

Original Article

## Motivations for choosing dentistry as a career among dental students in Tanzania

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### ABSTRACT

**Objectives:** Educators are interested in understanding motivations for choosing a career in the dental field, especially in the current era when there are several career paths to choose from. This study aimed to investigate the motivating factors given by dental students for selecting dentistry as a career in Tanzania.

**Material and Methods:** A questionnaire was sent to 256 dental students to capture their sociodemographic characteristics and possible motives for choosing dentistry as a career. The motive/reasons were then grouped into four domains. ANOVA test was done to establish an association between sociodemographic characteristics and reasons for choosing dentistry and the *P*-value was set at <0.05.

**Results:** Out of 256 registered students, 239 returned the filled questionnaires. Opportunities to work anywhere in the world, job and financial security, the opportunity to work with hands, and getting enough time for the family were the commonly agreed motives for choosing dentistry. The age, sex, and upbringing environment of the students had no significant association with the mean score of various domains of motives for choosing dentistry (*P* > 0.05). The odds of selecting dentistry due to professional motives were 2 times higher among those who were in-service (OR = 0.444, 95% CI 0.267, 0.739) and were 3 times higher in those who were in clinical years (OR = 0.292, 95% CI 0.128, 0.666). The odds of selecting dentistry due to vocational motives among those who were in-service were 3 times higher (OR = 0.347, 95% CI 0.153, 0.786).

**Conclusion:** The main motives for choosing dentistry as a carrier included the opportunity to work anywhere in the world, job and financial security, and getting enough time for the family.

**Keywords:** Dentistry, Career choice, Motives, Tanzania

### INTRODUCTION

Educators are interested in understanding the students' motivations for choosing a career in the health professions,<sup>[1]</sup> especially in the current era when there are many professions and career paths available for one to choose.<sup>[2]</sup> Several complex factors influence one's decision concerning the motive to choose a specific specialty, and there is no exception regarding the choice of dentistry.<sup>[1]</sup> These factors may vary over time and between countries.<sup>[3]</sup> Some of the factors include advice from friends or family, admiration of the profession, an interest in the specialty, good job opportunities, a desire to serve others, the medical background of the parents, and many more.<sup>[4,5]</sup> Some studies<sup>[1,6]</sup> reported that the motives for a career choice in dentistry are influenced by the sociodemographic background of an individual, whereas some have reported otherwise.<sup>[5]</sup>

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Although it is understood that the motives influencing students to study dentistry impact their learning at dental school,<sup>[4]</sup> to date, there is a lack of documented data regarding these factors in Tanzania. This knowledge gap causes the health-care education system to lack an understanding of the motives for students to enter the dental health-care workforce. Therefore, it fails to make changes in policies in dental education<sup>[5]</sup> which will infuse the dental students with professionalism which prepares them for providing care for patients and a commitment to the health-care needs of society.<sup>[4]</sup> To address this knowledge gap, this study was conducted to investigate the motives given by dental students for selecting dentistry as a career in Tanzania.

## MATERIAL AND METHODS

This was a cross-sectional study conducted from September 2019 to December 2020 at the School of Dentistry of Muhimbili University of Health and Allied Sciences (MUHAS) located in Dar es Salaam, Tanzania. The School of Dentistry of MUHAS is currently the only school in the country that trains dental students at the level of undergraduate and postgraduate degrees. The undergraduate studies take a 5-year duration whereby in the 1<sup>st</sup> and 2<sup>nd</sup> years, the students undertake basic science courses, and in the past 3 years, they have clinical rotations.

This study included all 256 students (1<sup>st</sup>–5<sup>th</sup> years) enrolled for the academic year 2019/2020. Exclusion criteria included any student who froze or postponed studies and those who were not willing to participate.

A self-administered questionnaire which comprised two sections was used for data collection. No relevant validated study tool was available to be used directly in this research setting. Therefore, we developed a questionnaire in English. Before using the questionnaire, it was assessed by an independent subject expert to check for its validity. A pilot assessment was conducted among students enrolled in other programs apart from dentistry to determine the reliability of the questionnaire. The questionnaire had two sections; Section 1 addressed sociodemographic characteristics such as age, gender, residence, and familial background. The questions were in standardized or close-ended form and some were open-ended. The second section included a list of questions as possible motives for choosing dentistry as a career. These questions were graded as 5-point Likert scale items. Students were asked to rate each motive for choosing dentistry with 5 indicating “strongly agree” and 1 indicating “strongly disagree.”

