Kuteesa et al. BMC Medical Education (2021) 21:215
https://doi.org/10.1186/s12909-021-02630-x

BMC Medical Education

RESEARCH ARTICLE Open Access

Specialty career preferences among final year medical students at Makerere University College of health sciences, Uganda: a mixed methods study

Job Kuteesa[1*], Victor Musiime[2,3], Ian G. Munabi[4], Aloysius G. Mubuuke[5], Robert Opoka[3], David Mukunya[6] and Sarah Kiguli[3]

Abstract

Background: Uganda has an imbalanced distribution of the health workforce, which may be influenced by the specialty career preferences of medical students. In spite of this, there is inadequate literature concerning the factors influencing specialty career preferences. We aimed to determine the specialty career preferences and the factors influencing the preferences among fifth year medical students in the School of Medicine, Makerere University College of Health Sciences (MakCHS).

Methods: A sequential explanatory mixed methods study design with a descriptive cross-sectional study followed by a qualitative study was used. A total of 135 final year medical students in MakCHS were recruited using consecutive sampling. Self-administered questionnaires and three focus group discussions were conducted. Quantitative data was analysed in STATA version 13 (StataCorp, College Station, Tx, USA) using descriptive statistics, chi-square tests and logistic regression. Qualitative data was analysed in NVIVO version 12 (QRS International, Cambridge, MA) using content analysis.

Results: Of 135 students 91 (67.4%) were male and their median age was 24 years (IQR: 24, 26). As a first choice, the most preferred specialty career was obstetrics and gynecology (34/135, 25.2%), followed by surgery (27/135, 20.0%), pediatrics (18/135, 13.3%) and internal medicine (17/135, 12.6%). Non-established specialties such as anesthesia and Ear Nose and Throat (ENT) were not selected as a first choice by any student. Female students had 63% less odds of selecting surgical related specialties compared to males (aOR = 0.37, 95%CI: 0.17–0.84). The focus group discussions highlighted controlled lifestyle, assurance of a good life through better financial remuneration and inspirational specialists as facilitators for specialty preference. Bad experience during the clinical rotations, lack of career guidance plus perceived poor and miserable specialists were highlighted as barriers to specialty preference.

(Continued on next page)

* Correspondence: kuteesajob@gmail.com
[1]Department of Surgery, School of Medicine, Makerere University College of Health Sciences, Kampala, Uganda
Full list of author information is available at the end of the article

(Continued from previous page)
Conclusion: Obstetrics and Gynecology, Surgery, Pediatrics and Internal Medicine are well-established disciplines, which were dominantly preferred. Females were less likely to select surgical disciplines as a career choice. Therefore, there is a need to implement or establish career guidance and mentorship programs to attract students to the neglected disciplines.

Keywords: Career, Medical, Preferences, Specialty, Student

Background

The World Health Organization (WHO) recommends a doctor to patient ratio of 2.3 doctors per 1000 people for adequate health care services [1]. In spite of this, Africa has a doctor patient ratio at 0.25:1000 which is low when compared to the WHO standard [2]. This has resulted into uneven distribution of the health workforce within the various medical specialties [2]. In Uganda, this uneven distribution of health workers can be demonstrated by the number of specialist doctors registered by the Uganda Medical and Dental Practitioners Council. Among the 2012 registered specialists by 2019, 386 (19.2%) were public health specialists, 376(18.7%) were Pediatricians, 287 (14.3%) were Obstetrics and gynecology specialists, 230 (11.4%) were Internal medicine specialists and 185 (9.2%) were General surgeons [3]. There are specialties that had less than 20 (1%) specialists including ENT, Emergency medicine, and Nutrition.

It has been reported that the uneven distribution of the health workforce may occur as a result of specialty career preferences of medical students and their eventual choices of professional training [2, 4]. Studies conducted in Asia showed that students usually preferred already established clinical specialties like Pediatrics, General Surgery, Internal Medicine and Obstetrics and Gynecology [5, 6]. This pattern of preference can also be observed among medical graduates in Uganda as reflected in the admissions for post graduate programs in the past 10 years [7]. This imbalance in the health workforce may potentially lead to inadequate services offered in health care delivery [4] . Therefore, there is a need to attract medical students to the specialties with inadequate number of personnel so as to improve overall health care [2, 8, 9].

