

## WHY LIBYAN STUDENTS CHOOSE DENTISTRY AS A CAREER?

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### ABSTRACT:

**Aim:** The aim of the present study was to explore the reasons for choosing dentistry as a career among Libyan undergraduate dental students attending the Dental Faculty, University of Benghazi during the academic year 2011-2012.

**Materials and Methods:** This was a cross-sectional study of a cohort of 192 dental students (87 males and 105 females; 19-26 years old) attending the Faculty of Dentistry, University of Benghazi. An anonymous questionnaire included 30 questions was administered to all the students and they were required to rate the importance of 28 items on a 10 point Visual Analogue Scale 'VAS'. Parametric tests were employed to explore the significant discrepancies between scores of different groups.

**Results:** Dentistry was the first choice for 78.6% with no significant sex difference. Helping people was given the maximum score by the students followed by the scientific factor. While, the least scores were given to the coincidence factor. There were no observed sexual dimorphism in the response of all the questions ( $p \geq 0.058$ ), except that females appeared to be significantly influenced by their high grades at high schools compared to males ( $P = 0.032$ ).

**Conclusions:** Helping people and scientific factors were found to be the most motivating factors for both sexes. Career education programmes at schools might help students to choose their careers

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#### لماذا يختار الطالب الليبي طب الأسنان كمهنة

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#### الكلمات المفتاحية:

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**الهدف:** كان الهدف من هذه الدراسة إلى استكشاف أسباب اختيار طب الأسنان كمهنة بين طلاب طب الأسنان الجامعي الليبي الذين حضروا كلية طب الأسنان، جامعة بنغازي خلال العام الدراسي 2011-2012.

**طرق البحث:** شملت هذه الدراسة لفيق من 192 من طلاب كلية طب الأسنان (87 من الذكور و 105 من الإناث؛ اعمار 19-26 سنة) والذين يدرسون بكلية طب الأسنان، جامعة بنغازي. وشمل الاستبيان 30 سؤالاً لجميع الطلاب وقد طلب منهم تقييم أهمية 28 بند بنطاق مرئي تناظري من 1 إلى 10 (مقياس "VAS") وقد تم إجراء العملية الإحصائية على مخرجات الاستبيان لاستكشاف الفروق الهامة إحصائياً في ردود المشاركين بالدراسة.

**النتائج:** كان طب الأسنان الخيار الأول لـ 78.6% مع عدم وجود فرق كبير بين الجنسين. أعطيت مساعدة الناس الدرجة القصوى من قبل الطلاب يليها العامل العلمي. في حين، أعطيت أقل الدرجات لعامل الصدفة في الالتحاق بكلية طب الأسنان. لم تكن هناك أي إجابات ملحوظة في العامل الجنسي في الرد على جميع الأسئلة ( $P \leq 0.058$ )، إلا أن الإناث أبدن تأثراً بشكل كبير من الصفوف الثانوية في المدارس الثانوية مقارنة بالذكور ( $P = 0.032$ ).

**الاستنتاجات:** لوحظ أن مساعدة الناس والعوامل العلمية شكلت أهم العوامل المحفزة لكلا الجنسين. وأخيراً فإن برامج التعليم المهني في المدارس قد يساعد الطلاب على اختيار وظائفهم المستقبلية.

## INTRODUCTION:

There are a number of contributing factors that might influence the choice of a career prior to university study. Prestige, working atmosphere, financial earning, character of profession and interest in science and research are among the significant associated factors<sup>1, 2</sup>. Majority of research undertaken to explore the reasons for choosing dentistry as a career was conducted in developed countries such as, USA<sup>2</sup>, UK<sup>1, 3</sup>, Ireland<sup>4</sup>, Australia<sup>5</sup>, Denmark<sup>6</sup>, and France<sup>7</sup>. Ireland<sup>4</sup> perceived ease of employment, being self-employed, working regular hours, good income and the opportunity to help people were the most significant motives for joining the profession. While in the USA<sup>2</sup>, self-employment and business-related motives were observed to be the most reported reasons for choosing the specialty. Furthermore, significant ex differences in motives were observed. In the USA<sup>2</sup>, males were more interested in the business aspect of the career compared to females. Similar results were observed in a recent study on the first-year students in Peru<sup>8</sup>. Among the Arabic countries, a Jordanian study<sup>9</sup> reported that the most motivating factors for their students for choosing dentistry as a career were prestige and helping people. Furthermore, males were observed to be more motivated by financial factors.

