Why Dentistry? A Qualitative Enquiry into Dental Students’ Perceptions in the State of Qatar.

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Abstract

Background: Career choice is a complex, multifaceted process affecting all aspects of life. Motivational factors of aspiring dentists are crucial to inform institutions and aid with the admission process. The aim of this study was to investigate undergraduate dental students' perceived motivation for their career choice in the first dental institution in the State of Qatar.

Methods: Qualitative methods using face-to-face focus group sessions were utilized. All focus groups were conducted in English and contained a moderator and observer. Purposive sampling technique was employed to collect data from five focus groups of undergraduate dental students to gain a deeper insight into their motivation of career choice. A topic guide was used to ensure data collection standardization. Participants' views were recorded and filed notes obtained. Data was transcribed and analysis performed utilizing an inductive thematic approach.

Results: A total of 34 students (89.5%) from year 2 and 3 participated in the focus groups. Data analysis revealed six main themes emerging from this study namely; altruism and patient care, family influence, childhood aspirations, practical skills, professional and social status, and reconsideration and transfer opportunity. Altruism, opportunities to learn practical skills and professional status appeared to be the main drivers influencing their career choice.

Conclusion: This qualitative study provided insightful information regarding current undergraduate dental students' decision process involved in their profession selection. Students perceived their motivation to be patient care-centered, there was also a strong inclination towards performing practical hands-on tasks as a dentist, and developing a professional status. Interestingly, financial reward did not feature as a motivational factor in this study. This data could help the dental institutions better understand future applicant's motivations to join dentistry and assist with the academic recruitment process and targeting students with a potential to excel in the profession.

Introduction

Career choice is a complex, multifaceted process affecting all aspects of life. Selecting a career option is one of the most important decisions an individual makes. Students entering higher education may end up choosing a particular field of study regardless of their interests and talents. [1–3] A wrong choice, however, may lead to lack of student motivation in that field of study, inducing mental health issues. Thereafter, struggling to succeed in that field may result in a waste of human and economic resources.

Motivation provides an individual with power and direction to progress. Educational motivation is a prerequisite to learning and is a factor that helps the learner maintain continuity and enjoy the learning experience. [4] The performance of health systems have recently been intimately linked with the motivational skills and commitment of health care professions. [2] Research into the motivation and decision making of the emerging health workforce is crucial to inform government and policy makers. This will enable a better understanding of recruiters and support systems to nourish the health-care system with a well-motivated workforce.

Over the decades, more attention has been paid to the key role of dentists in improving the quality of dental care through preventing, diagnosing and treating oral disease, and further extends to educating patients and changing behavior. Despite the expansion of services and the technological improvements, oral health inequalities continue to persist and the demand for qualified dentists remain a national target. [5] Since the beginning of the 21st century, the supply of dentists per capita has expanded and is projected to increase further. [6] Many factors have been associated with the attraction of high school graduates to the dental profession. These could be divided into external factors, indirectly affecting human choice, such as family influence, educational environment, social-media and socio-economic factors, and personal factors, controlled by the individual, such as status, interests, security and care for patients. [2, 3, 6, 7]

The dental profession is currently facing a time of unprecedented change, with continual advancement in techniques, materials and products [8], a significant shift of dental care to the private sector [9], an increased emphasis on skill mix development within the dental team [10], and a significant level of study debt. [6, 11] Moreover, there is some evidence of generational effects in the
workplace, suggesting different expectations of the workforce compared to those from previous generations. Nonetheless, graduate applications for entry into dental programs remain heavily oversubscribed.

Overtime, authors have explored a wide range of motivational factors underlying applicants’ career choices. Most of the published research however, has been survey-based, using different instruments, and pre-set “author” designed questions, generating findings that are not necessarily comparable. Limited data is available in regard to career choice in developing countries, specifically within the Gulf Cooperation Countries. The State of Qatar has recently established the first Dental College in 2019. The dental program lasts 6 years and entrance to the program depends on the results of General Secondary Education Certificate or equivalent certificate based on the British or American curriculum. Admissions requirements include a high level of academic performance, in addition to math and English entry exams. Candidates are ranked competitively, shortlisted and then invited to a structured interview. The current undergraduate dental students will be classified as the sole home trained dentists to the profession in Qatar, thus the views of the initial student cohorts might have a significant impact on the profession selection of future cohorts. Therefore, the aim of this study was to investigate undergraduate dental students’ perceived motivation for their career choice, using qualitative focus group data collection measures to shed further light and generate a deeper and richer understanding.