The medical students' preferences for a particular clinical specialty is likely to be influenced by both individual and contextual factors [10]. An understanding of the career preferences of medical undergraduates can perhaps help to provide important information that can be utilized when planning educational programs. In addition, it can help to set priorities so as to foster the provision of adequate health care through training a wide range of specialists [10]. However, there is insufficient literature concerning the factors that influence specialty career preferences of medical students not only in Uganda, but also in many resource-constrained countries. Therefore, this study was designed to determine specialty career preferences and the factors that influence these preferences among final year medical students at Makerere University College of Health Sciences (MaKCHS). Our study could provide important information to be used in setting priorities and planning educational programs so as to attract students to the less preferred specialties.

Methods

This study employed a sequential explanatory mixed study design (quantitative followed by qualitative). A quantitative cross-sectional study was conducted to determine the specialty career preferences. The qualitative study was done after the quantitative study so as to further explore the factors influencing the preferences. The study was conducted among final year medical students who had given written informed consent. Medical students in their final year were selected because they had adequate experience through medical school with satisfactory clinical experience. These students were also on the verge of entering the professional practice and had perhaps started reflecting upon the issue of specialty career preferences.

Quantitative component of the study

Regarding sample size determination, the entire population of 178 final year medical students was considered for the study, therefore, there was no need of sampling. Permission was obtained to access the list of registered fifth year medical students during the study period from the Principal of the College of Health Sciences, on submission of the ethical approval letter. The principal investigator (PI) worked with research assistants to recruit the students for the study using convinience sampling. There was communication made regarding the study to all the fifth year medical students through messages, phone calls and verbal announcements. This was done in the various class groups with the help of class representatives who also provided the students' contacts. The students who were interested in participating in the study were mobilized into a lecture room where the study was explained to them and they were given

career preferences and barriers to students' specialty career preferences. These themes showed the factors that were influencing the Specialty career preferences of medical students.

Abbreviations

ENT: Ear Nose and Throat; FDG: Focus Group Discussion; DRGT: Directorate of research and graduate training; MakCHS: Makerere University College of Health Sciences; MOH: Ministry of Health; PI: Principal Investigator; UMDC: Uganda Medical and Dental Council; WHO: World Health Organisation

Acknowledgements

We would like to acknowledge, Fozia Nizar Ali, Simon Tumusiime, Hope Atuhaire, Leah Nabirye and Hannington Semitala who were very helpful in mobilization of the participants and data collection. Cynthia Kuteesa Ndikuno was also very helpful in the process of data management as well as editing of the manuscript. Special regards also go to the study participants who were fifth year medical students. We would like to thank them for willingly taking time to provide the information and data needed to complete this study.

Authors' contributions

JK, SK, VM, RO, IGM, AGM, MD participated in the conception, study design, data analysis and manuscript preparation. JK and MD participated in data collection including conducting of the FGDs. All authors read and approved the final manuscript.

Authors' information

JK Male Urologist, MBChB (MakCHS), M. Med (Surgery) (MaKCHS), FCS Gen Surgery (ECSA), FCS Uro (ECSA), MSc. HPE (MaKCHS).
VM Male Senior Lecturer, MBChB (MaKCHS), M. Med (Paediatrics & Child Health) (MaKCHS), PhD (UA).
SK Female Professor, MBChB (MaKCHS), M. Med (Paediatrics & Child Health) (MaKCHS), MSc. HPE (Maastricht).
IGM Male Lecturer, MBChB (MaKCHS), M. Med (Anatomy), MSc. HPE (Maastricht), PhD (Maastricht).
AGM Male Lecturer, BSc. Radiology (MakCHS), MSc. HPE (Maastricht), PhD.
RO Male Senior Lecturer, MBChB (MaKCHS), M. Med (Paediatrics & Child Health) (MaKCHS) MSc. HPE (Maastricht).
DM Male Research Fellow/Trial Manager, MBChB (MakCHS), PhD (UIB).

Funding

Funding was provided by the Forgaty International Center of the National Institutes of Health, U. S Department of State's office of the U.S. Global AIDS Coordinator and health diplomacy (S/GAC), and President's Emergency Plan for AIDS Relief (PEPFAR) under Award number 1R25TW011213. The funds were used in data collection, analysis and preparation of the final dissertation. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health.

Availability of data and materials

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

Declarations

Ethics approval and consent to participate

Ethical approval was obtained from the School of Medicine Research and Ethics Committee (SOMREC) with protocol number #REC REF 2019–045. Written informed consent was obtained from all study participants and their willingness to participate was emphasized and they were free to withdraw from the study at any time. All data collected was kept securely in a password protected computer, and the physical data under lock and key. Confidentiality was maintained by restricting access to study data to only the investigators, and not using specific name identifiers in the data sets.

Consent for publication

Not applicable

Competing interests

The authors declare that they have no competing interests.

