

Let's be pediatricians: What influences Saudi medical students' interest in pursuing a career in pediatrics

Yossef Alnasser^{1,2,3}, Aljohara I. Alharthi⁴, Reema M. AlJohani⁵, Abdullah S. Alsaedi⁶, Shouq I. Alajlani⁷, Fahad H. Bin Shalhoub⁸, Jamal A. S. Omar⁴

¹Department of Pediatric, BronxCare Health System, NY, NY, United States, ²George Washington Milken School of Public Health, Washington, DC, United States, ³Department of Pediatric, King Saud Medical School, Riyadh, Saudi Arabia, ⁴Department of Pediatrics, Children Hospital, King Fahad Medical City, Riyadh, Saudi Arabia, ⁵College of Medicine, Taibah University Almadinah, Almunawarah, Saudi Arabia, ⁶College of Medicine, King Abdulaziz University, Jeddah, Saudi Arabia, ⁷College of Medicine, Umm AlQura University, Makkah, Saudi Arabia, ⁸College of Medicine, Imam Muhammad Ibn Saud Islamic University, Riyadh, Saudi Arabia

Abstract

Background: Many students join medical schools without a clear career plan. Through years of learning, volunteering, and extracurricular activities, a Saudi student can decide on their field of interest. This study aims to explore Saudi medical students' interest in pediatrics while trying to capture influencing factors and barriers. **Method:** A cross-sectional design was adopted to conduct this study. A survey was designed and tested by a pilot study. To disseminate the survey, the Saudi Medical Students' online forum was chosen as a platform to reach a representative sample of the whole country. **Results:** The study attracted 205 participants from all Saudi Medical schools. Most participating students were females (71.2%), were attending public medical school (84.4%), and first-generation doctors (78%). Finding pediatrics detailed and stimulating were the most attractive features of pediatrics followed by willingness to help children in their communities and job satisfaction. Only 14.1% of Saudi medical students have a high interest in pediatrics and only 5.4% strongly desire to be general pediatricians. Advanced level of education, elective rotations, and urban medical schools were associated with higher interest in pediatrics workforce might start changing soon with geographic and gender shifts. Suboptimal interest might not meet high demands and future directions. With most students being first-generation doctors, there is a huge need to activate the roles of academic advisors and mentors. Offering more elective rotations might increase interest in this vital specialty.

Keywords: General pediatrics, job satisfaction, medical students, pediatric, Saudi Arabia

Background

Every Saudi medical student has huge potential and aspirations. Those aspirations can be shaped into goals and a successful

> Address for correspondence: Dr. Yossef Alnasser, Department of Pediatric, BronxCare Health System, NY, NY, United States. E-mail: yossef.alnasser@gmail.com

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medical career. Perhaps, each student's journey to establish a medical career might go through some hurdles and challenges. These difficulties are related to completing medical school in the first place, internship, then at the end, comprehensive board exams.^[1] Medical education requires undergraduate students to study a wide range of medical specialties. It is often assumed that students do not make their career preferences until they are almost interns. Nonetheless, a lot of medical school applicants

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and current students frequently have strong preferences for or against particular medical specialties.^[2] How do the majority of medical students choose their specialties? This is a scientific field in itself with many contributing personal, social, economic, and many other factors. A lot of research has concentrated on the personal characteristics of individuals choosing a particular medical career while ignoring other factors. Most of those studies examined the impacts of background factors that originated during childhood on influencing career preference. In the medical field, researchers explored associations between certain specialties with particular personality types.^[3]

An understanding of medical undergraduates' career preferences can help provide important information that can be utilized when planning educational programs and public health. In addition, it can help set priorities to foster adequate healthcare provision through training a wide range of specialists.^[4] In Saudi Arabia, a cross-sectional study involving senior medical students documented well-defined career interests before internship.^[5] Another study in a neighboring country, Jordan, reported a huge shift in specialties' popularity among their medical students.^[6]

There has been no study to investigate influencing factors to pursue a career in pediatrics among Saudi medical students as far as we know. Globally, pediatrics started to show a gender shift with more females specializing in the field.^[7] High job satisfaction and balanced lifestyles were playing factors in encouraging many students to join pediatrics in other countries.^[8]

Exploring influencing factors to pursue a career as a primary child care provider can shape the future of general pediatrics in Saudi Arabia and the region. This can impact public health at large to help promote health and prevent illnesses. This can have a huge gain for both healthcare systems and patients. As primary care is the backbone of any healthcare system, understanding how to increase interest in primary childcare can help build a better tomorrow for primary care and child health.

