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The Motives Behind the Choice of Dental Specialties Among Iranian Dental Students: A Qualitative Study

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Abstract

Background: The motivational reasons for choosing dental specialties are highly variable among dental students. A deep understanding of these motives can greatly help in strategic planning in this respect.
Objectives: Thus, this study aimed to explore the motivational reasons for choosing dental specialties among dental students.
Methods: This qualitative study evaluated the viewpoints of 17 dental students at the School of Dentistry, Kermanshah University of Medical Sciences, Kermanshah, Iran who were selected via purposive sampling. Data were collected through semi-structured interviews in the second semester of the academic year 2018 - 2019 and analyzed using the content analysis method.
Results: The motivational reasons for choosing dental specialties were categorized into five main categories, including conditions and nature of a specialty (such as acceptance conditions, education, and work), financial return (such as level of income and job market), personal characteristics (such as personal capabilities and characteristics affecting the specialty choice), the external environment (such as the effect of environmental factors on the specialty choice), and academic experiences (such as personality characteristics of mentors affecting the specialty choice).
Conclusions: According to the results, the motivational reasons for choosing a dental specialty are highly variable among dental students and influenced by various individual and environmental factors. These motives should be addressed in strategy planning for dental specialty programs.

Keywords: Dentistry, Motives, Specialty Choice, Qualitative Study, Content Analysis

1. Background

The number of dental graduates is on the rise, and most of them would like to apply for residency programs (1, 2). The motivational reasons of dental graduates for choosing a specialty is an interesting research topic for many dental researchers, and many have investigated this issue in different parts of the world (3-5).

Social prestige is a major motivation behind applying for residency programs both in Iran and other parts of the world (3-7). Evidence shows that parameters such as professional credibility, social prestige, high income, and self-employed practice are among the main reasons for specialty choice among dental students in Iran (8-10). Other studies conducted in Saudi Arabia (11), Nigeria (12), United Arab Emirates (13), and United Kingdom (3) have reported that the most important motivational reasons for applying for residency programs were the influence of family members, having a self-employed occupation, personal and professional interests, counseling experience, financial motivations, safety, and specific work hours. Therefore, the motives appear to be widely variable and influenced by multiple factors.

Assessment of the motivational reasons for the career choice is important as it can predict the expectations and occupational satisfaction of individuals in the future. These motives can also affect the success, commitment, and interest in a job (5, 7). The motivational reasons for choosing a career and specialty among students have been studied before. However, these motives can change due to the effect of several factors, including social, political, and economical factors (7). Also, previous studies on this topic were mostly quantitative. However, more information about these motives and a deep understanding of the factors affecting them can be better scrutinized by a qualitative approach.

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2. Objectives

This study was carried out to explore the motivations for choosing dental specialty among dental students studying at the School of Dentistry, Kermanshah University of Medical Sciences, via a content analysis method to obtain detailed data about this issue.

3. Methods

This qualitative study was carried out using the conventional content analysis method. In this method, information is directly obtained from the participants, and predetermined categories or theoretical perspectives of the researcher are not imposed. In other words, the codes and categories are extracted from the raw data through an inductive method (14).

The participants of the study were senior dental students at the School of Dentistry, Kermanshah University of Medical Sciences, Kermanshah, Iran who were willing to participate in the residency entrance exam, and informed consent was obtained from these individuals. The students who did not intend to participate in the residency entrance exam and those who had not decided on a certain specialty program were excluded from the study.

Dental students were selected via purposive sampling (15), and eligible students were interviewed. Maximum diversity was considered in the participants' selection. In other words, both male and female dental students interested in different specialty programs were invited for the interview. The sample size was dictated by data saturation (16).

Data were collected using semi-structured interviews. The interviews were conducted by asking the following questions: "Please talk about your experiences in dental school", "In your opinion, what are the motivations of dental students for choosing a particular specialty?", and "Please talk about your motivations for choosing a particular specialty". The interviews were continued by asking more specific and detailed questions based on the responses of the participants. The interviews lasted for 30 - 60 minutes and were all recorded. A total of 17 senior dental students were interviewed. Data saturation was achieved after the 15th interview, and the last two interviews were performed to ensure data saturation. It should be mentioned that the last author who is an occupational therapist and have experience in conducting qualitative studies was responsible for conducting and supervising the interviews. Accordingly, the first ten interviews were conducted by her while the second author, who was a dental student, was present during the interviews to learn how to continue the interviews. The last seven interviews were conducted by her (the second author) under the supervision of the last author. All interviews were performed in a quiet room in the School of Dentistry, Kermanshah University of Medical Sciences over a six-month period (June-November 2018).

