

Early Clinical Exposure Improves Medical Students Performance in Rotations



College of
Osteopathic
Medicine

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Abstract

During dedicated didactic years of medical school, students routinely learn the pathophysiology of specific diseases and how these diseases are generally managed or treated. However, students often do not receive sufficient hands on, clinical training to instill confidence when clinical rotations start. At the New York Institute of Technology College of Osteopathic Medicine (NYITCOM) students and faculty have partnered to help address this persistent issue in medical education. The student run, faculty advised free clinic is available to students starting in their first year and becomes the clinical bridge between didactic and clinical education. Operating a clinic augments pre-clinical education with opportunities to gain necessary skills not offered in the classroom such as performing histories and physical exams, managing chronic conditions, and electronic medical record documentation. In this setting students are at the forefront of collaborative decision making while exercising critical thinking skills by formulating diagnosis and effective treatment plans for their patients.

Hypothesis

Medical students with prior clinical experience will have greater confidence in performing clinical skills and will be better prepared for their medical school clinical rotations compared to students with no prior clinical experience.

Introduction

Traditional medical school curriculum is divided into two general halves: the pre clinical years and the clinical years. The first half is primarily devoted to learning anatomy and physiology and the basic sciences. The second half is primarily devoted to combining the science and clinical theory taught in the first two years and implementing that knowledge in order to provide care for patients while on clinical rotations. In many schools, as it is at NYITCOM, there is little or no exposure to real clinical scenarios during the first half of schooling. This prevents students from being able to efficiently and effectively incorporate what they learn in the classroom with performing clinical skills required of them in an actual health care setting. A recurring request amongst students at NYITCOM is to have access to some degree of clinical exposure during the first two years of school. Anecdotally, we have found that students who have some degree of clinical experience prior to starting medical school (Emergency Medical Technician, Scribe, Nursing Assistant, etc.) reported feeling more comfortable in the hospital, more confident in performing required clinical tasks, and overall had more educationally valuable rotations as a result of their prior clinical experiences. Conversely, students without prior experience reported feeling underprepared for the clinical environment they were placed in to and as a result their rotations were not as educationally valuable as they could have been. We believe that the NYIT Community Free Clinic (NYIT CFC) can provide the much sought after clinical experience that our students are requesting. By allowing students to supplement the classroom learning with clinical learning the NYIT CFC can help our students fully appreciate and understand various diseases and ailments. Our clinic visits to date have exposed our students a wide array of complaints that they will be seeing in the hospital and clinic setting (Figure 1). Ultimately, our students can and will perform better on rotations than their contemporaries who lack that crucial bridge that provides a fully incorporated medical education.

Previous Research

While there have been studies that explore the effect of clinical experience, such as a student run clinic, on the first two years of medical school, the authors of this work have been unable to locate any studies describing the outcomes of clinical exposure on student performance and experience during their clinical rotations. However, we can extrapolate the anticipated benefit to clinical rotations based on findings we have seen in previous studies. One such study performed by the Wayne State University School of Medicine showed that despite no statistically significant difference in the end of year objective structure clinical exam for first-year students, volunteers at their clinic had a better understanding of the needs required to treat an uninsured and underserved patient population¹. A second study by the University of Nevada School of Medicine found that their students encountered diagnoses and prescribed medications that closely aligned with the education points of the first two years of their curriculum. The authors also found that the top diagnoses were similar to the top 20 reported in U.S. family medicine practice². As an osteopathic school with a focus on primary care, we are excited with the possibility of our students helping to treat these diseases early on in their medical education. The findings of these studies and others like them highlight the beneficial outcomes of a student run clinic. Additionally, they leave a research void on the longer term sequelae of student run clinic participation that the authors of this work are happy to fill.

Visit Reasons (Our Clinic)

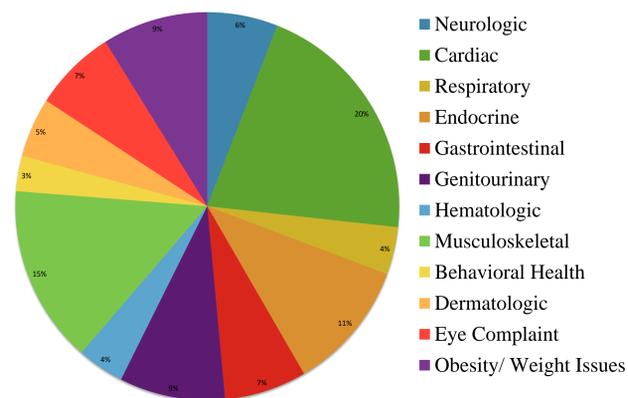


Figure 1

Visit Reasons (In the U.S.)