This study aims to explore Saudi medical students' interest in the pediatric field at large. Furthermore, it will examine influencing factors and perceived barriers. Furthermore, it explores factors shaping interest in primary care and general pediatrics among Saudi students. This will help understand medical students' perspectives and help guide future educators and policymakers to attract more medical students and shape postgraduate residency selection. Eventually, this will shape the pediatric future in the young nation of Saudi Arabia and the region to improve primary pediatric care and attract more residency graduates to this field.

Methodology

Study design

This is a descriptive cross-sectional study. Data was obtained through an online questionnaire directed to medical students in Saudi Arabia. The questionnaire was distributed online and used Saudi Medical students' virtual forum to recruit participants. The study aimed to reach all medical students from all over the kingdom and cover all 27 medical schools. The questionnaire was disseminated online, and participants were included after obtaining consent.

Study subjects/participants

All medical students in Saudi Arabia who met the inclusion criteria were invited to complete the self-administered questionnaire distributed through the 2022–2023 and 2023–2024 academic years. Inclusion criteria included senior medical students (4th-6th Year), Interns, and those studying medicine within the Kingdom. Junior medical students, studying medicine abroad and aged below 18 years were excluded.

Questionnaire development

After an extensive local and international literature review, two Saudi academic pediatricians designed an English-based questionnaire. Medicine is taught in English in Saudi Arabia. The questionnaire was tested by a pilot study on Saudi medical students from various medical schools and necessary edits were carried out. The pilot study ensured the clarity and applicability of the questionnaire in Saudi settings.

Statistical analysis

Data was logged into an Excel sheet and coded. A contracted biostatistician was consulted to conduct the Z-test, ANOVA, and Chi-Square and generate means, medians, standard deviation, and odds ratio. Then, a score of interest was generated. The difference in the score of interest to the socio-demographic characteristics has been performed using the Kruskal Wallis H-test and Mann Whitney Z-test. A normality test was performed using the Wilk test as well as the Kolmogorov-Smirnov test. Based on the results, the interest score follows the non-normal distribution. Therefore, the non-parametric tests were applied. Statistical significance was set to a P value of less than 0.05 level. The data were analyzed using the Statistical Packages for Social Sciences (SPSS) version 26 Armonk, NY: IBM Corp.

Results

Participants' social characteristics

This study attracted 205 medical students. Female medical students were more eager to participate in the study and constituted more than two-thirds of participants (71.2%). Interns and final-year medical students were the majority of participants (42.4% and 28.8%, respectively). Urban and rural students were equally distributed. The majority of students are first-generation medical practitioners in their families (78%). Most students came from high- and middle-income families and well-educated parents [Table 1].

Participants' academic portfolio

Students who had more than a 4.5 GPA out of 5 constituted 38% while students with GPA between 4 and 4.5 represented 37.6%. The most common type of medical school was public medical

