

Surgical Education

A structured teaching curriculum for medical students improves their performance on the National Board of Medical Examiners shelf examination in surgery



Keith Wirth, B.S.^{a,*}, Bethany Malone, B.S.^a, Christopher Turner, M.D.^b,
Robert Schulze, M.D., F.A.C.S.^c, Warren Widmann, M.D., F.A.C.S.^b,
Aliu Sanni, M.D.^d

^aDepartment of Surgery, SUNY Downstate College of Medicine, 450 Clarkson Avenue, Brooklyn, NY 11203, USA; ^bDepartment of Surgery, SUNY Downstate Medical Center, 450 Clarkson Avenue, Brooklyn, NY, USA; ^cDepartment of Surgery, Boston University, Boston, MA, USA; ^dDepartment of Surgery, Emory University, Atlanta, GA, USA

KEYWORDS:

Medical student;
NBME shelf;
National Board of
Medical Examiners;
Curriculum

Abstract

BACKGROUND: The aim of this study was to evaluate the effect of a resident-driven, student taught educational curriculum on the medical students' performance on the National Board of Medical Examiners surgery subject examination (NBME).

METHODS: On daily morning rounds, medical students or the chief resident delivered preassigned brief presentations on 1 or 2 of the 30 common surgical topics selected for the curriculum. An initial assessment of student knowledge and an end-rotation in-house examination (multiple choice question examination) were conducted. The mean scores on the NBME examination were compared between students in teams using this teaching curriculum and those without it.

RESULTS: A total of 57 third-year medical students participated in the study. The mean score on the in-house postclerkship multiple choice question examination was increased by 23.5% ($P < .05$). The mean NBME scores were significantly higher in the students who underwent the teaching curriculum when compared with their peers who were not exposed to the teaching curriculum (78 vs 72, $P < .05$).

CONCLUSION: The implementation of a resident-driven structured teaching curriculum improved performance of medical students on the NBME examination.

© 2015 Elsevier Inc. All rights reserved.

There were no relevant financial relationships or any sources of support in the form of grants, equipment, or drugs.

The authors declare no conflicts of interest.

Oral presentation by Ms Bethany Malone at the 2013 ACS Clinical Congress

* Corresponding author. Tel.: +1-718-270-1421; fax: +1-718-270-2826.

E-mail address: wirthk@gmail.com

Manuscript received May 27, 2014; revised manuscript August 27, 2014

The settings and goals of the clinical clerkship differ significantly from those in the preclinical basic science curriculum. In addition to the factual knowledge that students are accustomed to learning in the preclinical years, they must now master procedural skills, sharpen their patient interactions, and simply learn how to think as a physician. Appropriately, students spend the majority of their time on the wards, in the clinic, and in the operating room to reach these goals. However, this also means that the time for didactic lectures and conferences is significantly reduced, often to only weekly or biweekly sessions, while the amount of clinical knowledge students must learn remains largely at random by case exposure and individual unsupervised reading.

Clerkship directors have taken several approaches to the basic knowledge component of their clinical curricula. Some have adopted strategies from the basic science curricula such as team-based learning, case-based learning (CBL), and problem-based learning (PBL).¹⁻³ Others have added unique features using online podcasts and virtual patient software.^{4,5} Of note, all these interventions are used outside the clinical arena.

Traditionally, faculty teaching rounds served as a significant venue for clinical teaching. This aspect of medical education is becoming less frequent with attendings citing economic factors and time restrictions (work-hours rules) as significant limiting factors for the conduct of the former lengthy teaching rounds.⁶

In the recent past (1999), students rated independent study and tutorials as the first and second most important learning modalities. Interestingly, students rated resident teaching as third, with ward rounds and attending physician teaching falling at fifth and ninth, respectively.⁷ Pelletier proposed that residents act "as an important link between the theory and practice of surgery." Residents spend up to 25% of their clinical time teaching students,⁸ are perceived as teachers even more so than attendings,⁹ and greatly influence medical students' choice of specialty.¹⁰

This has been recognized among a number of medical schools and residency programs, and curricula termed "Residents as Teachers" programs have become popular. These programs only provide residents with tools to better their teaching skills and have resulted in improved feedback from students.¹¹ However, the relation between perceived resident teaching quality and NBME scores accounted for only 14 of score variability.¹²

Pelletier and Belliveau⁷ pointed out that students rated the importance of residents more highly for instruction in technical and practical aspects of surgery, as opposed to basic teaching in topics such as burn management and nutrition. Residents are certainly teaching, and are being taught how to teach. However, what the residents teach and the effectiveness of this teaching remain highly variable.

The goal of our study was to investigate a novel approach to teaching on the wards, recognizing the above concerns and challenges regarding the education of third-year medical students on their surgery clerkship. With

decreasing attending involvement in formal teaching rounds and reduced didactic time during clerkships, we sought to provide a link between our program's didactic lectures, small group scheduled conference, and the day-to-day clinical exposure of the medical students on morning rounds. We studied whether we could cover the basic curriculum during morning rounds, as an adjunct to the existing didactic sessions.

By having a senior/chief resident act as facilitator, we provided mentor interaction with a structure in which both residents and students teach. By having the presentations on morning rounds, group learning was facilitated in a social learning environment with student-generated content.

Patients and Methods

Study design

This study was conducted during a 12-month period overlapping the 2011 to 2012 and 2012 to 2013 academic years at 3 of the clinical sites of the State University of New York Downstate Medical Center. The study was approved by the Institutional Review Board at SUNY Downstate Medical Center.

Each study period was 1 month, corresponding to the medical student rotation schedule. One senior/chief resident (A.S.) piloted the program. The students were assigned to this team randomly, as the scheduling at our institution is done by a lottery system; they will be referred to as the participants. Because of varied caseloads at the sites, the groups ranged in size between 3 and 9 students. Students could be assigned to only one team. A total of 57 students were assigned to the participant group.

Teaching method

Thirty core surgical topics were selected by surveying surgical faculty and then supplemented by a review of commonly tested topics on the NBME examination (Table 1). The participants were e-mailed a schedule of topic assignments before the start of their rotation. Twenty of the topics were distributed among the participants, and 10 to the senior/chief resident. The topic distribution was randomized for each rotation for both the participants and the senior/chief resident.

The participants were instructed to prepare a 5-minute oral presentation without the use of slides. They were required to e-mail their outline to the senior/chief resident the night before their presentation and were allowed to refer to their outline during the oral presentation. One or 2 presentations were delivered each morning during morning rounds. All the residents and medical students in the team were required to be present. The senior/chief resident would select the timing of these presentations depending on the schedule for that day and the clinical cases on the ward. If a topic was related to specific patient on the ward,

Download English Version:

<https://daneshyari.com/en/article/4278813>

Download Persian Version:

<https://daneshyari.com/article/4278813>

[Daneshyari.com](https://daneshyari.com)