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Trending career preferences of future dentists of Saudi Arabia and factors influencing their choices

Bahija Basheer[1,2,3], **Feras Aloushan**[1], **Mamdouh AlHarbi**[1], **Khalid AlHazmi**[1], **Khaled Alhelal**[1], **Abdullah Alanazi**[1], **Sliuman Alnashwan**[1], **Meshal Alsayed**[1], **Yazeed Alrajeh**[1]

[1]College of Dentistry, King Saud bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia
[2]King Abdullah International Medical Research Centre, Riyadh, Saudi Arabia
[3]Ministry of National Guard-Health Affairs, Riyadh, Saudi Arabia

Corresponding author:
Feras Fahad Aloushan,
College of Dentistry,
King Saud bin Abdulaziz University for Health Sciences,
Riyadh, Saudi Arabia.
Phone: +966566110091
Email: Firas0566110091@gmail.com

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ABSTRACT

Aim: This study is intended to highlight the current career choices and the speciality preferences and the motivating factors of all 27 dental collages in the Kingdom of Saudi Arabia. *Methodology:* A questioner survey was collected as hard and soft copy among 364 participants who are Saudi dental students and Saudi dental interns. *Results:* a response rate of 86.9% (230) paper-based surveys and 289 electronic survey filled, of which 64.4% (315) are male and 35.6% females (174). The most preferred speciality among males is Endodontics, Prosthodontics, and Orthodontics respectively. Whereas, females Restorative, Prosthodontics, and Orthodontics. As for the motivational factors, employment benefits and guaranteed salaries were among the highest for males, and length of residency for females. *Discussion:* previous studies have shown a different trend in speciality and career choices. However, the topic of speciality is continuously changing. Moreover, the motivating factors are comparable with other studies. *Conclusion:* non-clinical specialities were among the least preferred specialities. However, those specialities have a critical role in the dental field. Employment benefits and short residencies may aid in more people choosing these specialities.

Keywords: Career preferences, Trending career, Future dentist, Saudi Arabia.

1. INTRODUCTION

In Saudi Arabia, dentistry is one of the health professions attracting large number of students (Barnett & Michael, 2006). Over the years, there has been a marked growth in all the educational sectors in Saudi Arabia including the dental education sector. Specialization in dentistry is needed to provide high quality care to the increasing population of Saudi Arabia. The number of dental colleges has increased from three colleges in 1987 to over 25 dental colleges at present. A dramatic increase in the number of the dental colleges in the kingdom has happened in less than a decade. This has resulted in inflation in the number of dental graduates which can show its implications on the job market and the quality of dental practice. Also, there are many factors that influence the choice of future dental career choices. Such as, high professional status, self-employment opportunities and income have been linked to the factors associated with choosing a career in dentistry (Halawany, 2014, Vigild & Schwarz, 2001, Hallissey et al., 1998-2000; Halawany, et al., 2017).

Among dental students and interns, the career choices keep changing over the course of their dental education. Nevertheless, when Saudi Arabia had 3 dental schools, and the total number of dentists was only 786 and the dentist-to-population ratio was 1:8,906 (Shalhoub & Badr, 1987). According to 2012 Ministry of Health statistics, the total number of dentists was 15694 and the dentist to population ratio was 1: 2083 (Ministry of health, SA, 2016). The dentist to population ratio in Saudi Arabia has reduced from 1:8906 in 1987 to 1: 2083 at present. The recommended dentist to population ratio according to WHO is 1: 7500, but the distribution of the workforce is uneven (Ministry of health, SA, 2016).

Effective management of future dental workforce in Saudi Arabia would also require thorough understanding of students' motivation for the choice of future career aspirations of the graduating dentists. Moreover, as part of comprehensive planning for dental education in Kingdom of Saudi Arabia, there is a high need to assess the intent of Saudi dental students to advance their dental education and attend postgraduate programs. Unfortunately, there are no enough comprehensive studies that emphasize on the future career choices and the factors that affect that choice in Saudi Arabia. In a recent study conducted in KSA wherein the choice of postgraduate programs was evaluated included only 17 colleges in KSA. Some of the previous institutional based studies also indicated that the career choices among dental students are evolving (Halawany, 2014; Al-Dlaigan, et al., 2011; Al-Dlaigan, et al., 2012).