Table 1: Socio-demographic characteristics of	
Study variables	n (%)
Gender	(, , ,
• Male	59 (28.8%)
• Female	146 (71.2%)
Academic year level	· · · ·
• 4 th vear	14 (06.8%)
• 5 th vear	45 (22.0%)
• 6 th vear	59 (28.8%)
• Intern	87 (42.4%)
City of residence	· · · ·
Major cities	100 (48.8%)
Small cities	105 (51.2%)
Location of medical school	· · · ·
Major cities	96 (46.8%)
Small cities	109 (53.2%)
Parents are in the health field	()
• None	160 (78.0%)
• Father	12 (05.9%)
• Mother	12 (05.9%)
• Both	21 (10.2%)
Family monthly income	()
• Low Income	17 (08.3%)
Middle Income	77 (37.6%)
High Income	111 (54.1%)
Living in	()
Family-Owned House	155 (75.6%)
Family Rented House	17 (08.3%)
Family Rented Apartment	26 (12.7%)
• Others	07 (03.4%)
Father education	· · · ·
High School or Less	72 (35.1%)
College Degree	92 (44.9%)
Advanced Education Degree	41 (20.0%)
Mother education	× /
High School or Less	78 (38.0%)
College Degree	109 (53.2%)
Higher Education Degree	18 (08.8%)
GPA (out of 5)	× /
• <3	06 (02.9%)
• 3-4	44 (21.5%)
• 4-4.5	77 (37.6%)
• >4.5	78 (38.0%)
Type of medical school	× /
Public School	173 (84.4%)
Private	22 (10.7%)
 Overseas and Outside the Kingdom 	10 (04.9%)
Have you done your core pediatric course in medical school?	(
• Yes	166 (81.0%)
• No	39 (19.0%)
Have you done or planning to do an elective in pediatrics?	
• Yes	121 (59.0%)
• No	84 (41.0%)

school (84.4%). Almost all students had taken their core pediatric course (81%) but only 59% had done an elective or planning to take one in pediatrics [Table 1].

Shaping interest in pediatrics

Viewing pediatrics as a detail-oriented specialty was the most attractive factor of pediatrics among Saudi medical students. Finding pediatrics challenging and stimulating was the second attractive factor in shaping interest in pediatrics among Saudi students. Willingness to help children of their community was the third reason to entice students to consider pediatrics as a future career. The joy of working with children and job satisfaction were the fourth and fifth attractive factors to pursue a career in pediatrics in Saudi Arabia. Role models, mentors, and academic advisors played a little part in shaping interest in pursuing a career in pediatrics among Saudi Medical students.

Pediatric interest among Saudi medical students

Among study participants, 14.1% had a high interest in pediatrics while 72.2% showed average interest. The remaining 13.7% were not interested in pediatrics Figure 1. High interest was associated with advanced level and being an intern. Students from urban settings showed higher interest in comparison to students from rural medical schools. Doing an elective in pediatrics was linked to higher interest in pediatrics among Saudi students. Despite higher female participation in this study, high interest in pediatrics was not determined by gender. Income, core pediatric rotation, GPA, and public vs. private schools played no role in formulating interest in pediatrics among Saudi medical students. Among all students, almost half have no aspiration to be a general pediatrician and only 5.4% were strongly considering primary childcare Figure 2.

Discussion

Saudi Arabia is a young nation with a steady fertility rate.^[9] With a growing economy and improved healthcare system, Saudi Arabia has witnessed a huge rise in its population.^[10] Today, 25% of Saudi's population is under the age of 14 years.^[11] The high number of children requires a huge workforce and sophisticated expertise to perform pediatric primary and specialized care. Investing in the Saudi population to produce pediatricians can improve pediatric care in the Kingdom. It is well known that healthcare quality improves with stronger cultural competency and concordance of ethnicity.^[12,13]

Mirroring a strong economy, Saudi Arabia has a strong medical education system. Despite its humble beginning in the 1960s, it is considered one of the strongest in the Middle East recently. From a few graduates a year, Saudi medical schools produce thousands of doctors every year lately. Today, there are 27 medical schools around the Kingdom. Having schools in Urban and rural settings can provide more pediatric providers to overcome geographic disparities. Many doctors who train in rural areas tend to stay and serve the rural community.^[14] Our findings stated the interest of Saudi medical students to serve their communities. Evidence from Saudi rural medical schools documented high interest in primary care among students.^[5] If rural medical schools are equipped with general pediatric residencies with an emphasis on primary pediatric care, rural health disparity can be addressed for



