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(RESEARCH ARTICLE)

Career Intentions in Anatomy: Perspectives of final-year medical students at St. Francis University College of Health and Allied Sciences, Ifakara, Tanzania

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Abstract

Background: Globally, there is a shortage of healthcare professionals specializing in Anatomy. This shortage has implications, as a decline in field specialists may hinder the quality of future medical education. This study, therefore, aimed to assess the interest, influencing factors, and perceived barriers related to specializing in Anatomy among fifth-year medical students at St. Francis University College of Health and Allied Sciences (SFUCHAS).

Methodology: The study utilized a descriptive cross-sectional design in which 111 fifth-year medical students were conveniently recruited. Mean and standard deviation were used to summarize continuous variables, while frequencies and percentages were used to summarize categorical variables.

Results: The study involved 111 fifth-year medical students (mean age 25.9 ± 3.13 years; 64.86% female). While a significant majority (81.98%) would recommend Anatomy specialization to peers, only 28.83% expressed personal interest in pursuing it. A larger proportion was neutral (38.74%) or not interested (32.43%), with less than half (45.05%) considering Anatomy as a viable career option. Key barriers discouraging specialization were identified as financial concerns (59.46%) and limited job opportunities (58.56%). Lack of mentorship (47.75%) and perceived low prestige (38.74%) were also notable challenges. Factors influencing the decision to specialize included career opportunities (66.67%), work-life balance (60.36%), and intellectual satisfaction (60.36%).

Conclusion: This study reveals a critical paradox among final-year medical students at SFUCHAS: while Anatomy specialization is widely recommended to peers, personal interest and perceived career viability remain low. The primary deterrents are financial constraints and perceived scarcity of job opportunities, among others. However, positive drivers like career prospects, intellectual satisfaction, work-life balance, and mentor influence highlight potential leverage points. Addressing the identified barriers, particularly through creating sustainable career pathways, financial support structures, and robust mentorship programs, is essential to attract more graduates to Anatomy specialization in Tanzania to mitigate the critical global shortage of Anatomy educators.

Keywords: Perception; Anatomy Course; Specialization; Medical Students; Career

1. Introduction

Anatomical sciences form the fundamental principles of medical education, providing the structural knowledge essential for clinical reasoning and practice. However, globally, concerns persist regarding a potential decline in interest in Anatomy as a specialized career path among medical graduates, threatening the pipeline of future anatomists and educators crucial for sustaining medical training quality [1,2].

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This trend poses a particular challenge in resource-constrained settings like Tanzania, where the demand for qualified healthcare professionals is acute, and the retention of specialized academic talent, including anatomists, is critical for building robust, self-sustaining medical education systems [3,4]. Understanding the career aspirations and perceptions of graduating medical students toward Anatomy specialization is therefore vital for strategic educational planning and workforce development.

This study specifically investigates the perceptions of fifth-year medical students (2020/2021 cohort) at St. Francis University College of Health and Allied Sciences (SFUCHAS) in Ifakara, Tanzania, regarding pursuing Anatomy specialization after completing their Medical Doctor (MD) program. By examining factors such as perceived career prospects, academic experiences, mentorship influence, social views, and exposure to the discipline that shape these students' intentions toward Anatomy as a specialty, this research aims to generate crucial, localized evidence. Such insights are indispensable for SFUCHAS and similar Tanzanian institutions to develop targeted interventions, inspire future anatomists, and ensure the continued excellence of anatomical education within the nation's evolving healthcare landscape.

2. Methodology

2.1. Study sites and design

A descriptive cross-sectional study was conducted in the Ifakara Town Council (ITC), involving the only higher learning institution. ITC is located in the Kilombero district, Morogoro region, Tanzania. As per the 2022 Population and Housing Census, ITC has a population of 290,424, with a growth rate of 9.8%. The study site was St. Francis University College of Health and Allied Sciences (SFUCHAS), a higher learning institution offering an array of courses, including a Doctor of Medicine degree to more than 1000 candidates per five-year cycle.

2.2. Sampling technique

Convenient sampling was utilized to recruit fifth-year medical students at the institution.