Data were analyzed using the method proposed by Graneheim and Lundman (17) for content analysis. The following procedures were followed for data analysis. First, the interviews were transcribed verbatim. Next, the researcher read the transcripts several times to become familiar with them and wrote down his general impression of the interviews. Following that, the important sentences were marked and underlined. The meaning units were then identified and coded. The codes were then subdivided into subcategories based on their similar themes and properties. Maximum homogeneity was observed within the categories, but not between the categories.

To ensure the trustworthiness and rigor of the qualitative data, the criteria created by Guba and Lincoln (18) for qualitative studies were followed. The credibility of data was evaluated by constant comparison of data and prolonged engagement.

Data dependability was evaluated using the member checking technique. For this purpose, a summary of the interviews and the extracted codes were given to the participants to express their opinions about them. Their opinions were considered in the general analysis. Moreover, weekly sessions were held by the research team to discuss the collected information and exchange views to ensure the dependability of data. As the participants of the study were highly diverse in terms of gender and interest in different specialty programs generalizing the results of the study is possible.

The study was approved by the Ethics Committee of Kermanshah University of Medical Sciences, Kermanshah, Iran (code: IR.KUMS.REC.1397.680). Also, all participants signed informed consent forms prior to enrollment. They also consented to the recordings of their interviews and were ensured about the confidentially of their information. They were also ensured that their interviews would be published anonymously and the recorded audio files would be deleted upon their request.

4. Results

Seventeen students participated in the study, 10 females and 7 males, with a mean age of 25.23 years. 23.52% of the participants were married and 76.48% were single. A total of 435 initial codes were extracted from the interviews, which were then summarized into two main themes, five categories, and 19 subcategories (Table 1).

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Table 1. Main Themes, Categories, and Subcategories

Themes	Categories	Subcategories
Specialty attractiveness	Conditions and nature of a specialty	Scores in the entrance exam
		Location of university
		Duration of specialty program
		Nature of occupation
		Type of patients
		Future work environment
	Financial return	Level of income
		Job market
	Personal characteristics	Family roles
		Interest
		Satisfying psychological motivations
		Personal capabilities
External factors	External environment	Social valuation
		Community needs
		Family
		Friends
	Academic experiences	Behavior of mentors
		Personality traits of mentors
		Facilities of the university environment and experiences gained in this environment

4.1. Conditions and Nature of a Specialty

According to the interviews, conditions and nature of a specialty are among the important factors to consider when selecting a specialty. Some specialties have characteristics that further attract the students while some others do not possess such properties. This category included six subcategories as follows:

4.1.1. The residency Exam Scores

The participants believed that the students' scores in the residency exam can affect their choice of specialty. For instance, students with a lower score have to select a specialty that matches their scores, even if they are not interested in it. The reverse is also true. Dental students with a higher score would probably select a top-notch and popular specialty program irrespective of their interests. One participant stated that "I think some students who acquire a high score select orthodontics just because it is highly popular, although they may not even like it" (participant 4).

4.1.2. The University

Some participants believed that the city and the university in which they are going to continue their education would affect their choice of specialty. According to one participant: "I am so tired of being distant from my family … only those who are far away from their families can understand me … since I have been away from my family for some time, now I prefer to apply for a university in my hometown" (participant 16).

4.1.3. Duration of Specialty Program

Duration of specialty program was another important factor to consider, which could affect their choice of specialty. Many students preferred shorter programs since they wanted to graduate sooner. One participant said: "I like oral and maxillofacial surgery but it takes longer than other specialty programs. Thus, I think I am going to apply for another shorter specialty program" (participant 9).

4.1.4. Nature of Work

The participants reported that the nature of work significantly affects their choice of specialty; According to one participant: "I am interested in oral and maxillofacial radiology. Also, I think it has much lower occupational stress and burnout. Thus, I prefer it to other specialty programs" (participant 4).

4.1.5. Types of Patients

Some participants reported that the types of patients they were going to serve in the future play a fundamental role in their choice of specialty. One participant discussed that: "I really like to treat children… even before choosing dentistry as my future career I was interested in children … I believe that children are truly honest patients …" (participant 5).

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4.1.6. Future Work Environment

Future work environment was another important factor considered by many dental students. One student reported that: "I personally never liked to work in an organization … I never liked to be a government employee. So, I decided to be self-employed." (participant 10).

4.2. Financial Return

Financial return was another extracted category with two subcategories of the level of income and job market.