Figure 1: The majority of participants have average interest in pediatrics while only 14% have high interest in the field

many Saudi rural communities. Again, emphasis on primary care needs to be the highlight of rural pediatric residencies because negative attitudes toward general pediatrics among Saudi pediatric residents were documented in a recent study.^[15]

Despite the huge pediatric population in Saudi Arabia, the percentage of medical students with a high interest in pediatrics remains low. At a closer look, the interest in primary care child health is even slimmer. Our findings echoed earlier studies and parallel to findings by Bin Abdulrahman et al.[16] when pediatrics did not make it to the top five specialties desired by medical students in Saudi Arabia. The highest two most desired specialties among Saudi medical students were found to be surgery and internal medicine.^[1] Surgery and internal medicine are introduced early in medical education in Saudi Arabia while pediatrics is delayed to the last year of Saudi medical curricula. This could explain our findings of increased interest in pediatrics among 6th-year medical students and interns. Furthermore, a higher interest in pediatrics was influenced by elective rotations in child health. Elective rotations can help in building medical identity and formulating career goals.^[17] This is a call for action to introduce pediatrics earlier in Saudi medical schools and to allow more elective rotations within pediatrics to influence the interest of passionate students who can advance the field. Electives in general pediatrics might alter negative attitudes and increase interest in child primary care.

Saudi Arabia has been going through a huge positive transformation with women's empowerment at the center of future directions. Saudi women in medicine entered the field in 1975 and continue to grow reaching leadership positions recently.^[18] Pediatric and other communication-dependent specialties have been attracting more women in medicine globally.^[19] In Saudi Arabia, female medical students found pediatrics to be the most appealing specialty in a recent publication.^[20] This was in contrast to our findings. Despite gender was not a determining factor of higher interest in pediatrics in our findings, higher female participation in our study can indirectly hint at a higher interest in pediatrics



Figure 2: When asked about general pediatric aspiration, only 5.4% of Saudi Medical Students are strongly considering general pediatrics as a future career

among female Saudi Students. An imbalanced group confounded our results and is one of this study's limitations.

Mentors and role models were not fundamentals in influencing Saudi medical students to join pediatrics which was documented in earlier studies.^[1] Mentorship programs in Saudi Arabia are still in the infancy stage and have many challenges.^[21] There is resistance to the concept of mentorship from students along with the low number of well-trained mentors.^[22] With the majority of Saudi medical students being first-generation doctors, formal mentorship programs are essential for their growth and success.

One of the major attracting factors for Saudi medical students to pediatrics is job satisfaction. Among all pediatric subspecialties, general pediatricians were found to have the highest job satisfaction.^[8] To attract more Saudi medical students and pediatric residency graduates to pursue a career in primary care, job satisfaction, and a balanced lifestyle can be good selling points.

Conclusion

Saudi medical students with a high interest in pediatrics are less than 15% in various studies including our findings. The aspiration to practice primary childcare is very faint. Building on the positive pediatric reputation and high job satisfaction can attract more students. Early introductions to child health and more electives in pediatrics can attract more students to pursue pediatrics in Saudi Arabia. Investing in rural medical schools and altering pediatric medical education can play a role in influencing more Saudi medical graduates to pursue a career in general pediatrics and primary care. Mentors and role models need to play a higher role in influencing interest in the pediatric specialty. This is very critical as most students are first-generation doctors. More research is needed to investigate gender impact on pursuing a pediatric specialty.

Limitations

A major limitation of this study falls within its nature of being cross-sectional allowing the establishment of correlation, not causation. Another major limitation is the gender imbalance of study participants which did not allow a gender comparison to increase interest in primary care pediatrics or pediatrics overall. Despite the convenience of online sampling, it allowed selection bias toward more female and senior students impacting our findings. However, online sampling provided a diversity of students from around the country to give a better opportunity to generalize the data.

Ethics approval

Ethics approval and consent to participate: This study was reviewed and approved by the ethical committee of King Fahad Medical City, Riyadh, Saudi Arabia. All participants provided written informed consent and were reminded of lack of impact of their participation on their membership of the virtual online forum.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient (s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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