Moreover, according to limited number of studies have done in Saudi Arabia about the career preferences, many of undergraduates dental students intended to continue their education. Furthermore, one of the studies conducted in Saudi Arabia reported that more than 50% of 500 male and female successfully continue their postgraduate education (Alnomay, et al., 2019). Furthermore, there are studies that highlighted that there are preferences among the dental students regarding the future career, dental specialty as well as with regards to location of work. Research into the motivation of individuals who are all choose dentistry as a professional career, demonstrates a wide range of motivational factors. Since the main motivational factors may vary over time and between countries, seeking an understanding of current motivations to enter the health care workforce is critical to health care systems and may result in major change for policies in dental education. Dentistry provides a range of career and business opportunities, with career opportunities as a general practitioner as well as a specialist.

Thus, this has a strong effect on the dental field of Saudi Arabia especially with the current need for many Saudi specialists in dentistry. Therefore, our study is aimed at evaluating the career preferences of the future dentists of Saudi Arabia including all the 27 colleges in KSA and identifying the motivating factors influencing their preferences.

2. METHODOLOGY

This quantitative cross-sectional study intends to investigate the career preferences and the motivational factors affecting the career choices of newly graduated and recently graduating dental students in Saudi Arabia. The ethical approval for this study (SP 19/526/R) was obtained prior to commencing our study from the Institutional Review Board of the King Abdullah International Medical Research Centre (KAIMRC), Riyadh. The total number of interns and final year dental students enrolled in all the dental schools in Saudi Arabia was found to be 6680 as mentioned in the Saudi commission for health specialities booklet for medical workforce 2018-2027 (Saudi Commission For Health Specialties, 2019). The valid sample size was calculated to be 364 using a calculator with the confidence level was set to 95% and significant interval of 5% expecting a response rate of 50%. Convenient random sampling technique was used for data collection. The study was targeted on the Saudi national dental students in the final clinical year and the newly graduated dentists to evaluate their future career preferences and shed light on the factors affecting their career choices. Non-Saudi students and those in the non- clinical years of dental education were excluded from the study.

A 13 item self-administered close ended questionnaire was used to achieve the results. A pilot survey was done among students and the questions were modified according to the suggestions before distributing in the form of both hard and soft copies to the eligible population. The collection of data was done between September and October 2019. The questionnaire consisted of three sections: 1) 9 items indicating the demographic data such as gender, nationality, marital status, parents' occupation , type and name of institution and academic level, etc. 2) Career choices section indicating the preferences in dental specialty, sector of occupation and location of future career and 3) Last section that indicated 15 motivating factors taken from various reference articles which could be the possible driving force for their future career choices. It included personal, economical, professional, and other factors. The questionnaire was distributed among the eligible students in 21 dental schools located across different provinces of Saudi Arabia. A student representative was chosen from the dental schools to distribute the questionnaires among the clinical year students and newly graduated dentists and followed up for responses from willing participants. Informed consent was taken from all the participants before responding to the survey and no names or any personal data are available to be published. To complete the questionnaire, it took about five to seven minutes to complete it.

The responses from the participants were computed into a Microsoft excel worksheet and then coded, cleaned, and analysed using SPSS (Statistical Package for Social Sciences) software Version 22.0; Chicago, IL, USA©. Descriptive statistics were used to report percentages of respondents on distribution of sample across the demographic data. Chi square test was used compare the gender-wise differences in responses to preferences in future career choices that included the specialty, sector and location of work as well as motivating factors. The level of significance was set to a p-value of $\leq$0.05.

3. RESULTS

Among the 230-paper based questioner distributed, (86.9%) response rate was observed, in addition to 289 responses from Google forum electronic survey. Reaching a total 489 of which 315 males (64.4%), and 174 females (35.6%). moreover, students in clinical years were 376 76.9%, 107 interns (21.9%), and 6 newly graduate (1.2%), governmental institution students were 368 (75.3%), and private 121 (24.7%).