Methods

2.1 Study design

Ethical approval was obtained by the institutional review board at Qatar University (IRB No. QU-IRB 1596-EA/21). A qualitative method using focus group sessions was utilized for this research to uncover dental students’ perceptions and values for choosing dentistry as a career, and identify emerging patterns in a digital generation, encompassing those who were born into or raised in the digital era, with widespread access to modern-age technology. This methodological approach was selected to gain a deeper insight into an undergraduate dental program with a relatively small cohort size. Purposive sampling technique was undertaken to recruit all dental students, in year 2 (n = 24) and year 3 (n = 14) of an undergraduate program at the newly established College of Dental Medicine, Qatar University. The authors acted as gatekeepers for the research invites.

2.3 Data collection

All undergraduate year 2 and 3 dental students were invited to participate and received official emails notifying them of the aim of the study including a participant information leaflet. Participation in the study was voluntary, and a prior written consent was obtained. All participants were reassured that responses will be anonymous and dealt with confidentially. The authors carefully planned the face-to-face focus group sessions, the venue for the focus group session was accessible and convenient to all participants and booked beforehand. Spacious rooms within the dental college, with enough light and ventilation, were selected to conduct the sessions. Semicircular or circular seating was designed to allow participants to see, listen to and engage with one another during the discussions.

A topic guide was developed for the focus group discussions to standardize data collection and help keep the discussion relevant to the research aim. Issues emerging from group discussions were probed further and participants were encouraged to elaborate on their responses further. All face-to-face focus groups were conducted in English, contained a moderator and observer, and lasted approximately 60–90 minutes each, to avoid participant fatigue, but ensure comprehensive data collection. Participants views were audio-recorded and transcribed. Data was cleaned and returned to participants for any comments. The study was conducted during November 2021.

2.4 Data analysis

An inductive, thematic data analysis approach was undertaken for this study. This method was adopted to generate as rich data on the topic. The inductive approach derives the thematic framework from actual collected data and is considered the most commonly used method in dental qualitative research.

Results
Demographics of participants included age ranging from 19 to 22 years old, and gender distribution of: Year 3 (n = 14) had 2 groups, one with 7 females, no male participants, and the other with five females and 2 male participants. Year 2 (n = 20) included 3 groups; the first with 7 females and 2 male participants, the second with 3 females and 1 male participant, and the third with 5 females and 2 male participants. The authors analyzed the transcripts independently and coded them inductively for their manifest and latent content [17]. A preliminary list of codes was drawn up and once an agreement was reached, six main themes were identified, as follows:

1. Family influence

A strong family influence guiding students towards their future career direction was evident among the participants. Some students admitted that applying for dentistry was not purely their decision; they were encouraged by their families to consider Dentistry as a career. Delving into that, students felt influenced by their family because either a family member is a dentist, family thought the student had the required skills to become a dentist, or the cultural repute of dentists being highly regarded.

"My father wanted me to study dentistry to be respected" (Student 3, year 2)

"I think what motivated me was my uncle is a dentist, so I was like I want to pursue this career too" (Student 4, year 3)

"My family always telling me that I have good hand skills and should apply for dentistry" (Student 1, year 2)

2. Practical skills

The choice of a dental career profession related to the art and science of dentistry was evident. Out of the cohort of participating students, 35% (n = 12) showed interest in dentistry for being a practical hands-on career. Some were attracted to the "applied" aspects of dentistry:

"I didn't apply to medicine or any other healthcare profession because when watching YouTube videos on dentistry and how they do things, when carving wax for example, that really intrigued me." (Student 4, year 2)

"I am good at drawing, and I think dentistry is art and that's why I applied" (Student 2, year 2)

"I like doing things with my hands, so I chose dentistry" (Student 1, year 2)

Interestingly, the perception of some students revealed that dentistry is a mixture of medicine and engineering, and hence, has the advantage of combining the health knowledge and patient interaction of medicine, with the art and science of engineering.

"I liked engineering and medicine, but when I saw dentistry, it combined both in terms of hands-on practice and patient care" (student 6, year 2).

"When I explored dentistry, I realized it has a promising future and integrates both art and medicine and science technology to take care of an individual person. It also has the aesthetic perspective" (Student 2, year 3)

3. Childhood aspiration

The aspiration to dentistry from a young age, paving the path for this chosen discipline was evident among the participants. Students reported examples such as, acquiring a positive experience at the dentist as a child. This experience made them consider dentistry as a career.

"Actually, it was my childhood dream to become a dentist" (Student 7, year 2).

"I have always wanted to be in a healthcare profession from the beginning and dentistry was my option" (Student 8, year 2)

"I had a terrific experience of dentists since childhood" (Student 7, year 3)

4. Professional and social status
Dentistry, as a profession, is ranked as a highly respected and well-paid career. Within the study participants, dentistry as a health care profession was perceived to be a prestigious career, highly respected. Interestingly, none of the participants in this study raised the financial income as a motivational reason for selecting this career.