In Libya, the dentistry programme lasts for five years including one year of general science studies, followed by one year of internship. Dentistry is a popular career among families and the acceptance is restricted to students of Libyans nationality. The enrolment of huge number of secondary school students at the Faculty of Dentistry, University of Benghazi rely upon the results of the Libyan certificate of the General Secondary Education solely, without considering the importance of complete understanding of the students' motives for choosing dentistry as a career. This lead to increasing the number of dental students complaining of difficulty in acquiring essential knowledge, practical skills as well as positive attitude. All contribute to the production of inadequately trained dentists unable to be useful to the community and also minimising their future opportunities to secure a successful career. Exploring student's motives for joining the faculty is vital for a developing country which hopes to launch multidimensional changes after a long era of mismanagement of educational programme. Thus, the aim of the

present study was to determine motivations for choosing dentistry as a career in Libyan dental students in Benghazi during the academic year 2011-2012

## MATERIALS AND METHODS:

This was a cross-sectional prospective pilot study. Ethical approval was granted from the Faculty of Dentistry. The adopted method was an anonymous questionnaire distributed by the authors to students from year one to year five at the Faculty of Dentistry based on previous similar studies.<sup>2,4,9</sup> with some modifications to match the Libyan culture. The students were randomly recruited after finishing their lab or clinical sessions. Each student completed a questionnaire which was retrieved immediately afterwards. The sample comprised 192 Libyan undergraduate dental students attending the dental faculty; from pre-dental to internship; 105 females and 87 males; 16 females and 16 males from each year except the pre-dental year where the number of recruited subjects were 25 females and 7 males. The questionnaire was adopted from the Arabic version used in previous similar Jordanian study (Al-Bitar et al., 2008). The questionnaire included 30 questions (in Arabic language) and the students were required to rate the importance of 28 items on a 10 point Visual Analogue Scale 'VAS'; ranging from 0=strongly disagree to 10= strongly agree (Table 1). The questionnaire covered seven parameters: Social factor, Independent factor, Helping people (caring) factor, financial factor, Responsibility (risk) factor, Coincidence factor and scientific factor. Two additional questions related to what was the first choice and would the student choose dentistry again were added. Socio-demographic factors such as age; gender; nationality (Libyans); the attended academic year; fathers' and mothers' occupation and socio-economic status were recorded.

### Statistical Analysis

Data management and statistical analysis were undertaken using SPSS version 17.0 (SPSS Inc., Chicago, USA). Parametric analyses were employed to determine whether there were statistically significant differences among scores of different groups. An independent Student's t-test was conducted to discriminate between the groups and ANOVA was used to differentiate between more than two groups. Scale means for

both sexes were computed and an independent student t-test was conducted to explore differences in scores according to sex. Factor analysis was used to group motives into corresponded clusters.

Table 1: Wording of the motives included in the questionnaire, the first 28 motives were rated on the Visual Analogue Scale ranging from zero to 10.

One or more of my relatives is a dentist
I can start to practice dentistry independently after graduating
I want to treat/help people to improve their appearance
Dentists are wealthier than average people
There is not much 'on-call' work
I heard about dentistry as a career in high school
My high scores by the end of high school encouraged me to choose dentistry
I chose dentistry because of family persuasion
I like the autonomy that dentists have
I want to be useful to my society
Dentistry pays better than other job options open to me
Dentists usually do not deal with life or death cases on a routine basis
I worked in a dental-related field and now I want to become a dentist
I chose dentistry because I am capable of scientific creativity
Dentistry is a prestigious profession
Dentistry is an independent profession
I want to help people
Dentistry as a career ensures financial independence
Dentists responsibilities are less than medical doctors
I watched a programme about dental services and I liked the profession
It is hard to join the dental faculty but my high scores allowed me that
One of my friends is a dentist and he is well respected by the society
An independent profession with my own assistant and nurse
Dentistry helps in improving public health
I like to make a lot of money
Shorter study duration with less challenges compared to other scientific specialties
Choosing dentistry was a coincidence
Dentistry is superior to other sciences
Was Dentistry your first choice?
Would you re-choose dentistry if you get the chance