2.3. Data collection and data analysis

A structured questionnaire was used, encompassing demographic information and a number of closed-ended questions measuring perceptions of Anatomy specialization. Data from the questionnaires were entered into MS Excel, coded, and thereafter analyzed using SPSS.

2.4. Ethical issues about human subjects

The St. Francis University College of Health and Allied Sciences (SFUCHAS) Institutional Review Board approved this work. Prospective participants were asked to take part in the study, and those who agreed voluntarily signed the consent form. The option to decline participation at any time was open to all.

3. Results

3.1. Characteristics of the study participants

A total of 111 fifth-year medical students participated (response rate: 92.5%). As shown in Table 1, the mean age was 25.9 ± 3.13 years, with 69.37% (n=77) aged ≤25 years. Female participants predominated (64.86%, n=72). Over half (57.66%, n=64) had completed an Anatomy research project during their training. Only 28.83% (n=32) expressed interest in specializing in Anatomy, while 38.74% (n=43) were neutral, and 32.43% (n=36) were not interested. Despite this, 45.05% (n=50) considered Anatomy a viable career option. Notably, 81.98% (n=91) would recommend Anatomy specialization to peers (Table 1 and Figure 1).

Table 1 Characteristics of the study participants (N=111)

Variables	Frequency	Percentage %
Age (Years)		
Mean (SD)	25.9(3.13)	
≤25	77	69.37
25-34	29	26.13
35-40	5	4.50
Sex		
Male	39	35.14
Female	72	64.86
Completed Anatomy Project		
Yes	64	57.66
No	47	42.34
Interested in Anatomy specialization		
Interested	32	28.83
Neutral	43	38.74
Not interested	36	32.43
Anatomy as a Career Option		
Yes	50	45.05
No	61	54.95
Recommend Anatomy to peers.		
Yes	91	81.98
No	20	18.02

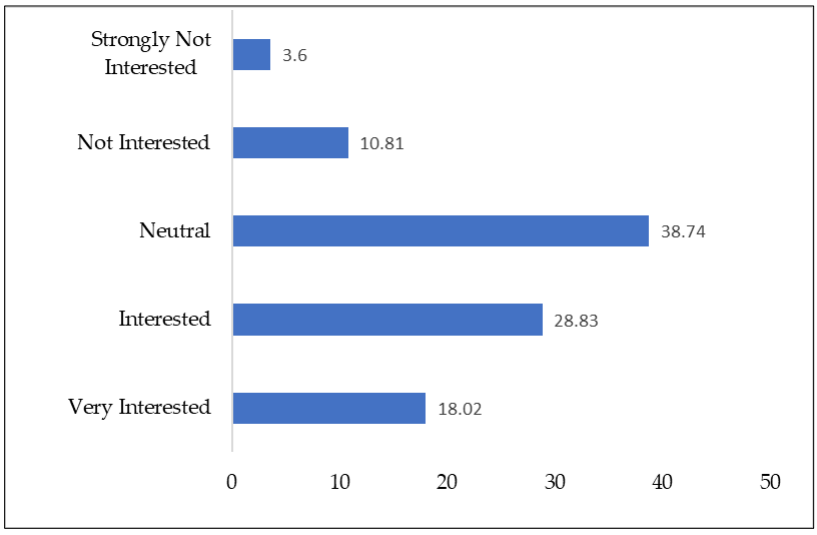


Figure 1 Level of interest in percentages among 5th year medical students at SFUCHAS in pursuing Anatomy as a specialization

3.2. Reported barriers and challenges that may discourage medical graduates from pursuing specialization in Anatomy

Financial concerns (59.46%) and limited job opportunities (58.56%) were the most prominent barriers, as presented in Table 2. Lack of mentorship affected 47.75% of respondents, while perceived low prestige (38.74%) and heavy workload (29.73%) were additional deterrents. Other challenges are detailed in Figure 2.