Table 1: Choice of speciality, Career option, and preferred location

Variable	Category	Gender				Total		Value	Chi2
		male		Female					
		n	%	n	%	n	%		
Choice of speciality	Restorative	43	8.8	31	6.3	74	15.1	0.384	15.974
	Endodontics	60	12.3	23	4.7	83	17		
	Prosthodontics	57	11.7	24	4.9	81	16.6		
	Orthodontics	46	9.4	24	4.9	70	14.3		
	Oral maxillofacial surgery	25	5.1	24	4.9	49	10		
	Pediatric dentistry	31	6.3	17	3.5	48	9.7		
	Advanced general dentistry	13	2.7	8	1.6	21	4.3		
	General dentistry	8	1.6	1	0.2	9	1.8		
	Periodontics	20	4.1	11	2.2	31	6.3		

	Dental public health	1	0.2	2	0.4	3	0.6		
	Forensic dentistry	5	1	2	0.4	7	1.4		
	Oral medicine	3	0.6	2	0.4	5	1		
	Oral radiology	1	0.2	1	0.2	2	0.4		
	Oral biology	0	0	1	0.2	1	0.2		
	Oral pathology	1	0.2	2	0.4	3	0.6		
	Other	1	0.2	1	0.2	2	0.4		
Career option									
	Civilian dentist in public sector	150	30.7	89	18.2	239	48.9	0.000	39.081
	Civilian dentist in private sector	68	13.9	48	9.8	116	23.7		
	Academic service dentist	20	4.1	26	5.3	46	9.4		
	Dentist in military section	63	12.9	3	0.6	66	13.5		
	Management of dental business	9	1.8	5	1	14	2.9		
	Researcher	2	0.4	2	0.4	4	0.8		
	Business outside dental field	3	0.6	1	0.2	4	0.8		
Location									
	Urban	288	58.9	163	33.3	451	92.2	0.374	0.791
	Rural	27	5.5	11	2.2	38	7.8		

Most preferred specialty in males were endodontics (19%) followed by prosthodontics (18.1%), and orthodontics (14.6%). And the most preferred by females were restorative dentistry (17.8%), followed by prosthodontics and orthodontics and surgery had the same preference rate between females (13.8%). The least preferred by males was oral biology (0%), pathology public health and radiology had the same preference rate (0.3%). Least preferred by female oral biology and radiology and general practitioner (0.57%). As for the career option the most preferred for males and females is civilian dentist (72.6%), and the least preferred career option for both genders research and business outside the dental field (0.8%). Moreover, females were less interested in being military dentist than males (0.6%) showing a clear high statistical difference. The job location preference was urban location was (92.2%) and rural (7.8%). The interion to study abroad for both genders were (61.1%) and no interest for (17.3%) and (21.6%) didn't decide.