## RESULTS:

The students' age ranged from 19 to 26 years old [mean (SD) = 22 (1.9)]. The sample comprised 9.37% of the 2049 students attending the Faculty of Dentistry. The most commonly reported father's occupation by student was: employee (29.7%), businessmen (25%), retired (16.1%) and engineers (9.4%). Majority of the student's mothers were housewives (70.3%). While, only 21.9% were teachers and 4.7% were working as employee. Family income was reported to be either as average (74%) or more than average

(22.4%). Only 3.6% of the group reported below than average family income. Dentistry was the first choice for 78.6% with no significant sex difference. More students (82.2%) gave factor seventeen (I want to help people) a maximum score compared to other factors (Table 1). Also, a total of 38.5% of the students gave factor ten (I want to be useful to the society) a maximum score compared to other factors. On the other hand, 92.9% and 60.2% of the participants gave the lowest scores to factor thirteen (I worked in a dental-related field and now I want to become a dentist) and factor one (One or more of my relatives is a dentist) respectively.

Factors related to Helping people were given the maximum score by the students (23.26%), followed by the items related to Scientific factor (16.70), while, the least scores were given to the items related to Coincidence factor (Figure1).

The mean scores were computed for males and females independently. Table 2 displays the top ten motives for males and females independently as revealed by the mean score for each item. There were no observed sexual dimorphism in the response of all the questions ( $P \geq 0.058$ ), except that females appeared to be significantly more influenced by achieving high scores in their General Secondary Education as a motive of choosing dentistry as a career ( $P = 0.032$ ). Furthermore, it appeared that the difficulties in getting acceptance significantly motivated females to apply to the Faculty of Dentistry compared to males ( $P = 0.004$ ) as shown by independent Student t-test. Moreover, there were no significant discrepancies in the mean score of the items between the academic years of study ( $P \geq 0.078$ ).

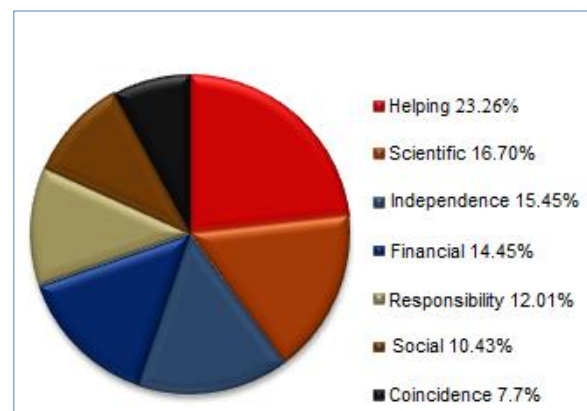


Fig. 1: The percentage of factors influencing the choice of dentistry as a career.

## Factor Analysis

Factor analysis revealed that the first nine factors accounted for 56.11% of the total variance in this item. Factor 1-3 comprised 38.32% of the variance and was used to cluster motives jointly and contained factors associated to motivation of choosing dentistry as a career. Table 3 displays the items that make up the three factors and their

loading factors. Factor 1, helping is related to caring and helping other people, Factor 2, Money, is linked to motives that make up the financial and safety aspects of dentistry as a career, Factor 3, Responsibility is related to motives that are related to reliability and fulfilling their duties.

Table 2: Top ten reasons for choosing dentistry as a career, for males and females, as determined by mean ratings  
Count: refers to the factor number in the questionnaire as illustrated in Table 1

Reasons	Males		Females	
	Count	Mean-SD	Count	Mean-SD
I want to be useful to my society	10	9.69±0.87	10	9.47±1.31
I want to help people	17	9.45±1.26	17	9.18±1.47
Dentistry helps in improving public health	24	9.27±1.46	24	8.93±1.87
Dentistry is a prestigious profession	15	8.84±1.95	3	8.85±2.01
I want to treat/help people to improve their appearance	3	8.71±2.16	15	8.75±1.92
Dentistry is superior to other sciences	28	8.36±2.45	28	7.82±2.20
Dentistry as a career ensures financial independence	18	7.89±3.08	9	7.39±3.12
Dentistry is an independent job	16	7.80±2.46	16	7.23±2.76
I like the autonomy that dentists have	9	7.53±2.97	18	7.05±2.98
It is hard to join the dental faculty but my high scores allowed me that	21	7.20±3.65	4	6.38±3.23