Table 2 Reported Barriers and Challenges that may discourage medical graduates from pursuing specialization in Anatomy (N=111)

Barrier/Challenge	Very Significant (%)	Significant (%)	Combined (Sig + Very Sig) (%)
Limited Job opportunities	32.43	26.13	58.56
Financial concerns	31.53	27.93	59.46
Lack of mentorship	26.13	21.62	47.75
Perceived low prestige	15.32	23.42	38.74
Heavy workload	17.12	12.61	29.73

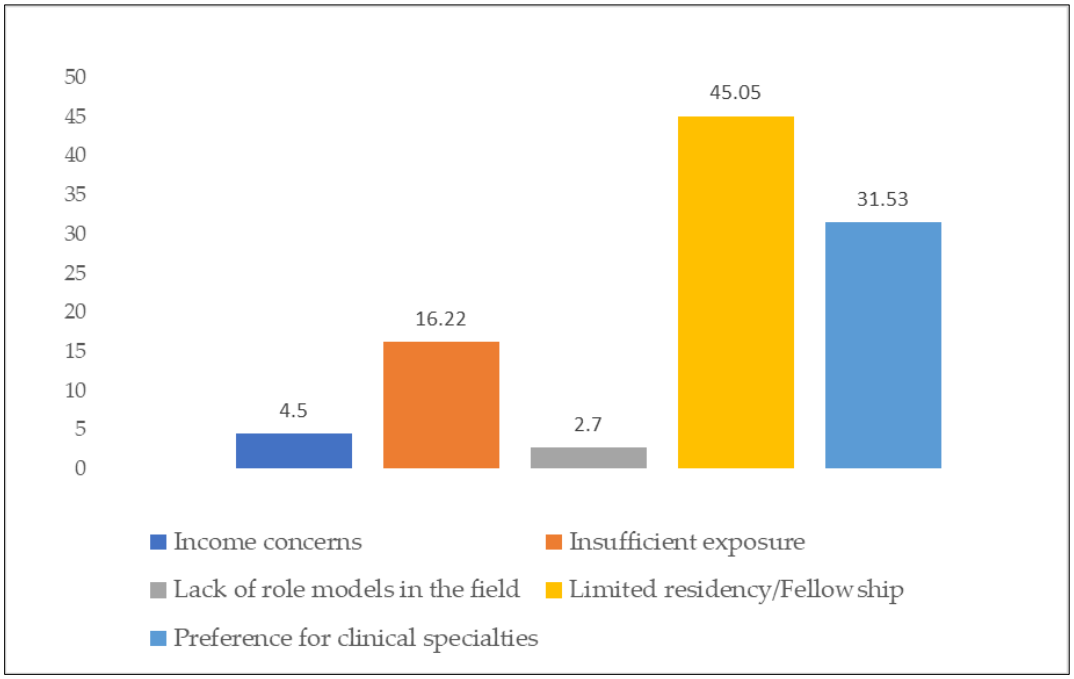


Figure 2 Other Challenges discourage SFUCHAS students from pursuing Anatomy

3.3. Reported factors that influence the decision to specialize in Anatomy

Career opportunities (66.67% combined important/very important) were the strongest positive influence. Work-life balance (60.36%), intellectual satisfaction (60.36%), and mentor influence (59.46%) were also key motivators. Research opportunities influenced 53.16% of respondents, as shown in Table 3 and Figure 3 below.

Table 3 Reported factors that influence the decision to specialize in Anatomy

Factor	Very Important (%)	Important (%)	Combined (Important + Very Important) (%)
Career opportunities	45.95	20.72	66.67
Work-life balance	32.43	27.93	60.36

Influence of Anatomy mentors	31.53	27.93	59.46
Intellectual satisfaction	29.73	30.63	60.36
Research opportunities	26.13	27.03	53.16