4.2.1. Level of Income

Financial concerns of participants would have a significant effect on their choice of specialty. Many students preferred specialties that could make them financially independent. One student discussed that "financial issues concern me. Orthodontists and oral and maxillofacial surgeons have much larger income even higher than that of orthodontists" (participant 16).

4.2.2. Job Market

A group of participants reported that the job market would play an important role in their choice of specialty. One participant added that "Job market is an important factor to consider. The number of dentists has greatly increased in recent years, and the job market is saturated. Thus, it is important to choose a specialty with a good financial outcome that is worth the effort" (participant 1).

4.3. Personal Characteristics

This category refers to the role of personal characteristics of students in their choice of specialty. This category has four subcategories as follows:

4.3.1. Family Roles

Some participants believed that their roles and responsibilities within the family would affect their specialty choice. One participant discussed that: "I am married. So, the duration of the study and work schedule is much more important for me than income. Occupational fatigue is also important to me. I would become a busy mother with very little free time and may not be able to do many of the house chores. That is what is important to me" (participant 5).

4.3.2. Interests

Some students believed that personal interest is important, and is a prerequisite for selecting a specialty program. A participant added: "I like orthodontics and restorative dentistry. I am interested in these fields and my interest affects my choice. I can never be successful in a field that is not my interest, interest is my priority in selecting a specialty" (participant 13).

4.3.3. Satisfying Psychological Motivations

A group of participants stated that they would choose a specialty program that would motivate them, improve their self-confidence, and give them a sense of usefulness. One participant stated that: "I like oral and maxillofacial surgery. It is highly superior to other specialties and I like to become a surgeon. It increases my self-confidence because it is a highly specialized field and I can perform a wide range of surgical procedures" (participant 6).

4.3.4. Personal Capabilities

According to the participants, personal capabilities can also affect the choice of specialty among dental students. One participant said: "I like oral and maxillofacial surgery but I do not think I can tolerate its high burden neither physically nor psychologically as a female. Thus, I am not going to apply for oral and maxillofacial surgery because it is not suitable for me" (participant 8).

4.4. External Environment

The external environment was another extracted category and refers to the role of environment in the students' choice of specialty. It has the following four subcategories:

4.4.1. Social Valuation

Some students prefer a specialty that would create social value for them. They wanted to obtain a favorable social position and prestige; According to one participant: "I believe social prestige and social interactions are highly important in my job satisfaction and can greatly affect my success. They are highly important to me" (participant 14).

4.4.2. Community Needs

Some participants wanted to choose a specialty to better serve their community and their people. One participant added: "As people's demands increase, their needs for specialized dental services increase as well … especially now because people have more knowledge about treatment methods. I believe we should choose a specialty program to better serve our community" (participant 4).

4.4.3. Family

Some students reported that the opinions of their family members and their expectations greatly impact their choice of specialty. One participant discussed that: "My father likes me to choose oral and maxillofacial surgery because he wants me to work in a field close to medicine and hospital setting. He likes it. Thus, he encourages me to choose oral and maxillofacial surgery" (participant 2).

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4.4.4. Friends

The participants also pointed to the suggestions and opinions of their friends affecting their choice of specialty; According to one participant: "My friends often tell me that pediatric dentistry best suits me… Also, everyone tells another friend of mine that endodontics would best suit him. Well, these suggestions can affect our decisions" (participant 1).

4.5. Academic Experiences

Academic experiences were the last extracted category with three subcategories:

4.5.1. Behavior of Mentors

The behavior of mentors would affect the choice of specialty among dental students; according to one participant: "The behavior of mentors highly impacts our interest in a specialty program. For instance, in some departments, the behavior of the mentors and the disciplines are so harsh that discourage us from choosing that specialty. The opposite is also true. Good behavior of mentors in a certain department highly encouraged me to continue my education in the respective specialty because they well trained me and encouraged me to continue my education in that particular field" (participant 11).

4.5.2. Personality Traits of Mentors

According to the participants, the personality traits of mentors could also inadvertently affect their attitude towards a particular specialty. One participant stated that: "I like the mentors and instructors in the oral and maxillofacial surgery department because I believe that they are all very loyal people and I want to be like them. They are great role models for me and thus, I have become interested in this field" (participant 10).

4.5.3. Facilities of the University and Experiences Gained in This Environment

The participants discussed that the educational facilities in the university and the experiences they gained in this environment also affect their choice of specialty. One participant stated that: "Some departments have limited equipment and facilities. They lack many instruments; thus, some particular topics cannot be taught to students and they cannot be well trained. They cannot correctly determine their interest either" (participant 9).