## DISCUSSION:

The aim of the present study was to explore the motives of choosing dentistry as a specialty in Libyan dental student attending the Faculty of Dentistry, University of Benghazi. The sample size is considered adequate for a pilot study prior to undertaking a study on larger scale. Equal number of males and females were recruited from each year except the pre-dental year, where the number of recruited subjects was 25 females and seven males. This does not reflect the male/female ratio in each academic year where females comprise more than 70% in all years. However, this study was designed to be a pilot study prior to undertaking inclusive investigation for all the students enrolled at the faculty. The reported number of females attending the Dental Faculty in Jordan<sup>9</sup> was 64%. This high percentage of females enrolled in the dental speciality was noted in Ireland, Peru<sup>8</sup> and Denmark<sup>6</sup> dental faculties. However, the reported number of female dental students in the USA<sup>2</sup> and Australia<sup>5</sup> were less than the former studies. It was observed that 78.6% of the students chose dentistry as their 1st career. This might be because the acceptance in Dentistry is very competitive and requires higher grades than any other specialty so it is considered as an

achievement to be accepted in this faculty. On the other hand, only about half (53%) of the Jordanian<sup>9</sup> and 66% of Irish<sup>4</sup> students had dentistry as their first choice. The majority of students (73.1%) would choose dentistry again, while, 82% of Jordanian<sup>9</sup> students would consider choosing dentistry once more.

This study revealed that there were no significant differences between the academic year in which the students were enrolled in and the mean score of the factors. The answers of the Libyan students was different than those reported from the Jordanian students<sup>9</sup> where it was noted that the first year Jordanian students<sup>9</sup> gave significantly higher mean scores to the factors related to financial and employment security for choosing dentistry as a career compared with the year five students. The authors suggested that this might be due to a more realistic understanding of the profession as the students expand their knowledge of the practical aspects of employment perspectives. These findings in the Jordanian study<sup>9</sup> are comparable with the answers reported by the applicants and final year students in the UK<sup>10</sup>. The different results obtained from the former studies and the present investigation might be due to the small sample size in the present study (192 ) compared to the



Jordanian study<sup>9</sup> (477). It is recommended to undertake a larger study with larger sample size to obtain more representable answers that can be compared with similar studies.

The scores for the seven factors were: Helping (23.26%), Scientific (16.70%), Independence (15.45%), Financial (14.45%), Responsibility (12.01%), Social (Prestige) (10.43%) and Coincidence (7.7%). The highest scores in the present study were given to the Helping factor. Similar trend was noticed in the UK<sup>3</sup> and Denmark<sup>6</sup> studies and ranked the second motivating factor for the Jordanian dental students<sup>9</sup> (43.6%).

The Libyan dental students ranked the Social “prestige” factor the second last score. This finding is in agreement with the choices of the UK<sup>3</sup> (6%), Denmark<sup>6</sup> (0.9%), USA<sup>5</sup> (the least score) and Australia<sup>5</sup> (the seventh score) dental students. But, this finding is significantly different from the Jordanian study<sup>9</sup> outcome in which the maximum score was given to the prestige factor (44%).

Factor analysis showed that dental students’ reasons for choosing dentistry as a career were structured around three principle factors: Helping people, Money and Responsibility. However, these findings are considered to be preliminary results and it is recommended to undertake a thorough investigation involving all the enrolled dental students to help in understanding the most relevant motives that direct the students to choose dentistry as a career and set a career education programmes at secondary schools that might help students to have a more realistic and clearer picture about the perspectives of each career.

## CONCLUSIONS:

The reported findings are the first published information for Libyan students looking at pursuing dentistry as a profession. Within the limitation of the present study we concluded that helping people and scientific factors were found to be the most motivating factors reported by both sexes of participants. Interestingly, the majority of students revealed that dentistry was their first choice as a career. Career education programmes at

schools might help students to determine their careers and their probability of getting vacancies subsequent to their graduation.

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