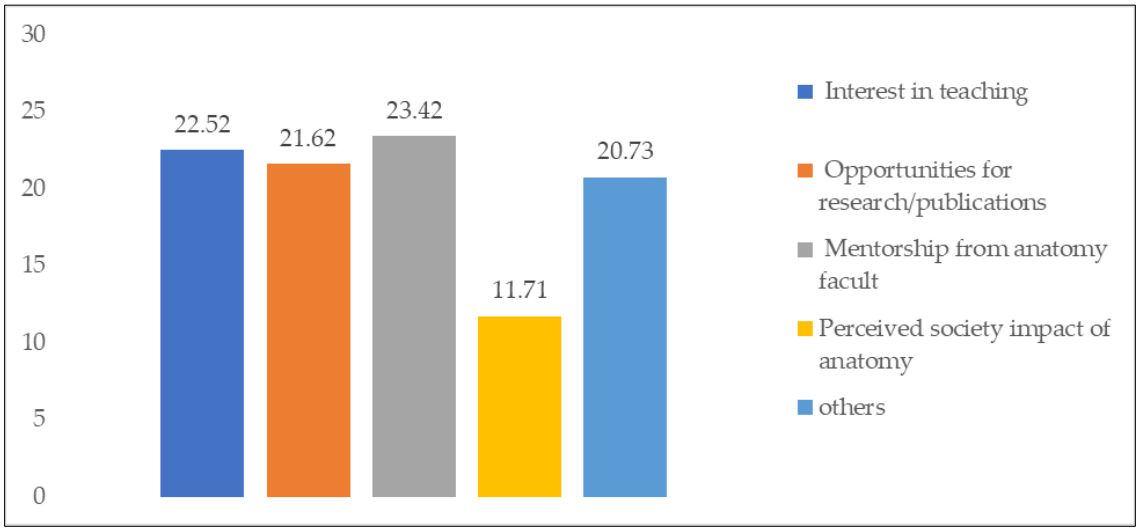


Figure 3 Reported factors that encouraged SFUCHAS students to consider Anatomy in their future career

4. Discussion

This study reveals a critical paradox among Tanzanian medical students: while 81.98% would recommend Anatomy specialization to peers, only 28.83% expressed personal interest, with just 45.05% considering it a viable career path. These findings can be explained by several factors, such as the non-clinical nature of the specialty, which offers little patient interaction, and a prevailing societal and institutional preference for clinical fields, all of which discourage personal pursuit despite recognizing its value. This aligns with global patterns where Anatomy is valued fundamentally but struggles to attract specialists [5,6]. The disconnect between perceived importance and career adoption mirrors findings in other resource-limited settings [5,7].

Financial concerns (59.46%) and limited job opportunities (58.56%) emerged as primary deterrents, consistent with career decision drivers identified by Puri et al. [8]. This reflects broader regional challenges where economic pressures steer graduates toward clinical specialties [9]. The significant role of lack of mentorship (47.75%) supports Reynolds S.T.'s assertion that faculty engagement critically influences specialty choices [10], while perceived low prestige (38.74%) echoes Peter Alexander Creed, Judy Searle, and Mary E Roger's findings on undervalued academic roles [11]. These barriers collectively create a "push factor" toward clinical practice, exacerbating Anatomy educator shortages [5,9].

Notably, career opportunities (66.67%) and work-life balance (60.36%) were top motivators, reflecting students' desire for stable employment, financial security, and a sustainable lifestyle. In a resource-limited setting like Tanzania, where job competition is high and healthcare demands are intense, students may prioritize specialties that offer clear career paths and allow for a balanced personal and professional life. Consequently, these factors were reported by the majority to influence their career decision-making. These findings align with Peter Alexander Creed, Judy Searle, and Mary E Roger's identification of lifestyle factors in specialty selection [11]. The influence of mentors (59.46%) is reinforced by John P.Ffraher and Darrell.J.R.Evan's call for intentional faculty development [12,13,14], while intellectual satisfaction (60.36%) correlates with McLachlan and Patten's findings on academic appeal [15]. Research opportunities (53.16%) remain underutilized leverage points, particularly given by Arráez-Aybar, and Pallab K Ganguly's emphasis on modern Anatomy's investigative nature [13,14].

Tanzania's specific constraints, including faculty shortages and competition for clinical roles [9,12], amplify these global trends. The "brain drain" phenomenon [16] further threatens academic medicine, potentially skewing perceptions of

local opportunities. This creates a self-perpetuating cycle: limited mentors discourage specialization [12,13], reducing future faculty pools. [5,9]

5. Conclusion

This study confirms a worrying disconnect between the recognized importance of Anatomy and the willingness of Tanzanian medical graduates to specialize in it, driven primarily by tangible concerns over finances, job security, and lack of mentorship, alongside intangible factors like perceived prestige.