“I prefer dentistry for many little reasons, one of which is the identity” (Student 6, year 2)

“It’s a new college in Qatar, and I thought it’s a very nice opportunity .. making my country proud” (Student 1, year 2)

“I realized it has a promising future.. people will respect me” (Student 3, year 3)

“For me, being a dentist is prestigious” (Student 9, year 2)

5. Altruism

The privilege in providing patient care and working with people was also frequently mentioned within the cohort of students. The participants perceived dentistry as a “people oriented” profession, where they would have direct contact with the patient and feel rewarded.

“I transferred from pharmacy as I always wanted to have more communication and contact with the patients and be able to treat them” (Student 7, year 3).

“I want to give people a nice smile” (Student 3, year 3).

“I think I’m a pure extrovert; I enjoy socializing with people, caring for them... and the dental profession is a people-oriented profession” (Student 5, year 3).

6. Reconsideration and transfer opportunity

At Qatar University, once students are accepted on a particular “Major” and enroll in the first year, they have the opportunity to apply for a transfer to a different college within the university if they meet the requirements at the end of the first academic year. Therefore, if a student realizes in their first year of a particular college that they have made the wrong choice, they might be able to transfer provided places are available too.

“I found medicine boring” (Student 5, year 2).

“Dentistry is more focused on one thing which is the oral cavity, but medicine covered a lot of topics” (Student 9, year 2)

“Engineering has a lot of physics and math, so I preferred a healthcare profession like dentistry; I wanted something to be really practical” (Student 1, year 3).

“Pharmacy was not as hands-on as dentistry” (Student 2, year 2)

Discussion

An individual's career choice is a crucial long-life made decision, most likely to have a direct impact on their future, wellbeing and the role they play in the society. The processes leading to a career choice has been described on the basis of individual differences in aptitudes and personality, in addition to sociostructural conditions, emphasizing social class and opportunity structures. [18]

Motivational factors of aspiring dentists have been investigated over the years [1–3, 6, 7, 19–25] Although survey-based studies investigating academic dental students’ motivation towards career choice have been previously conducted; this study used qualitative methods to gain a deeper insight into the decision-making processes guiding career choices for dental students. Qualitative research mainly in the form of interviews and focus groups are increasingly utilized and regarded as common methods of data collection within the dental field [26] and provide a deeper understanding of participants' beliefs and perspectives. [27]
A range of opinions on the ideal size of focus groups has been reported in the literature ranging from 4 to 12 participants to yield diversity in information provided and allow in-depth exploration. [15, 28, 29]. In line with the above, and to enhance the data quality, the size of the focus groups in this research ranged between 4 to 9 participants. Overall, results of this study highlighted a range of opinions related to individual motivations to pursue a career in dentistry.

Self-motivation was found to be a key motivation for a career in dentistry in Germany and Finland. [7] In this study, equivalent motives emerged, nevertheless, family influence, from parents or family relatives who are dentists, was also a commonly reported theme. Family impact and desire for their young adults to enter a dental profession has also been previously reported elsewhere. [22, 23] In a survey of two dental school applicants in the United Kingdom, over 45% of the applicants reported relatives who were either dentists or doctors. [24] A previous study has shown that in addition to different motivational factors to opt for dentistry, education levels of parents influenced the students’ motivation in choosing their field of study. [3] This factor was less remarkable amongst the participants in this study.

Acquisition of practical skills was also highlighted as a reason influencing students’ career choice. Clinically, in order to perform dental procedures, a dentist must be adept to work with precision on an extremely small scale. Additionally, superior eye-hand coordination is crucial to ensuring the safety of patients and the integrity of the profession. [30] This study exposed a strong link, as perceived by students, between art, manual dexterity and the profession of dentistry. These findings corroborate with results a previous study which found a significant correlation between the different tests, written questions and the drawing test. Moreover, the best students in practical dental work during the second year of study were found to be the ones who were best at both the drawing test and the ‘medical concepts’ examination, of which the latter was the only test needing reflection. [31] Conversely, Giuliani et al., reported that basic manual dexterity is not essential in the selection of dental students. Students who could follow training significantly improved in their manual ability.[32]

Medicine and dentistry are intimately connected, however, at an undergraduate level, medical students are expected to perform basic practical skills, such as performing electrocardiography (ECG), delivering intravenous (IV) and intramuscular injections (IM), suturing superficial wounds and Bladder catheterization [33]. In comparison, dental students require acquisition of fine-hand dexterity at an early stage of their undergraduate studies, in a confined space; namely, the oral cavity. [34] Engineering on the other hand, may require practical skills, depending on the different disciplines (mechanical, chemical, civil, and electrical engineering, to name a few). Nonetheless, they do not require communicating and interacting with patients. Interestingly, students in this study perceived the dental profession to be the best of both worlds, combining both medicine and engineering, hence integrating practical skills and patient care.

