedics/sports medicine, and pain management. I contacted these providers regarding their willingness to have students shadow during afternoon clinics, and obtained their schedules so I may arrange student sessions.

After researching osteopathic medicine, developing a curriculum, and recruiting preceptors, I proposed the elective to the Electives Committee in Fall 2016. The proposal included forms outlining the credit hours of the course and detailing the reading requirements, time in didactic sessions, and time in clinical shadowing sessions. It also included a formal syllabus. I completed these forms within the time frame allotted, and the elective was approved for Winter Quarter 2017. Once approved, I organized the logistics for the course, including ensuring the course would be available through OASIS so that students may enroll. I also functioned in an administrative capacity, including reserving rooms for the Winter Quarter.

The next step was to promote the course. I reached out to the Integrative Medicine interest group and was permitted to advertise the course's pilot year. I also advertised the course to students in the first and second year classes through email notifications. I offered to hold information sessions regarding the elective, and included my contact information such that students could reach me directly.

During Winter Quarter 2017, three first year medical students enrolled in the course. I served in an administrative capacity by scheduling these students for their clinical sessions, providing weekly reminders of room assignment changes, and sending the required reading electronically. I also created and subsequently gave one lecture on each of the didactic days, with a focus on ensuring appropriate representation of current D.O. practice for the training level of the target audience.

The curriculum, structure, and results of this course will be presented at the official national conference on osteopathic medicine in Spring 2017, detailing the success of its implementation and the ability to include osteopathic principles in M.D. training.

RESULTS

The termination point of this Independent Study Project was achieved, as the elective entitled "Introduction to Osteopathic Medicine" – Osteopathic Principles and Practice was created and is available to preclinical medical students at UCSD School of Medicine. As

the student executing this ISP, I successfully researched osteopathic medicine, created a course curriculum, proposed the material to the Electives Committee, and implemented the course during Winter Quarter 2017. Three first year medical students at UCSD School of Medicine enrolled in the course. This elective provided the students enrolled with background knowledge of osteopathic medicine, the knowledge of D.O. medicine's role in modern medical practice, and a variety of clinical shadowing experiences.

Included in this section is the feedback of the enrolled students regarding the pilot execution of this course.

In general, all completed the learning objectives outlined in the syllabus and felt grateful that this class was introduced in M.D. medical school. As written by one student, "I was very happy to know that I could still get some exposure to OMM in my MD training". All students reported they better understood the value of touch and how it is used in the clinical setting, expressed by one student as "the power of touch was a key aspect of healing that I was able to appreciate in my study of OMM". This student continued by writing "the doctor's hands were trained to listen to the body and allow the body to guide them towards the sites in need of healing".

When asked to recommend improvements to future course offerings, many felt they would have appreciated more hands-on learning of osteopathic manipulation techniques. Universally, the students expressed how valuable the hands-on training was, and very much enjoyed having the clinical year D.O. students instruct at the session. This is where they felt they received a "broader understanding of osteopathy and how it might be integrated into [their] future practice of medicine" after further training. Most students expressed they were not able to fully understand the use of particular manipulative techniques or manual diagnostics in the clinical shadowing sessions due to inadequate hands-on time. Based on their responses, all would have appreciated more practice with osteopathic techniques.

Students also valued the discussion regarding research publications on osteopathic medicine, and reported having the opportunity to discuss a publication would have been helpful in understanding the applications of OMT in medicine.

All of the students had interacted with D.O. providers in some way prior to taking this course. As such, most denied a significant change in their perceptions of D.O. physicians due to this class. However, one student noted he "did not know how osteopathic manipulation was incorporated into clinical practice until shadowing osteopathic physicians through this elective". This statement demonstrated that the course provided him with more understanding of the practical application of osteopathic medicine. Another student mentioned that "D.O.s placed less of an emphasis on a solution to a problem and more on a journey to better health", a sentiment the other students echoed in regards to the osteopathic focus on the path to whole-person wellness. These factors contributed to positive perceptions of D.O. providers and the role they play in patient care.

The students were asked to describe how taking this course has influenced their view of their future medical practices. First, all expressed they wished to receive more training on OMT so they could more completely use their hands for both diagnostic and treatment purposes. One student said that the clinical sessions demonstrated “the idea of using your hands as diagnostic tools” and expressed how he hopes to “built [his] skills of using [his] hands to feel physical abnormalities”. Another student will even be taking a summer cranial manipulation course, and wishes to expand this preclinical elective to involve longitudinal osteopathic training. The three students also recognized the power of touch in clinical relationships, noting “how important [touch is] for the physician and student to connect with the patient”. Secondly, all felt they knew more about what D.O. providers could offer in patient care, and felt they could “give patients options for care that are different from a prescription or procedure” by making more informed referrals and understanding the role of osteopathic providers in different fields of medicine. As described by one student, “I have a better understanding of what osteopathic medicine can bring as I refer patients in the future” and “I will...be much more clear and confident of referring patients to osteopathic physicians”.