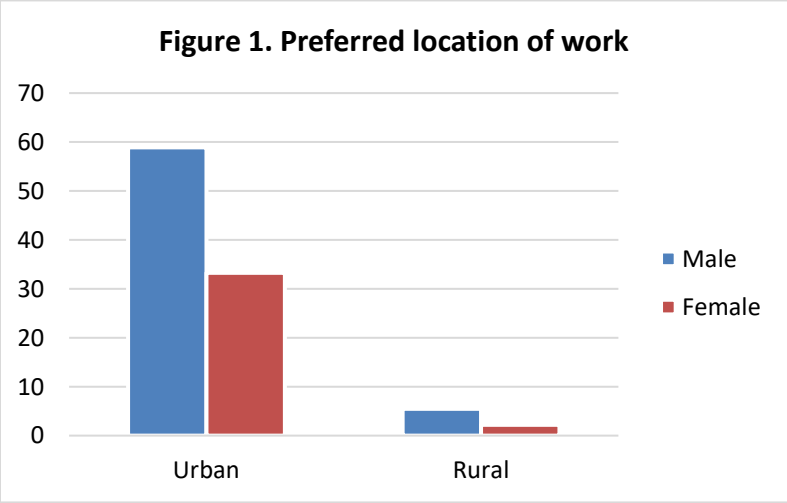
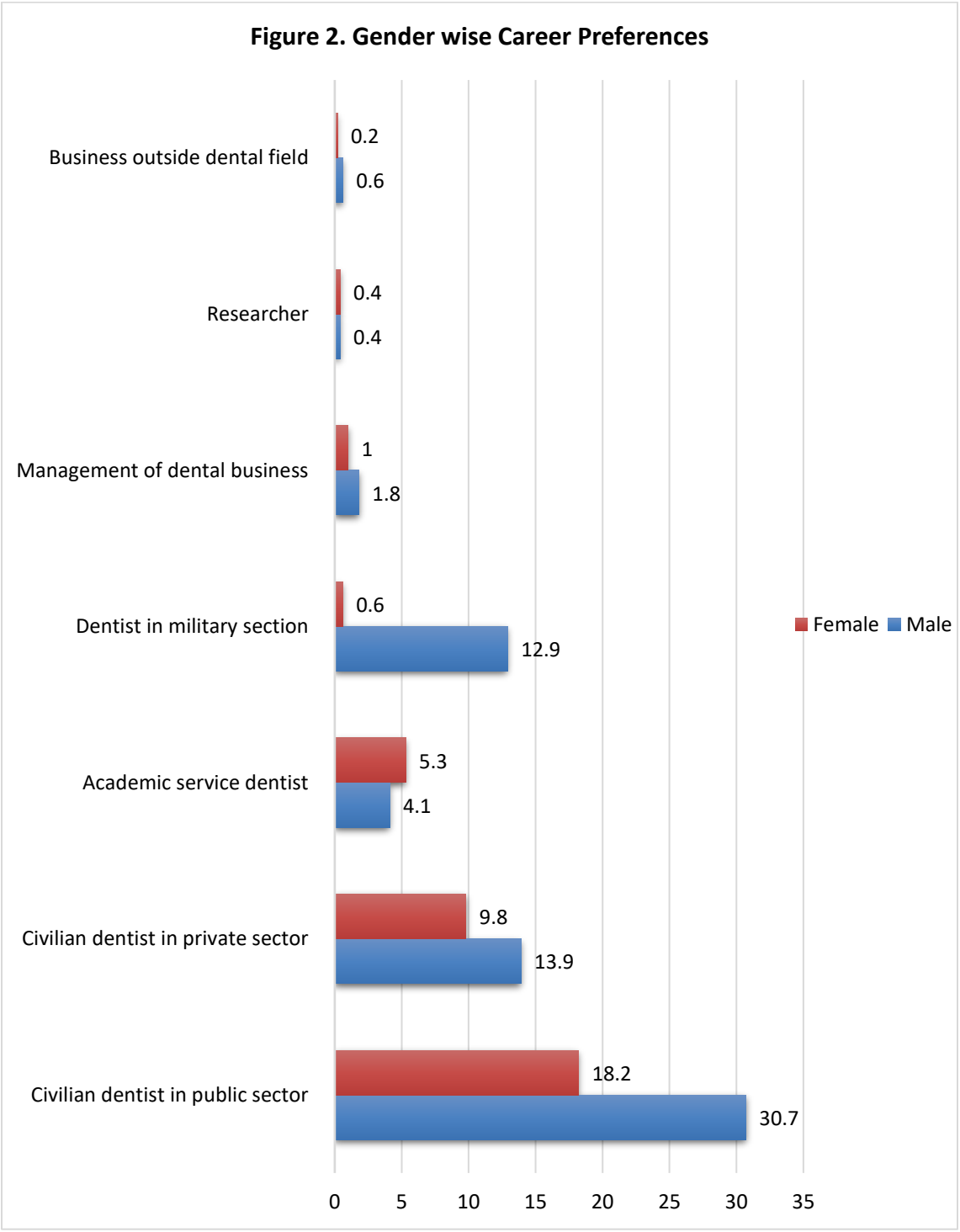


Figure 2. Gender wise Career Preferences



The most significant motivational factors were specific interest in patient population (246, 50.3%) and it was significant chi 2 =0.047 followed by guaranteed salary (236, 48.8%) and it was significant chi 2 =0.001, and after that influence of faculty or colleagues (233, 47.6%) and it was significant chi 2 =0.039. moreover, other significant data were length of residency (140, 28.6%) chi 2 = 0.007, interest in community service (186,38%) chi 2 = 0.030, challenging diagnostic cases (187, 38.2%) chi 2 =0.041, employment benefit (227,46.4%) chi 2 =0.001, access to continuing professional development (198,40.5%) chi 2 =0.001.

