



Original article

Mapping the factors that influence the career specialty preferences by the undergraduate medical students

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ABSTRACT

It is often perceived that undergraduate medical students do not select their career specialty until they are graduated. This study aimed to probe the preferences of undergraduate medical students about their career specialty and the factors influencing their choices. A self-administered questionnaire was distributed to 3rd through 5th year undergraduate medical students to record their choices of specialties and to identify the factors that influence their career selection. Out of 220 respondents, 29 (13.2%) students selected General Surgery, 24 (10.9%) Pediatrics, and 18 (8.2%) Internal Medicine as their career specialties; whereas 24 (10.9%) students were not able to select a major specialty. The least popular specialties were Gynecology and Obstetrics, Oncology, Histopathology, Orthopedics, Genetics, Psychology, each selected by one student. One hundred and seventeen (53.1%) thought their selected specialty 'matched their capabilities' and 82 (37.2%) perceived their selection as "innovative field in medicine". Career advice by friends and families and the desire to serve academic institutions could not influence career selection. Career preferences by medical students result from the interplay of a range of factors. General Surgery, Pediatrics and Internal Medicine were the most preferred specialties. The professional grooming programs to target specialties matching the trainees' capabilities and the specialties with state-of-the-art innovative technologies attract medical undergraduate students. The attained knowledge is vitally important for the policy makers in modifying the existing framework that can cater the popular and favored specialties.

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1. Introduction

A specialty selection entails a transformation from the undifferentiated undergraduate stage to a completely differentiated professional enterprise where all future efforts would be focused to a single specialized field of medical discipline (Parlak et al., 2015; Youngclaus et al., 2013). The evolving landscape of medical field by innovative and creative developments in technologies has a profound impact on the selection of clinical specialties (Ibrahim et al., 2014). Furthermore, socio-economic and organizational factors also markedly influence the dynamics of medical specialties.

An ageing population will demand a gradually expanding frameworks of primary health-care and geriatrics disciplines in developed countries (Alawad et al., 2015b; Christakis and Fowler, 2008; Sampogna et al., 2015). The mechanics of some surgical specialties like cardiac surgery are rapidly changing due to the state-of-art innovations in non-surgical and non-invasive techniques (Fowler and Christakis, 2009). The admissions of undergraduate medical students is increasingly registering an all times high number of women (Scott et al., 2009). In the United States, during 1970, women constituted less than 10% of medical students and 8% of physicians, while in 2006, women comprised 50% of medical students and 30% of physicians (Ku, 2011). This feminization of the medical workforce, changing quotas of students accepted for medical studies, and varying dynamics of the structural and functional domains of medical specialties necessitate a deeper understanding of the factors that influence the specialty choices by undergraduate medical students. It is only then that medical school curricula can be tailored to fulfill the aspirations of the medical graduates.

Recently, due to huge investment by the Saudi Government in health-care sector, we have witnessed a proliferation of as many as 23 private and governmental medical college across the country.

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Another huge head of revenue is being dedicated to the well-structured postgraduate training programs of the Saudi residents across all specialties where the outcome-based specialty selection plays a pivotal role (Al-Ansari and Khafagy, 2006). A careful career selection by undergraduate medical students becomes vitally important as students may dropout from their selected specialties or, due to incompatible aptitude or psychomotor limitations, students may be urged to change their choice of specialty after spending few years in training (Dorsey et al., 2003). Such mishaps, primarily due to careless career selection, jeopardize the efforts and undermine the entire process of intended delivery of appropriate health-care services to the community.

Very few published reports are available that shed light on the factors that influence specialty selection by the Saudi medical students (Al-Faris et al., 1997; Mehmood et al., 2012). Although several factors have been described that affect medical students' specialty choice, the relative validity and significance of each of these factors remains unclear in Saudi Arabia (Abdulghani et al., 2013). This study attempted to explore the most popular specialties as well as the underlying motivating factors influencing the career selection of undergraduate medical students of the college of medicine Taibah University Saudi Arabia. By gathering this data, an effective policy to attract medical students to the under-represented specialties, hampered by the lack of appropriate taskforce, can be revamped primarily by enriching the educational environment with core principles of medical professionalism (Guraya et al., 2016a) and interprofessional education where students learn with, from and about each other (Al-Qahtani and Guraya, 2016).