5. Discussion

This qualitative study aimed to explore the motivational reasons of dental students at Kermanshah University of Medical Sciences, Kermanshah, Iran for choosing a particular specialty. Having analyzed the data, five categories were extracted including, conditions and nature of a specialty, financial return, personal characteristics, external environment, and academic experiences, each with their subcategories. According to the results, several factors may affect the choice of specialty, which need to be considered in related strategic planning. The role of different factors in selecting a specialty program has been discussed in previous studies as well (8-13), indicating the effect of different motives on this issue.

The conditions and nature of a specialty were the first extracted category with six subcategories of scores of the residency exam; location of the future university, duration of a specialty program, nature of work, types of patients, and future work environment. According to the interviews, conditions and nature of a specialty are among the important factors to consider when selecting a specialty. Some specialties have characteristics that further attract the students while some others do not possess such characteristics. This finding was in line with the results of Dorsey et al. (19), in terms of the role of duration of academic education, Vahid Dastjerdi et al. (7), regarding the occupational attractiveness and lack of stress, Folayan et al. (12), regarding the preferences for treating children, and Noble et al. (20), regarding the tendency to be self-employed. On the other hand, although each specialty has its characteristics, some advantages can be considered for some less popular specialties to encourage the students to choose them and achieve a balance in the distribution of specialized human resources.

Moreover, financial return, economic motivations, and having a good job market were among the important motivational reasons of dental students for choosing a specialty, which could also be considered as strong motives in previous studies. However, it should be noted that financial motives alone cannot bring about professional commitment and altruism in serving the community. Therefore, dental students should be informed about these factors to enhance their understanding of specialty choices.

Personal characteristics comprising of family roles, personal interests, psychological motivations, and personal capabilities were the other extracted categories affecting the choice of specialty among dental students. The family role was a prominent subcategory of this category. This category is important as it includes personal interests and motives, psychological characteristics of dental students, and their perception of their capabilities and family roles, which eventually affect the choice of specialty. Therefore, it seems that psychological counseling can greatly help the students in this respect if provided during the academic period. Counseling services can teach students life skills such as decision-making and problem-solving,

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thereby empowering them to select a specialty. Previous studies have also pointed to the family role as an influential factor in specialty choices (7, 11). Onyemaechi et al. (21) reported that the personal capabilities of students were one of the three influential factors in the choice of specialty among dental students.

The external environment, referring to the effect of environmental factors such as social prestige and the opinions of the family and friends on the choice of specialty was another extracted category. A consensus has been reached by the psychology experts regarding the effects of environmental factors on the decisions and behaviors of individuals in different fields such as the choice of a career or specialty (11, 12). An important issue regarding the effects of environmental factors such as the social prestige and opinions of the family members is that these factors are influenced by some other parameters such as the financial return. Therefore, it seems that the valuation of specialties should be modified, such that financial return does not determine the social prestige of a specialty, and all specialties should have almost equal social prestige.

Academic experiences of students were the last extracted category, which describes the role of behavioral patterns and personality traits of mentors, their interactions with students, as well as the facilities of the university. This finding has not been discussed in any previous study. The significance of this category is that it does not confine the role of mentors in teaching educational content to students alone. Instead, it emphasizes the importance of their behavior patterns and personality in affecting the choice of specialty among students. Therefore, higher education should be more concerned with the communication and interaction between mentors and students and hold workshops to further highlight the positive role of mentors in this respect.

5.1. Limitations of the Study

This study only evaluated senior dental students and did not assess the opinions of postgraduate students. Also, the coding of emotional experiences was not performed and we could not extract more detailed information. Further studies are required to address these limitations.

5.2. Conclusions

The results of this qualitative study, which was based on the content analysis method, revealed that the choice of specialty among senior dental students was influenced by several variables ranging from personal to environmental factors, which need to be considered in strategic planning by the healthcare policymakers.

Footnotes

Authors' Contribution: Study concept and design: FR, AG, and LR. Analysis and interpretation of data: LR and YGH. Drafting of the manuscript: LR and YGH. Critical revision of the manuscript for important intellectual content: AG and LR.

Conflict of Interests: There is no conflict of interest.

Ethical Approval: The study was approved by the Ethics Committee of Kermanshah University of Medical Sciences, Kermanshah, Iran (code: IR.KUMS.REC.1397.680).

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Informed Consent: All participants signed informed consent forms prior to enrollment.

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