Limitations of the study

Limitations include its single-institution design, which limits generalizability across Tanzania. The cross-sectional nature captures perceptions at one time point; longitudinal tracking of actual career choices would be valuable. Relying solely on closed-ended questionnaires may miss nuanced perspectives; future studies could benefit from mixed methods.

Compliance with ethical standards

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Disclosure of conflict of interest

The authors declared no conflicts of interest throughout this work.

Statement of ethical approval

Ethical clearance for conducting the research was obtained from the St. Francis University College of Health and Allied Sciences Institutional Review Board.

Statement of informed consent

Informed consent was also sought from all participants, ensuring confidentiality and voluntary participation.

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References

[1] Bahadoran H, Dadfar R, Asadi MH, Moghadami S. The Role of Anatomy in Medical Education. Anatomical Sciences. 2022; 19(2):51-58.

[2] Amgad Sbayeh.Mohammad A. Qaedi Choo2 · Kathleen A. Quane1 · Paul Finucane3 · Deirdre McGrath3 · Siun O'Flynn2 · Siobhain M. O'Mahony1 · Colm M. P. O'Tuathaigh.Relevance of Anatomy to medical education and clinical practice: perspectives of medical students, clinicians, and educators. Perspect Med Educ (2016) 5:338–346.DOI 10.1007/s40037-016-0310-4

[3] RAMADHANI, T. (2022). What motivates the choice of specialty among medical doctors in Tanzania.eCommons@AKU.5-2022

[4] Ezekiel Kalipeni, Linda L. Semu, and Margaret Asalele Mbilizi. Progress in Development Studies perspective: The brain drain of health care professionals from sub-Saharan Africa: A geographic Published. Http://pdj.sagepub.com/content/12/2-3/153.DOI: 10.1177/146499341101200305-2012 12: 153.

[5] Oluwatoyin H. Onakpoya1, Uvie U. Onakpoya, Grace E. Adereti. The prospect of anatomy as a career choice among clinical year medical students in Nigeria. Annals of African Medicine. Vol. 8, No. 2; 2009:90-94

[6] Anand MK, Raibagkar CJ, Ghediya SV, Singh P. Anatomy as a subject and career option given medical students in India. J.Anat.Soc. India 53 (1)10-14 (2004)

[7] Kizito et al. Career intentions of final year medical students in Uganda after graduating: The burden of brain drain, Career choice, professional education and development.BMC Medical Education (2015) 15:12

[8] Puri P, Landman N, Smoldt R K, et al. (February 10, 2021) Quantifying the Financial Value of Clinical Specialty Choice and Its Association With Competitiveness of Admissions. Cureus 13(2): e13272. DOI 10.7759/cureus 13272.

[9] Aamir Hafeez, Syed Manzoor, Hussain Shah. Impact of socio-economic status on determinants of medical career. J Ayub Med Coll Abbottabad 2015;28(3)

[10] Reynolds ST. The Role of Faculty Mentorship in Supporting Medical Student Mental Health. RRJ Med Health Sci. 2024; 13:008.

[11] Peter Alexander Creed, Judy Searle, Mary E Rogers. Medical specialty prestige and lifestyle preference for medical students. DOI: 10.1016/j.socscimed.2010.06.027

[12] John P.Ffraher, Darrell.J.R.Evans. Training tomorrow's anatomists today: A partnership approach. Anatomical Sciences Education. May 20092(3):119 – 125. DOI:10.1002/ase.81

[13] Arráez-Aybar, L. Evolving Anatomy Education: Bridging Dissection, Traditional Methods, and Technological Innovation for Clinical Excellence. Anatomia 2025, 4, 9. https://doi.org/ 10.3390/anatomia4020009

[14] Pallab K Ganguly, Lap Ki Chan, Living Anatomy in the 21st century: how far can we go? South-east Asian Journal of Medical Education · November 2007.DOI: 10.4038/seajme. v2i2.482

[15] McLachlan JC, Patten D. Anatomy teaching: ghosts of the past, present and future. Med Educ. 2006;40(3):243-253. doi:10.1111/j.1365-2929.2006.02401. x.

[16] 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):225-230. doi:10.2471/BLT.08.051599.