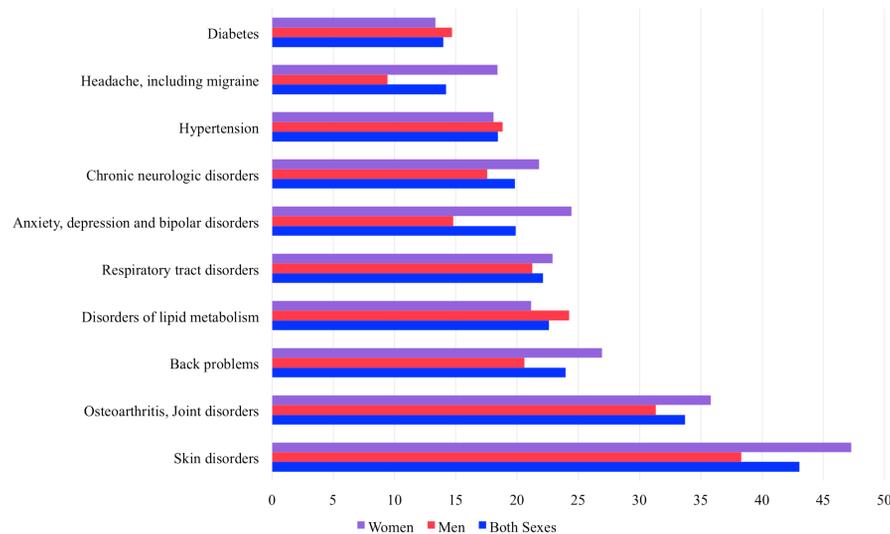


Figure 2³

Clinic Roles and Services Offered

Roles	Services
Front Desk	Well Visits/Acute Care
Scribe	Specialty Referral
Vitals	Imaging & Lab Referral
History and Physical	In-Office Lab Testing
Attending Physician	BP & BGL Screening
Clinic Manager	Gynecological Exam

Figure 3

Clinic Flow

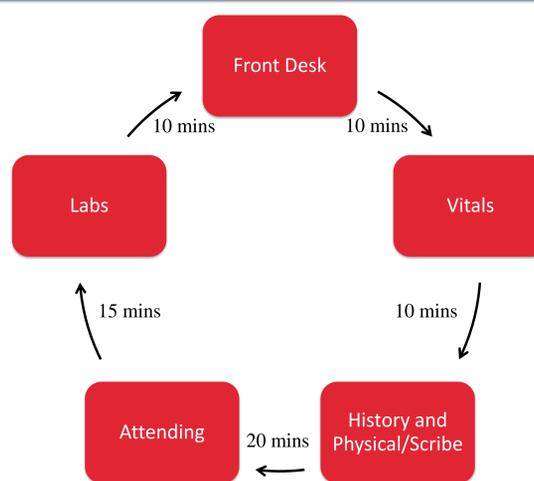


Figure 4

Study Questions

The following questions will be assessed using a Likert scale:

- ✧ Do you feel that your previous clinical experience made you more prepared for your clinical years of medical school?
- ✧ Rate your confidence level in regards to interacting with your patients.
- ✧ Rate your confidence level in regards to obtaining a medical history from your patient (Chief Complaint, HPI, PMH, etc.).
- ✧ Rate your confidence level in regards to performing a physical exam on your patient.
- ✧ Rate your confidence level in regards to developing a differential diagnosis for your patient.
- ✧ Rate your confidence level in regards to developing a plan of care for your patient.
- ✧ Rate your confidence level in regards to presenting your patient to your preceptor.
- ✧ Rate your confidence level in regards to interacting with other healthcare professionals.
- ✧ Rate your overall confidence in performing your duties as a medical student.
- ✧ Do you feel you were adequately prepared during your first two years of medical school to begin your clinical years?
- ✧ Do you feel additional clinical exposure during your first two years of medical school would have prepared you better for beginning your clinical years?

Benefits of Free Clinic

Benefits for the medical student:

- ✧ Increased ability to perform clinical skills
- ✧ Improved team working skills
- ✧ Enhanced interpersonal skills and professionalism

Benefits for the patient:

- ✧ Free access to quality medical care
- ✧ No health insured required to receive care
- ✧ Non-traditional clinic hours to allow for increased clinic access
- ✧ Referral services for specialists, imaging, and laboratory testing
- ✧ Discounted cost for medications

Future Plans

- ✧ Administer survey
- ✧ Expand availability of NYIT CFC to more students, with a goal of having 100% of students participate
- ✧ Expand clinic to include students from the NYIT School of Health Professions
- ✧ Expand available services offered such as a social worker, nutritionist, and assistance with acquiring health insurance

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