

# The Pre and Final Year Dental Students' Attitudes, Perception towards Postgraduate Specialization in Kinshasa University—Dental Medicine Department/DR. Congo

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## Abstract

The health professions are always affected by changes in the community, economics, religions, and politics. The aim of this study was to investigate the occurrence attitudes towards postgraduate specialization, and possible influencing factors for choosing specialties by the pre and final year students of Kinshasa University-Dental Medicine Department. A prospective survey of pre and final year dental students of Kinshasa University was carried out. Age, gender, nationality, and the occupation of parent's variables were recorded. The questionnaire consisted of two sections; the first was regarding the students' background and the second was their attitudes towards postgraduate specialization. The survey was conducted anonymously. Fisher exact test was used to analyze the differences in some variables and statistical significance was set at 5%. Results: Of the 106 students enrolled, 58.45% were males and 41.51% females. 81% responded to pursue a specialist career versus

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15% who did not. The most popular first choices of specialty were Oral and Maxillofacial Surgery (44.34%), followed by Public Health (18.87%). However, in the second choice of specialty, Public Health was the first-choice career (23.58%) followed by Maxillofacial Surgery and Oral Surgery (19.81%) respectively. Oral and maxillofacial surgery was the first choice of specialty for males (37.74%) than for the females (6.60%), and the difference was statistically significant ( $p = 0.002$ ). Conclusion: Most of the students had an intention to be a specialist, with a preference for Oral and Maxillofacial Surgery, and Public Health.

## Keywords

Attitudes, Dental Department, Perception, Specialization

## 1. Introduction

Through the world, the health professions are always affected by changes in the community, economics, religions, and politics (DeVries, Murtomma, Butler, Cherrett, Ferrillo, Ferro, et al., 2008). Attitudes or perception as often the result of experience or upbringing which it has may be a powerful influence over behavior towards a goal. The motivation and expectations play an integral role in many of the compelling challenges facing healthcare professionals. Several studies have investigated the motivations underlying dental students' career choice and career expectations around the World (Karibe, Kawakami, Suzuki, Warita, Ogata, Aoyagi, et al., 2008; Weaver, Chmar, Haden, & Valachovic, 2005; Vigild & Schwarz, 2001; Al-Bitar, Sonbol, & Al-Omari, 2008). The findings of these studies seem to point out the financially lucrative profession, job security, desire to help the people, opportunity to utilize the technical skills, self-employed, talent in the field of study, and altruism as the most dominant motivational factors. With regard to the most preferred intended specialty by the students, previous studies reported Restorative dentistry in the UK (Fisher, Wilson, & Bartlett, 2007), later Orthodontics in the same institution (James, Veselina, & Alisa, 2016; Puryer & Patel, 2016), Orthodontics in Japan, Canada, USA and Oral Surgery as the most preferred intended specialty for Thai undergraduates' students (Karibe, Suzuki, Sekimoto, Srithavaj, Iamaroon, Warita, Kawakami, Ogata, Shirase, & Nakahara, 2007; Saeed, Jimenez, Howell, Karimbux, & Sukotjo, 2008). The length of training, cost, and disruption of life were reported to be the three greatest barriers to further dental specialization (Puryer & Patel, 2016). Gender is a controversial determinant in choosing specialty (Fisher, Wilson, Bartlett, 2007; Scarbecz & Ross, 2007; Dhima, Petropoulos, Han, Kinnunen, & Wright, 2012).

In the Democratic Republic of Congo, since the University of Kinshasa with its Dental Medicine Department was founded in 1959, the specialization career

of all who desire to continue started in 2011. Admission to the dental school is only assured by Kinshasa University. Only the candidates who have passed the entrance test and gained the ranks more than fifty-five percent are permitted to this program until the six years of graduation. Upon graduation, a dentist can continue a postgraduate specialization program in the same institution. To date, Orthodontics, Oral Surgery, Prosthodontics, Periodontics, Restorative Dentistry, Paediatric Dentistry, Public Health and Maxillofacial surgery specialties had received the students and more than twelve specialists were graduated. The motivations and expectations of healthcare professionals maybe of some interest to often overcome obstacles, and hence ameliorate the health educational systems. However, such motivations and the choice of specialty as a career for dental student and the discouraging factors remain unknown. This first study aimed to investigate the occurrence attitudes towards postgraduate specialization and to identify the possible influencing or discouraging factors in the pre and final year students of the Kinshasa University/Dental Medicine Department.