Figure 3. Motivating factors

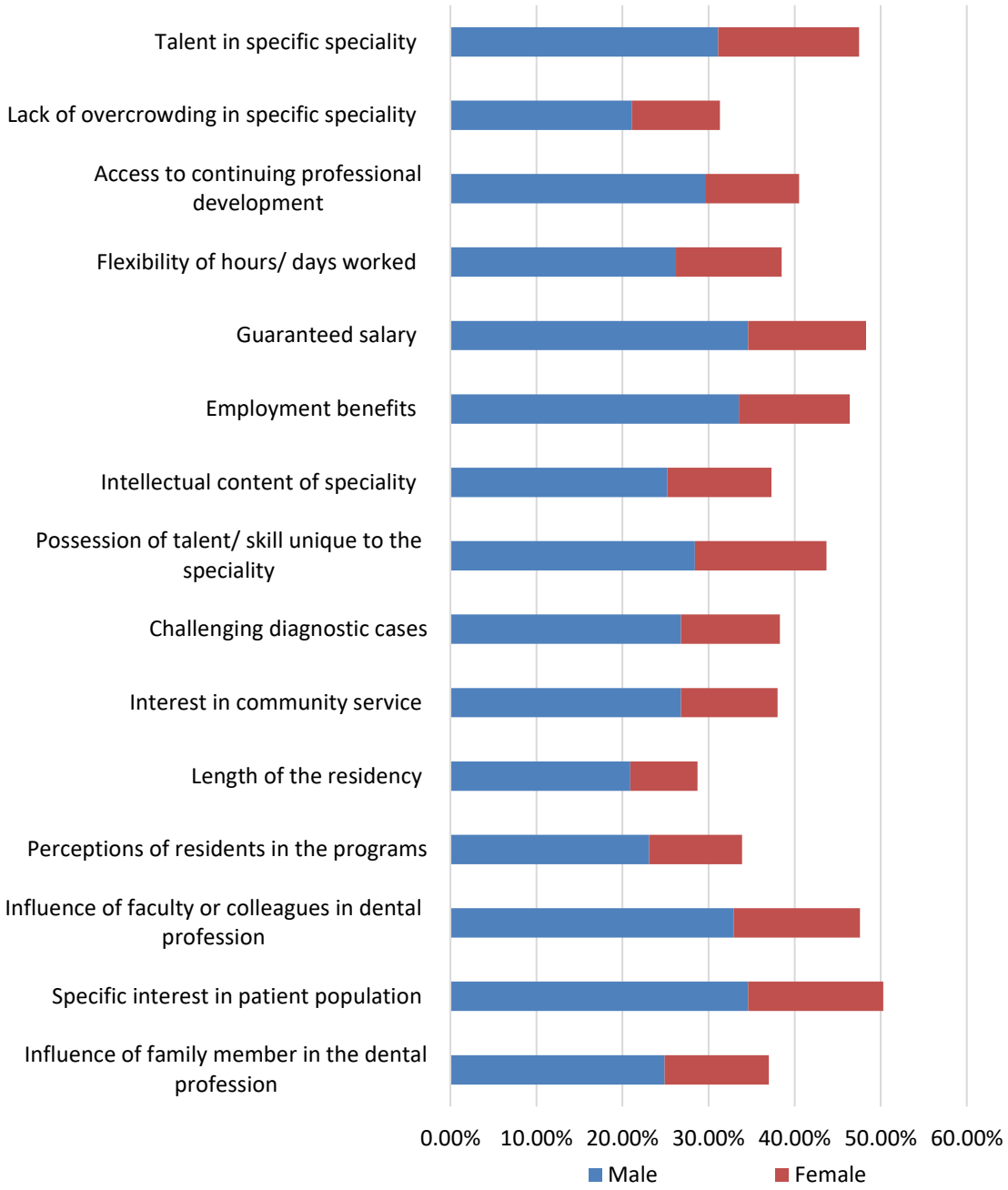