Author details

[1]Department of Surgery, School of Medicine, Makerere University College of Health Sciences, Kampala, Uganda. [2]Research Department, Joint Clinical Research Centre, Kampala, Uganda. [3]Department of Pediatrics, School of Medicine, Makerere University College of Health Sciences, Kampala, Uganda. [4]Department of Human Anatomy, School of Biomedical Sciences, Makerere University College of Health Sciences, Kampala, Uganda. [5]Department of Radiology, School of Medicine, Makerere University College of Health Sciences, Kampala, Uganda. [6]Sanyu Africa Research Institute, Mbale, Uganda.

Received: 22 June 2020 Accepted: 25 March 2021
Published online: 16 April 2021

References

1. WHO. Global tuberculosis report 2013: World Health Organization; 2013.
2. Chen L, Evans T, Anand S, Boufford JI, Brown H, Chowdhury M, et al. Human resources for health: overcoming the crisis. Lancet. 2004;364(9449):1984–90. https://doi.org/10.1016/S0140-6736(04)17482-5.
3. UMDPC. List of registered medical and dental practitioners by the year 2019. 2019.
4. Zurn P, Dal Poz MR, Stilwell B, Adams O. Imbalance in the health workforce. Hum Resour Health. 2004;2(1):13. https://doi.org/10.1186/1478-4491-2-13.
5. Huda N, Yousuf S. Career preference of final year medical students of Ziauddin Medical University. Educ Health (Abingdon). 2006;19(3):345–53.
6. Ananthakrishnan N. Acute shortage of teachers in medical colleges: existing problems and possible solutions. Natl Med J India. 2007;20(1):5.
7. DRGT. Makerere University Directorate of Research and Graduate training 2019. Available from: https://rgt.mak.ac.ug/. Accessed 18 Aug 2019.
8. Kinfu Y, Dal Poz MR, Mercer H, Evans DB. The health worker shortage in Africa: are enough physicians and nurses being trained? Bull World Health Organ. 2009;87(3):225–30. https://doi.org/10.2471/BLT.08.051599.
9. Mohr J. Working together for Health: World Health Organization; 2006. http://www.who.int/whr/2006/chapter1/en/. Accessed 11 Sept 2018. Health Workers; a Global Profile2006
10. Ahmed SMM, Majumdar MAA, Karim R, Rahman S, Rahman N. Career choices among medical students in Bangladesh. Adv Med Educ Pract. 2011; 2:51–8. https://doi.org/10.2147/AMEP.S13451.
11. Creswell JW, Hanson WE, Clark Plano VL, Morales A. Qualitative research designs: Selection and implementation. Couns Psychol. 2007;35(2):236–64.
12. Apker J, Eggly S. Communicating professional identity in medical socialization: considering the ideological discourse of morning report. Qual Health Res. 2004;14(3):411–29. https://doi.org/10.1177/1049732303260577.
13. Bittaye M, Odukogbe A-TA, Nyan O, Jallow B, Omigbodun AO. Medical students' choices of specialty in the Gambia: the need for career counseling. BMC Med Educ. 2012;12(1):72. https://doi.org/10.1186/1472-6920-12-72.
14. Rehman A, Rehman T, Shaikh MA, Yasmin H, Asif A, Kafil H. Pakistani medical students' specialty preference and the influencing factors. J Pak Med Assoc. 2011;61(7):713–8.
15. Fukuda Y, Harada T. Gender differences in specialty preference and mismatch with real needs in Japanese medical students. BMC Med Educ. 2010;10(1):15. https://doi.org/10.1186/1472-6920-10-15.
16. Ko HH, Lee TK, Leung Y, Fleming B, Vikis E, Yoshida EM. Factors influencing career choices made by medical students, residents, and practicing physicians. BCMJ. 2007;49.
17. Maseghe-Mwachaka P, Thuo Mbugua E. Specialty preferences among medical students in a Kenyan University. Pan Afr Med J. 2010;5(18).
18. Khader Y, Al-Zoubi D, Amarin Z, Alkafagei A, Khasawneh M, Burgan S, et al. Factors affecting medical students in formulating their specialty preferences in Jordan. BMC Med Educ. 2008;8(1):32. https://doi.org/10.1186/1472-6920-8-32.
19. Makama JG, Ameh EA. Does general surgery clerkship make a future career in surgery more appealing to medical students? Afr Health Sci. 2010;10(3).
20. Namatovu J, Cynthia H. Development of Family medicine in Uganda 2016. Available from: www.globalfamilydoctor.com/News/DevelopmentofFamilyMedicineinUganda.aspx. Accessed 1 Nov 2018.

Publisher's Note