Most of all, the students described how the philosophy behind osteopathic medicine, particularly the core principle that the patient is a seamless connection of mind, body, and spirit, has influenced how they wish to practice medicine in the future. One wrote “I will...try to keep at the center of my practice that people have powerful minds and bodies and spirits that can help in their own healing”, and expressed he “hope[s] to take into account what [his] patient’s physical, emotional, intellectual, spiritual bodies are experiencing to help them heal more completely”. Another student mentioned that “the osteopathic approach provides a way to connect with patients in a way that focuses on wellness”, and how he felt the shadowing experiences reminded him of his “goal to facilitate well-being in patients, to empower them to take control of their health”.

As mentioned above, the execution and results from this pilot course will be presented at the official national conference on osteopathic medicine in Spring 2017. Thus, the objective outlined in the proposal for this Independent Study Project which stated “pending the timing of the elective’s successful completion, I would like to consider application to national conference regarding the incorporation of OMM into M.D. education”, was achieved.

REFLECTION

Creating, designing, and implementing this Independent Study Project has been a particularly important milestone in further nurturing my self-directly learning. The ability to develop the idea for this course, and to be allotted the independence to form the curriculum and create lectures, was extremely valuable. Further, as someone who hopes to work in curriculum development for residency programs in the future, I found this project particularly useful in learning to navigate the administrative side of coursework.

My interest in creating a course focused on teaching osteopathic medicine to preclinical medical students stemmed from my growing interest in integrative medicine during my

time at UCSD. I was surprised to discover there were no preclinical electives available to students interested in learning more about osteopathic medicine, particularly since fields such as Family Medicine and Internal Medicine often work with D.O. colleagues. With my passion for education, I thought it important to foster student interest earlier in their careers. This is why I approached my D.O. mentors and proposed this course, and I was fortunate to have their full support in the endeavor.

In the spirit of the Independent Study Project, my committee members allowed for independent creativity under their supervision. This independence allowed me to take the primary role in developing the curriculum for the course, proposing the syllabus and course materials to the Electives Committee, and orchestrating course proceedings when it was available for enrollment. I also created and then delivered one lecture at each didactic session, and my performance in these lectures was reviewed by members of my committee. The many steps required to execute this project, all while being conscious of multiple deadlines, required extensive self-directed organization. I find that this process was especially useful given my desire to work in academic medicine directing curriculum development in the future.

Beyond the experience I have gained through creating, designing, and instructing this course, I have also learned a great deal about osteopathic medical practice. I was able to obtain a more in-depth understanding of OMM – including the history, philosophy, supporting data, and manipulative techniques of osteopathic medicine. I developed mentorship and professional connections that will serve me as I move into a career as a M.D. who intends to work closely with integrative medicine colleagues. Further, I feel I have become more clinically astute in regards to the options available to patients. Through executing this Independent Study Project, I have nurtured a greater compassion for the needs of my patients and the community at large.

Regarding the future of this course and how it may improve in the following years, I have included a few recommendations based on student feedback. First, I will discuss how I believe the didactic sessions may be improved. I believe the first session should include not only a review of the syllabus and course requirements, an overview of the four core principles of osteopathic medicine, and a lecture on osteopathic research, but also include a lecture on touch and the role in healing. These lectures would prepare students well for the second main didactic session, which would continue to have a focus on the history of osteopathic medicine and the practice in present day. I recommend the second session also include an introduction to the osteopathic physical exam and some specialty testing. By incorporating these teachings into didactic sessions, the students will be better prepared for the hands-on session. As the students will have greater preparation through the didactic sessions, the hands-on session could then include more specifics about particular maneuvers they would see in clinic. Time allowing, having students experience OMT performed on them would be beneficial; this recommendation was mentioned by a student who had a manipulation in clinic, stating “it was helpful for my understanding to actually be manipulated on while being talked through the techniques being used”. According to another student, “I would have appreciated the shadowing experiences more if I knew more about the rationale and theory behind the osteopathic manipulations”. I

believe incorporating these changes would better prepare the students for clinical sessions.

Second, once this course is established in the curriculum and D.O. practitioners in the community see the desire of M.D. students to learn osteopathic principles, I believe the students would benefit from greater exposure to OMM used in different medical specialties. It should also be emphasized to the preceptors that verbalizing the specifics of OMT maneuvers while performing them is beneficial for student learning.

Finally, administering a survey during the first and last sessions would allow those conducting the course to quantitatively measure student learning. The survey should include, but is not necessarily limited to, the following concepts: questions pertaining to OMM, the students' perceived comfort discussing osteopathic medicine with patients and colleagues, student understanding of the role of osteopathy in modern medicine, and student interest level in pursuing more training in OMT. This survey would allow compilation of data that could further be presented at conferences. Based on the qualitative results from the pilot course, the survey data will likely show the positive effect of teaching osteopathic medicine to M.D. students and hopefully encourage other M.D. programs to implement similar coursework.

APPENDIX

The below post-course questionnaire was administered to the three enrolled students during the Winter 2017 Quarter.

1. What was the most enjoyable part of this course for you?
2. Did you dislike anything about this course? If so, please describe.
3. Is there anything you would have liked to see more of in this course? Any suggestions for improvement?
4. What do you think is the most useful thing you learned in the course?
5. In what ways, if any, did your perception of D.O. providers change due to this course?
6. In what ways, if any, did your view of your future personal medical practice change due to this course?