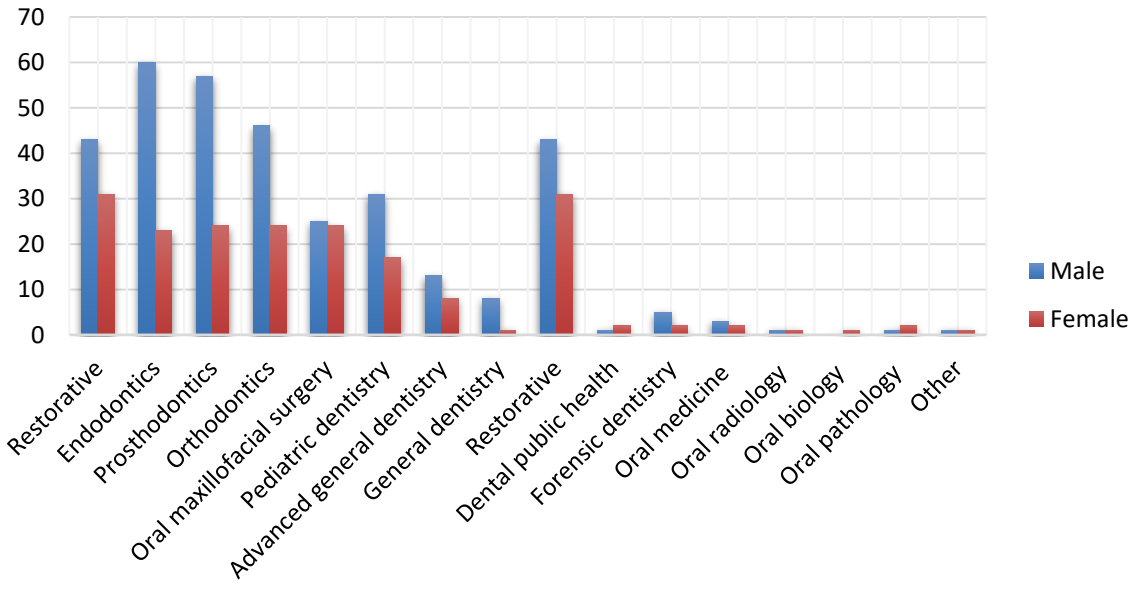