The Statistical Package for the Social Sciences version 26 (IBM, Armonk, NY, USA) was used for statistical analysis. Clearing and transformation of data were done before analysis. The age of the participants was dichotomized

into  $\leq 24$  years and  $> 24$  years. The motives for choosing dentistry were grouped into four domains which were economic motives (five questions), professional motives (five questions), vocational motives (six questions), and social motives (five questions). The mean score for each domain was then calculated.

ANOVA test was done to establish an association between sociodemographic characteristics and motives for choosing dentistry and the *P*-value was set at  $< 0.05$ . Ordinal regression analysis was used to identify the factors associated with motives for choosing dentistry. The results were reported as odds ratio and 95% confidence interval.

The MUHAS Institutional Review Board provided the ethical clearance for this study. All gathered information was handled confidentially and there was no consequence on the side of the participants who did not return the questionnaires.

## RESULTS

Out of 256 registered students, 239 returned the filled questionnaires, giving a response rate of 93.4%. A majority (189, 79.1%) were male, with a male-to-female ratio of 3.8:1. The mean age of participants was 24.5 (SD = 3) years and most (151, 63.2%) were aged  $< 25$  years. Almost two-thirds (159, 66.5%) of the participants were in their clinical rotations. A majority (213, 89.1%) of the students were fresh from high school, with the remaining 26 (10.9%) joining after working as dental therapists/assistant dental officers. Dentistry was the first choice of 140 (58.6%) students [Table 1].

The economic motives that were frequently given by participants for choosing a career as a dentist were the opportunity to work anywhere in the world, job security, and financial security. Regarding professional motives, frequently

**Table 1:** Distribution of respondents according to the sociodemographic data.

Sociodemographic characteristics	Gender		Total, <i>n</i> (%)
	Male, <i>n</i> (%)	Female, <i>n</i> (%)	
Age (years)			
$\leq 24$	111 (58.7%)	40 (80%)	151 (63.2%)
$> 24$	78 (41.3%)	10 (20%)	88 (36.8%)
Mean age (years)	24.8 $\pm$ 3.1	23.5 $\pm$ 2.6	24.5 $\pm$ 3.0
Year of study			
Basics	65 (34.4%)	15 (30%)	80 (33.5%)
Clinical	124 (65.6%)	35 (70%)	159 (66.5%)
Mode of entrance			
Fresh from high school	168 (88.9%)	45 (90%)	213 (89.1%)
In-service	21 (11.1%)	5 (10%)	26 (10.9%)
Upbringing environment			
Urban	86 (45.5%)	40 (80%)	126 (52.7%)
Rural	103 (54.5%)	10 (20%)	113 (47.3%)

stated motives were flexible work schedules and regular working hours. The opportunity to work with hands, the liking to work with people, and the desire to improve the oral health of the poor and underprivileged were the common vocational motives. The only most common social motive for choosing dentistry was to get enough time for the family [Table 2].

The mean scores of each domain-specific motive were  $3.4 \pm 0.7$  for economic motives,  $3.7 \pm 0.7$  for professional motives,  $3.6 \pm 0.6$  for vocational motives, and  $2.2 \pm 0.6$  for social motives. On assessing the differences in mean scores of various domains of motives of choosing dentistry according to sociodemographic characteristics, there was a significant difference in mean scores for the domain of professional motives according to the year of study ( $P = 0.002$ ) and the mode of entry to the university ( $P = 0.002$ ), and in mean scores of the domain of vocational motives according to the mode of entry to the university ( $P = <0.001$ ) [Table 3].

The odds of selecting dentistry due to professional motives among those who were in-service were 2.25 times higher than of those who joined dentistry immediately after completing high school (OR = 0.444, 95% CI 0.267, 0.739). Whereas, the chance of selecting dentistry due to professional motives was 3.42 times higher in those who were in clinical years than those who were in basic sciences (OR = 0.292, 95% CI 0.128, 0.666).

The odds of selecting dentistry due to vocational motives among those who were in-service were 2.88 times higher than of those who joined dentistry immediately after completing high school (OR = 0.347, 95% CI 0.153, 0.786).

## DISCUSSION

This is a first-of-a-kind study in Tanzania to systematically investigate and document motives for the choice of dentistry as a career. This study utilized a specially designed questionnaire that was distributed to all eligible undergraduate students in the Doctor of Dental Surgery program. A response rate of over 93% which is comparable to other similar studies done elsewhere<sup>[2,5]</sup> increases the validity of our findings.