Childhood aspiration and general interest in dentistry was reported within the study cohort as a common theme behind individual's career choice. Interestingly, previous evidence has reported that occupations are chosen at an early age, especially in the context of a scientist career in comparison to other career directions [18, 35].

Dentistry, as a highly respected profession, with a social status and a prestigious career was also reported within the study cohort as a reason behind an individual's career selection. In line with previous questioner based studies, a professional job related factor was evident. [20, 25, 36] Statistics predict the overall employment of dentists will grow by 7% from 2018–2028, faster than average, and the demand for them will increase as the population ages and as research continues to link systemic health to oral health.[37] According to U.S. News and World Report's annual “list of the 100 best jobs”, dentists and orthodontists are frequently named two of the best jobs. [38] Flexible working hours, financial gain and job security are closely related to professional job related factors [2]. Previous survey based studies in countries such as the UK, India, U.S., Iran, South Africa, Australia and Syria, highlighted financial status and security as two of the main reasons behind dental career selection. [7, 19, 20, 25] However, these aspects were not reported by participants in this study. This may be attributed to the fact that the economy of Qatar is one of the richest in the world based on GDP per capita, ranking generally amongst the top 10 richest countries worldwide. [39] Qatar nationals, forming 70% of the current year 2 and year 3 cohort, come from a wealthy background. Hence, it is not surprising that financial considerations do not appear to be a predominant determinant of choosing dentistry as a career for the participants. On the contrary, educational costs may deter students from applying to dentistry in other countries [2, 6, 20, 25, 40, 41].

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Altruism is a term referring to the practice of selfless concern and devotion to others; in simple words, the desire to help, and act to promote someone else’s welfare. [42] The most common motive relayed by students (55%) in this study was altruism. This is not surprising since dentistry is a healing science. [43] This is similar to the findings of other studies conducted in Sweden, Japan, Jordan, Iran and Australia [22, 36, 44, 45] whereby dental students are motivated to help people and promote better oral health.

The ability to reconsider one’s initial choice and the option to transfer between colleges is an advantage. Within the participating cohort, a transfer specifically from either the medical or pharmacy colleges was recorded. Despite the scientific nature of the above-mentioned colleges, dental career path was favored and reconsidered due to the hands-on practical nature and close patient interaction within the dental profession. On the contrary, previous surveys have reported that dental college was the second favored choice, with medicine in the first rank, among the participating dental students. [24] Although previous studies report flexible and appropriate working hours as an advantage in the dental profession in comparison to medical profession [7], none of the current participating students reported on this.

The primary strength of this study is that all current undergraduate dental students participated in this qualitative research conducted via small face-to-face focus group sessions. To further strengthen the methodological aspect, each session was conducted with a presence of two researchers; a moderator and observer. Additionally, no previous study of this nature has been looked into in the State of Qatar. However, this study only included views of a sole dental school and the small number of currently enrolled undergraduate students are recognized limitations, limiting the generalizability of study findings.

**Conclusion**

This qualitative study provided insightful information regarding current undergraduate dental students’ decision process involved in their profession selection. The main themes emerging from this study included altruism and patient care, family influence, childhood aspirations, practical skills, professional and social status, and reconsideration and transfer opportunity. This data could help the dental institutions better understand future applicant’s motivations to join dentistry and assist with the academic recruitment process and targeting students with a potential to excel in the profession.

**Declarations**

*Ethics approval and consent to participate*

- All methods were carried out in accordance with relevant guidelines and regulations (Declaration of Helsinki).
- All experimental protocols were approved by the Institutional Review Board (IRB) at Qatar University (IRB No. QU-IRB 1596-EA/21).
- Informed consent was obtained from all subjects and/or their legal guardian(s).

*Consent for publication*

Written informed consent for publication was obtained from all parties.

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*Conflict of Interest*

None of the authors / co-authors have any conflict of interest to declare

*Competing interests*

The authors declare that they have no competing interests.
Data Availability Statement

The data that supports the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

Authors' contributions

XD and KA designed the study and gained ethics committee approval. KA and AD led the development of the protocol and planned the data collection. XD, KA, AD and MME conducted the fieldwork. AD and MME undertook framework analysis. XD, KA, AD and MME contributed to the paper. All authors reviewed the final manuscript.

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