Table 2: Motivational factors

Motivating factors	Answers	Gender				Total		Value	Chi2
		male		Female					
		n	%	n	%	n	%		
Influence of Family member in the dental profession	Yes	122	24.9	59	12.1	181	37	0.291	1.118
	No	193	39.5	115	23.5	308	63		
Specific interest in patient population	Yes	169	34.6	77	15.7	246	50.3	0.047	3.960
	No	146	29.9	97	19.8	243	49.7		
Influence of faculty or colleagues in dental profession	Yes	161	32.9	72	14.7	233	47.6	0.039	4.256
	No	154	31.5	102	20.9	256	52.4		

Perceptions of residents in the programs	Yes	113	23.1	53	10.8	166	33.9	0.227	1.456
	No	202	41.3	121	24.7	323	66.1		
Length of the residency	Yes	102	20.9	38	7.8	140	28.6	0.007	7.726
	No	213	43.6	135	27.6	348	71.2		
Interest in community service	Yes	131	26.8	55	11.2	186	38	0.030	4.735
	No	184	37.6	119	24.3	303	62		
Challenging diagnostic cases	Yes	131	26.8	56	11.5	187	38.2	0.041	4.1907
	No	184	27.6	118	24.1	302	61.8		
Possession of talent/ skill unique to the speciality	Yes	139	28.4	75	15.3	214	43.8	0.828	0.048
	No	176	36	99	20.2	275	56.2		
Intellectual content of speciality	Yes	123	25.2	59	12.1	182	37.2	0.261	1.267
	No	192	39.3	115	23.5	307	62.8		
Employment benefits	Yes	164	33.5	63	12.9	227	46.4	0.001	11.331
	No	151	30.9	111	22.7	262	53.6		
Guaranteed salary	Yes	169	34.6	67	13.7	236	48.3	0.001	11.755
	No	146	29.9	106	21.7	252	51.5		
Flexibility of hours/ days worked	Yes	128	26.2	60	12.3	188	38.4	0.181	1.793
	No	178	38.2	114	23.3	301	61.6		
Access to continuing professional development	Yes	145	29.7	53	10.8	198	40.5	0.001	11.280
	No	170	34.8	121	24.7	291	59.5		
Lack of overcrowding in specific speciality	Yes	103	21.1	50	10.2	153	31.3	0.367	0.819
	No	212	43.4	124	25.4	336	68.7		
Talent in specific speciality	Yes	152	31.1	80	16.4	232	47.4	0.630	0.233
	No	163	33.3	94	19.2	257	52.6		

Figure 4. Choice of Specialty



4. DISCUSSION

Dental students in the clinical years and newly graduated were the target of our study since they get exposure adequately to dental practice and they are assumed to have a whole understanding of which specialty they are interested as a future and current dental practice. The career preferences of the participants are highly influenced by the location of the work and the career options

available. In addition, our study found that the most preferred career option after graduation for males and females is working as a dentist public sector. Followed by civilian dentist working in private practice, which is similar to findings mentioned before in (Atchison, et al., 2002; Dhima, et al., 2012; Halawany, et al., 2017). However, male participants have a tendency to have a preference in having a career as dentist in the military sector. Specifically, 12.9% of males preferred to work in military sector in relation to the job opportunities nowadays in KSA. Furthermore, dentist on military sector is available for male only as it is not available for females at the time of the study. Moreover, female participants found to have a preference to work in the academic services more than male participants. Alternatively, the participants have a high tendency to choose these three options for many reasons such as (job security, facilities in the institution and retirement income), (Yan, et al., 2014; Halawany, et al., 2017). The preference for Management of dental business as a career option was very low for male and female participants (<3%). In addition, Business outside dental field and to work as a researcher were the least preferred options for the participants (<1%). Nevertheless, as a result of more facilities in dental and non-dental aspects in urban areas 92.2% of Saudi dental students and interns intend to work in the urban rather than rural areas. In addition, the males were found to be more agreeable than females to work in rural areas. As for the factors that influence the career choices of our study were influence of family member, Specific interest in patient population, Influence of faculty or colleagues in dental profession, Length of the residency and others. On the other hand, a study which was conducted in US (Saeed, et al., 2008) reported that , having a specific skills specific to the specialty, content of specialty and challenging diagnostic problems are the most important factors on the area of choosing a specialty. This study was able to show the complete understanding of which dental specialty is preferable, and the factors that influence the career choices. This study conducted among all the 27 universities in Saudi Arabia which include clinical years and newly graduated dental student. According to our 2030 plan, we are concerned to estimate the preferability of Saudi dental student to continue their post-graduation education which is highly important part of our 2030 plan. However, since the surveys are distributed as hard and soft copies the responses in the hard copies may not be completed which create a bias. The ratio of participation as male: female was not equal which can lead to more tendency for males in the percentages. Moreover, in the clinical year student's career option might change with more practice and experience leading to make different plans after graduation.

5. CONCLUSION

From our survey we get that the least preferred specialties both among males and females were the non-clinical specialties. Non-clinical fields have a crucial role in dentistry such as a researcher. Therefore, effort should be taken to encourage these non-clinical fields and emphasis on their scope in future to the undergrad dental students.

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Funding:
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Conflict of interest:
The authors declare that they have no conflict of interest.

Informed consent:
Written & Oral informed consent was obtained from all individual participants included in the study.

Ethical approval:
The study was approved by institutional review board (IRB) of King Abdullah International Medical Research Centre (KAIMRC). (ethical approval code: SP19/526).

Data and materials availability:
All data associated with this study are present in the paper and in soft copy.

Peer-review:
External peer-review was done through double-blind method.

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