Results of the present study depicted that dentistry was the first choice of only 58.6% of students. This was lower than the findings from China<sup>[7]</sup> but higher than what Khanal *et al.*<sup>[3]</sup> reported from Nepal. The findings from the present study point out what one can consider as the flaw in the admission system of the universities in Tanzania, where attention to the career choice of students is not always taken into consideration, but rather just the scores of the high school examinations. As such once the slot for the first choice is filled (mostly medicine), the students are considered for

**Table 2:** Response of participants to different motives for choosing dentistry.

Motives for choosing dentistry	Response				
	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
<b>Economic motives</b>					
International work opportunities	9 (3.8%)	19 (7.9%)	63 (26.4%)	67 (28.0%)	81 (33.9%)
Job security	3 (1.2%)	15 (6.3%)	80 (33.5%)	88 (36.8%)	53 (22.2%)
Financial security	10 (4.2%)	17 (7.1%)	86 (36.0%)	95 (39.7%)	31 (13.0%)
Better pay	19 (7.9%)	56 (23.4%)	82 (34.3%)	52 (21.8%)	30 (12.6%)
Earn a lot of money easily	33 (13.8)	45 (18.8%)	105 (43.9%)	31 (13.0%)	25 (10.5%)
<b>Professional motives</b>					
Flexible work schedule	4 (1.7%)	24 (10.0%)	42 (17.6%)	99 (41.4%)	70 (29.3%)
Regular working hours	5 (2.1%)	21 (8.8%)	61 (25.5%)	97 (40.6%)	54 (22.6%)
Be own boss	9 (3.8%)	31 (13.0%)	55 (23.0%)	68 (28.5%)	76 (31.8%)
Work independently	12 (5.0%)	36 (15.1%)	72 (30.1%)	81 (33.9%)	38 (15.9%)
<b>Vocational motives</b>					
Like working with people	–	4 (1.7%)	19 (7.9%)	84 (35.1%)	132 (55.2%)
Wanted to be called a doctor	49 (20.5%)	48 (20.1%)	33 (13.8%)	79 (33.1%)	30 (12.6%)
Opportunity to work with hands	10 (4.2%)	13 (5.4%)	21 (8.8%)	100 (41.8%)	95 (39.7%)
Improve oral health of poor	18 (7.5%)	32 (13.4%)	29 (12.1%)	79 (33.1%)	81 (33.9%)
Interested in oral health	21 (8.8%)	36 (15.1%)	28 (11.7%)	81 (33.9%)	73 (30.5%)
Dentistry is exceptional/unique	37 (15.5%)	35 (14.6%)	69 (28.9%)	61 (25.5%)	37 (15.5%)
<b>Social motives</b>					
Get enough family time	12 (5.0%)	16 (6.7%)	50 (20.9%)	81 (33.9%)	80 (33.5%)
Parent's wish	113 (47.3%)	76 (31.8%)	21 (8.8%)	17 (7.1%)	12 (5.0%)
Family encouragement	93 (38.9%)	60 (25.1%)	22 (9.2%)	41 (17.2%)	23 (9.6%)
One of my parents is a dentist	188 (78.7%)	45 (18.8%)	6 (2.5%)	–	–
One of my relatives is a dentist	164 (68.6%)	46 (19.2%)	10 (4.2%)	10 (4.2%)	9 (3.8%)

**Table 3:** Mean scores for motives for choosing dentistry according to sociodemographic characteristics of the participants.

Sociodemographic characteristics	Mean score for each domain of motive for choosing dentistry			
	Economic Mean±SD	Professional Mean±SD	Vocational Mean±SD	Social Mean±SD
Sex				
Male	3.38±0.76	3.64±0.73	3.65±0.64	2.16±0.63
Female	3.49±0.64	3.81±0.73	3.67±0.68	2.21±0.63
P-value	0.277	0.140	0.906	0.605
Age groups (years)				
≤24	3.33±0.75	3.62±0.74	3.61±0.66	2.14±0.67
>24	3.50±0.72	3.77±0.71	3.72±0.63	2.22±0.56
P-value	0.086	0.128	0.229	0.328
Upbringing residence				
Urban	3.40±0.76	3.66±0.79	3.61±0.67	2.21±0.67
Rural	3.38±0.72	3.69±0.66	3.71±0.63	2.13±0.57
P-value	0.809	0.757	0.239	0.309
Year of study				
Basic	3.30±0.66	3.47±0.62	3.57±0.63	2.19±0.71
Clinical	3.44±0.77	3.78±0.76	3.70±0.66	2.17±0.59
P-value	0.174	0.002	0.148	0.827
Mode of entrance				
Fresh from high school	3.37±0.71	3.62±0.72	3.62±0.65	2.17±0.63
In-service	3.62±0.96	4.09±0.67	3.97±0.57	2.21±0.59
P-value	0.518	0.002	<0.001	0.730