2. Methodology

During the academic year 2014–2015, a single-stage cross-sectional study was conducted on the currently enrolled 3rd year through 5th year undergraduate medical students of Taibah University, Almadinah Almunawwarah, Saudi Arabia. Taibah University practices a problem-based learning model that is student-directed, community-centered, integrated curriculum where the basic and clinical educational strands are delivered right from the start of medical course as early clinical exposure, personal excellence pathways, professional development pathways and clinical reasoning. The data collection was done by distributing a paper based self-administrative validated English language questionnaire. The questionnaire was validated by conducting literature review, focus group discussions with content experts, synthesis of outcomes of previous research, and finally by the item development. Main theme of the research was conveyed to students in their class rooms and a verbal consent was obtained. An ethical approval was obtained from the institutional review board. The instrument asked the participants to select one specialty as their career specialty and to select from the following factors (a construct of lifestyle, personal, social, and gender-based) that could influence the students selection of career specialty. 1. Innovative field in medicine. 2. Influenced by the teachers. 3. My father asked me to take this specialty. 4. Not requiring much physically exertion. 5. This matches with my capabilities. 6. Can dedicate more time to myself and my family. 7. My friends and family members opted this specialty. 8. Great opportunity for scientific research in this specialty. 9. Community needs more experts in this specialty. 10. Impact of the environment and the teachings of Islam have a role in choosing this specialization. 11. Suggested by an expert in this field. 12. High chances of getting foreign scholarships in this field. 13. High chances of getting jobs in this field abroad. 14. I prefer to work during daytime only. 15. I prefer to work in hospitals only. 16. I prefer to work in teaching and academic institutions only. 17. Any other reason.

Other four items of instrument explored the participants' demographics. Due to exploratory nature of this research, the data analysis was done by descriptive statistics where frequencies (percentages) of items were graphically illustrated by bar charts. The data was entered and analyzed by Statistical Package for Social Sciences (SPSS) version 20.

3. Results

Of 300 students, 220 completed the questionnaire (response rate of 73.33%). There were 165 female and 55 male students with average age of 23 years. The results showed that 29 (13.2%) students selected general surgery as major, 24 (10.9%) pediatrics, and 18 (8.2%) selected internal medicine (Fig. 1). This study also showed that 24 (10.9%) students were not sure about the selection of a major specialty. Two students each selected Medical Genetics, Medical Oncology, Emergency Medicine, Forensic Medicine, Pathology, Pediatric Surgery, and Neurology. One student each selected Neuropsychiatry, Gynecology and Obstetrics, Oncology, Histopathology, Orthopedic Surgery, Genetics, Molecular Biology, and Psychology.

The selection of all 17 factors influencing students in their specialty selection is illustrated in Fig. 2. One hundred and seventeen (53.1%) students chose their major because the specialty “match with the capabilities of students”. As many as 82 (37.2%) students proposed “innovative field in medicine” as a confounding factor influencing their specialty selection. The lowest preference by two students was given to the option “my friends and family opted this specialty”.

Fig. 3 shows that female students were inclined to select major subject according to their capabilities; 91 female vs. 26 male students (total of 117 students who selected this factor). Again, for “in innovative field in medicine” 50 female students selected this factor as compared to 32 male students (total of 82 students who selected this factor). Only two female students chose their major because their friends and family had opted for the same field.

An analysis of the respondents' preferences across years is shown in Fig. 4. Fifty students of 4th year, 35 students of 5th year, and 32 students of 3rd year selected “matches with their capabilities”. Likewise, other factors influencing the specialty selection across years are detailed in Fig. 4.

4. Discussion

In this study, a maximum number of 29 (13.2%) respondents selected General Surgery, followed by 24 (10.9%) students who preferred Pediatrics. This popularity of General Surgery recorded in the present study is in concordance with published reports from the USA (Glavin et al., 2009) as well as other studies from Saudi Arabia (Khader et al., 2008; Abdulghani et al., 2013) and (Mehmood et al., 2012). This popularity of General Surgery among medical students might have profound impact on health-care policy makers while planning for future strategic frameworks. Another study showed that General Surgery was the single most popular career specialty among the studied cohort of students (Mehmood et al., 2013). The investigators deduced that various personality types had distinct preferences in medical students' choice of careers. The respondents preferring a surgery specialty ranked the highest score on ‘neuroticism-anxiety’, ‘impulsive sensation seeking’, ‘aggression-hostility’ and ‘sociability’ scales. Further research on the link between personality types and specialty selection can enhance the impact of career counselling of medical students about choosing a specialty that may be best suited to their personality. Contrasting our research finding, a study on the Turkish undergraduate medical students showed that their preferred

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