

Available online at www.sciencedirect.com

ScienceDirect

journal homepage: www.JournalofSurgicalResearch.com

Association for Academic Surgery

Factors influencing US medical students' decision to pursue surgery



Lauren E. Schmidt, MD,¹ Clairice A. Cooper, MD,
and Weidun Alan Guo, MD, PhD, FACS*

Department of Surgery, SUNY-Buffalo, Buffalo, New York

ARTICLE INFO

Article history:

Received 14 January 2016

Received in revised form

9 March 2016

Accepted 22 March 2016

Available online 31 March 2016

Keywords:

Medical students

Career choice

Surgery

ABSTRACT

Background: Interest and applications to surgery have steadily decreased over recent years in the United States. The goal of this review is to collect the current literature regarding US medical students' experience in surgery and factors influencing their intention to pursue surgery as a career. We hypothesize that multiple factors influence US medical students' career choice in surgery.

Methods: Six electronic databases (PubMed, SCOPUS, Web of Science, Education Resources Information Center, Embase, and PsycINFO) were searched. The inclusion criteria were studies published after the new century related to factors influencing surgical career choice among US medical students. Factors influencing US medical student surgical career decision-making were recorded. A quality index score was given to each article selected to minimize risk of bias.

Results: We identified 38 relevant articles of more than 1000 nonduplicated titles. The factors influencing medical student decision for a surgical career were categorized into five domains: mentorship and role model ($n = 12$), experience (clerkship $n = 9$, stereotype $n = 4$), timing of exposure ($n = 9$), personal (lifestyle $n = 8$, gender $n = 6$, finance $n = 3$), and others ($n = 2$).

Conclusions: This comprehensive systemic review identifies mentorship, experience in surgery, stereotypes, timing of exposure, and personal factors to be major determinants in medical students' decisions to pursue surgery. These represent areas that can be improved to attract applicants to general surgery residencies. Surgical faculty and residents can have a positive influence on medical students' decisions to pursue surgery as a career. Early introduction to the field of surgery, as well as recruitment strategies during the preclinical and clinical years of medical school can increase students' interest in a surgical career.

© 2016 Elsevier Inc. All rights reserved.

Introduction

For medical students in the United States, the field of surgery has become an increasingly unappealing medical specialty.

Medical students shun the rigors of surgical training, viewing the training as “malignant” and the profession as too demanding with an uncontrollable lifestyle. The number of US medical school seniors matched to categorical general surgery

This work has been accepted as a poster presentation at the 11th Annual ASC on February 2-4, 2016, in Jacksonville, FL.

* Corresponding author. Department of Surgery, SUNY-Buffalo, Buffalo, NY 14215. Tel.: (716) 898-5283; fax: (716) 898-5029.

E-mail address: waguo@buffalo.edu (W.A. Guo).

¹ Current affiliation: Department of Surgery, Temple University Hospital, Philadelphia, Pennsylvania.

0022-4804/\$ – see front matter © 2016 Elsevier Inc. All rights reserved.

<http://dx.doi.org/10.1016/j.jss.2016.03.054>

programs has declined, with 5.6% match in 2014 compared with 6% in 2010. On the other hand, in 2014, the match rate of osteopathic and international graduates to categorical general surgery programs were the highest they have been in five years, at 2.1% and 2.3% from 1.4% and 2.2%, respectively.¹ These statistics represent a general decrease in the US allopathic graduate interest in general surgery, allowing spots to be filled by international medical graduates and osteopathic graduates to compensate for this shortage.

On the other hand, due to an aging population in the United States and a stagnant level in the production of new surgeons, a shortage of surgeons has emerged over the past several decades that will continue.²⁻⁴ In a retrospective longitudinal analysis, the overall number of general surgeons per 100,000 people declined by 26% from 1981 to 2005.⁵

Therefore, elucidating when and why medical students choose a surgical career can help with recruitment efforts and is especially important in today's primary care-focused environment. The goal of this systematic review was to collect and analyze available literature regarding US medical students' attitude toward their experience in surgery and factors influencing their intention to pursue surgery as a career. We hypothesize that multiple factors influence US medical students' career choice in surgery.

Methods

To improve the reporting quality and provide substantial transparency in the selection of articles, our review followed the recommendation of Preferred Reporting Items for Systematic Reviews and Meta-Analyses.⁶

Search strategy

Relevant articles were identified by searching six electronic databases (PubMed, SCOPUS, Web of Science, Education Resources Information Center (ERIC), Embase, and PsycINFO), using the key words and phrases related to the purpose of this study (surgical or surgery and medical student, education, career, lifestyle and decision). We included the last three databases because ERIC is a database focused on education research and information, whereas Embase is a biomedical and pharmacologic database, and PsycINFO includes information on research in behavioral and social sciences. The entire search was completed on November 2, 2015.

Inclusion and exclusion criteria

For the purposes of this review, all articles published in the English language from January 2000 to November 2015 were included. Articles must include content regarding medical students' decision to pursue general surgery in the United States. The majority of relevant studies were composed of surveys of medical students at various levels. Articles that underwent full text review were evaluated for relevance, and several studies were not included because they were pilot studies for which the associated final study results had also been published.

Article quality assessment

A validated index score was undertaken to assess the quality of the articles selected for this review. This special tool has been recommended as part of the reporting guidelines for conducting a survey with questionnaires.^{7,8} A score was calculated based on the following factors: (1) size of the study, (2) justification of research method, (3) explicit objective, (4) replicability of the study, (5) representativeness, and (6) response rate.

Data analysis

Owing to a wide variation in study designs involving diverse participant populations, different year of medical school, and setting of clerkship and/or rotation when studied, no meta-analysis could be conducted.

Results

A total of 330 articles were identified on SCOPUS, 584 on PubMed, 272 on Web of Knowledge, 32 on ERIC, 832 on Embase, and 0 on PsycINFO. In addition, 36 additional studies, including several articles on the early interest in surgery during undergraduate years, were identified based on a review of the references of the included articles. These studies were deemed relevant for this review and therefore added to the review list. Overall, 43 articles were selected for further full text review. Ultimately, 38 articles were included (Fig. 1). A summary of the quality assessment scores of literature is summarized in Table 1.

Table 2 provides a summary of the 38 articles that explicitly deal with factors influencing medical students' choice of surgical career in the United States.

Mentorship and role models

A total of 12 studies investigated influences of mentorship and role models on the medical students' career choice in surgery. Cochran et al.⁹ reported the identification of a surgical mentor to be an important factor correlating with medical students' decision to pursue surgery compared with those planning a nonsurgery career. A similar result was found in Wendel's study.¹⁰ Quillin et al.¹¹ and Erzurum et al.¹² revealed that medical students interested in surgery and general surgery residency applicants emphasized the positive role of faculty more than medical students interested in various other specialties. In Drolet's et al.¹³ and Carter's et al.¹⁴ studies, a mentorship-based preclinical surgical elective significantly improved junior medical student confidence and increased the likelihood that medical students would be interested in a surgical career. Lindeman et al.¹⁵ found that 82% of medical students completing a general surgery subinternship eventually entered a surgical residency because of the positive mentorship of the surgeons. Cook et al.¹⁶ revealed that students who rotated at the nonmetropolitan center with a one-on-one clerkship experience with faculty mentors had a drastically increased interest in surgery compared with those who completed a more "classic" surgery rotation in a

Download English Version:

<https://daneshyari.com/en/article/4299187>

Download Persian Version:

<https://daneshyari.com/article/4299187>

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