the second or third choices.<sup>[2,5]</sup> Students will agree to enroll in the second or third choice because of a chance to get into university education.

The reason for not selecting dentistry as the first choice for most students may be that a majority of high school students do not know what a dentist does. This lack of information is due to the low level of awareness and utilization of dental care in the country.<sup>[8,9]</sup> Moreover, oral health education is rarely taught at the primary and secondary school level which could have translated into students not knowing what dentistry entails.<sup>[10]</sup>

The economic motives that pushed students to choose dentistry in this survey included the opportunity to work abroad, job security, and financial security. These findings may not be surprising as it has been generally believed that the principal motive behind the pursuit of a given career lies in the fundamental human need to “make ends meet.”<sup>[11]</sup> Dentistry is one of the high-paying jobs;<sup>[3]</sup> hence, students are inclined toward a career in dentistry.

As far as professional motives were of concern, flexible working schedules and regular working hours were the common motives that pushed students into choosing a career in dentistry in this study. Similarly, a study from Kenya<sup>[2]</sup> found that one of the common motives for choosing dentistry among undergraduate students was a flexible work schedule. In Tanzania, dentists (especially in private practice) are rarely on call and most of their work is on an 8 a.m.–5 p.m. basis. Regular working hours enable a person to engage

in other extramural activities. The aspect of regular working hours eventually enables one to plan and has enough time to spend with family, as it was evident from this study, the most common social motive for choosing dentistry was having enough time for family.

It has been noted that indirect influence from family members possibly plays a role in shaping the students’ inclinations and attitudes toward their future careers;<sup>[5,6]</sup> however, this was not evident in the present study since a majority of students disagreed with the influence of their parents and relatives in their choice of dentistry. This further deduces the generalized lack of awareness of the dental profession even among the family members of these students.

Results from the present study did reflect that the age, sex, and upbringing environment of students did not have any significant association with social, economic, vocational, and professional motives for choosing dentistry. This may indicate that regardless of the sociodemographic background of the students, all have a similar understanding of dentistry.

There was a significant association between professional motives for choosing dentistry and the year of study of the students. Students who were in their clinical years were 3 times more likely to choose dentistry on a professional basis. This may be explained by the fact that, in clinical years, the students are introduced to courses that enable them to work in a clinical environment with patients. Due to this, they are bound to have more details regarding the work schedule, flexibility of working hours, and the ability to work

independently compared to those studying basic science courses (who rarely encounter clinical scenarios). However, this difference can likewise be due to bias.

On the other hand, this study found that the odds of selecting dentistry due to professional motives among those who were in-service were 2 times higher than of those who joined dentistry immediately after completing high school. Likewise, the odds of selecting dentistry due to vocational motives among those who were in-service were nearly 3 times higher than of those who joined dentistry immediately after completing high school. These findings may be attributed to the fact that the students who joined the course after having worked for a while in the field of dentistry had better exposure to the dental field. Therefore, these students knew the vocational and professional aspects of dentistry very well and this may have influenced their choice.

Despite carrying out this study in one institute, it carries important information that may be representative of all dental students in the country. This is because, to date, there is only one school of dentistry in Tanzania that has been issuing a degree program in dentistry. However, the main limitation of this study may be the fact that since clinical students were already exposed to the clinical scenario, their motives may have been slightly modified compared to what similar individuals would have reasoned before being introduced to clinical settings.

## CONCLUSION

The most common motives given by dental students in Tanzania for opting for a career in dentistry were the opportunity to work anywhere in the world, job security, and financial security. The age and sex of the student and the environment where they were raised had no significant association with motives for choosing dentistry. There was a significant relationship between professional motives for choosing dentistry with the year of study and the mode of entry to the university and between vocational motives with the mode of entry to the university.

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## Declaration of patient consent

Patient's consent not required as there are no patients in this study.

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## Conflicts of interest

There are no conflicts of interest.

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