## 2. Materials and Methods

A prospective survey of all voluntary and anonymous pre and final year dental undergraduates ( $n = 106$ ) was carried out in Kinshasa city, Kinshasa University, at Department of Dental Medicine. The study was addressed for two academic years; 2015-2016 and 2016-2017. Participants were exposed to clinical practice in their hospitals or in the preclinical laboratory at the time of the study. The pre and finalists' students are most anxious or are troubled about their future regarding getting a job or intention to be specialist justified the inclusion of these students in our study. The self-administered questionnaire was distributed to students without exclusion criteria since the sampling method was based on consensus. Demographic information such as age, gender, nationality, and the kind occupation of parents was recorded. The questionnaire (Annexe) was in French language, adapted to our context, and designed to investigate the students' occurrence attitudes, and their perspectives towards postgraduate specialization as well as the discouraging/influencing factors choices. It consisted of two sections; the first was regarding the students' background with three questions including identity, occupations of their parents and age group for each student and the second section was regarding their attitudes towards postgraduate specialization. The questionnaire was distributed to each student personally and was explained to all of them that this present survey does not have the right or the wrong answer. The survey was being conducted anonymously, and all information would be available only for group analysis. No time limit was imposed for completion of the questionnaire. The data were analyzed using SPSS version 20 to carry out the statistical results. The chi-square or Fisher exact test was used to analyze the differences in some variables and statistical significance was set at 5%.

### 3. Results

Total of 106 students was enrolled, which male was predominant than female (58.45%;  $n = 62$  and 41.51%;  $n = 44$ ). The age of students ranged from 20 - 25 years (52.83%;  $n = 56$ ) followed by age ranged from 26 - 31 (28.30%;  $n = 30$ ) and students aged between 32 - 37 years and 38 - 43 were the last (9.43%;  $n = 10$ ) in each group age. All students were Congolese of nationality except three students who were Cameroun's nationality. Of 106 students; 81%;  $n = 86$  responded that they wished to pursue a specialist career versus 15%;  $n = 16$  who responded that they did not and 3.77%;  $n = 4$  expressed uncertainty regarding the desire to be specialist. Encouragement to pursue a specialist career from the Dental Medicine department received by students was 17.92%;  $n = 19$ . However, the status of parents, ethnicity combined with age were not found statistically to have an effect on intention to specialize ( $p = 0.318$  for parents' status;  $p = 0.222$  for ethnicity and  $p = 0.462$  for age).

The most popular first choices of the specialty among pre and final year dental students were Oral and Maxillofacial Surgery (44.34%), followed by Public Health (18.87%), and Pediatric Dentistry (10.38%). Periodontics (1.89%), and Orthodontics (3.77%) was the less chosen specialties or selected by respondent in this series. In the second choice of specialty, Public Health was the first-choice career (23.58%) followed by Maxillofacial Surgery, Oral Surgery (19.81%) and Prosthodontics (12.26%), Operative Dentistry (9.43%) listed as the most desired second choice of specialty. Of doing a combination of the first and second choices, the most popular intended subjects were Maxillofacial Surgery (44.34%), followed by Public Health (23.58%), Oral Surgery (19.81%) and Prosthodontics (12.26%). Also, in addition of the first and second choices, the most popular intended subjects were Maxillofacial Surgery (64.15%), followed by Public Health (42.45%), Oral Surgery (26.41%) and Prosthodontics (20.75%). Periodontics and Orthodontics were the fewer choice specialties. Data from these results are shown in **Table 1**.

The most common factors influencing decision to specialize was the financial reasons (33.02%;  $n = 35$ ) followed by the social status (18.87%;  $n = 20$ ). Factors discouraging specialization are firstly the study too expensive (42.45%;  $n = 45$ ) followed by a poor salary without considering the value of the study degree (29.24%;  $n = 31$ ), and long time consuming in the study (22.64%;  $n = 24$ ) **Table 2**. Oral and maxillofacial surgery was a first choice specialty for almost males (37.74%;  $n = 40$ ) than for females (6.60%;  $n = 7$ ), and the difference was statistically significant ( $p = 0.002$ ). Public Health was the first most specialty chosen by females (14.15%;  $n = 15$ ) than males (4.72%;  $n = 5$ ), however, the difference was not significant ( $p = 0.111$ ). In the second-choice specialty with regard to gender, both choosing specialties for the first time were the same with second time choosing. Orthodontics, Periodontics, Pediatric Dentistry, Prosthodontics, and Operative Dentistry fields were almost chosen without any significant gender difference in first or second choice (**Table 3**).

**Table 1.** Choices of specialty.

Specialties	First Choice (%)	Second Choice (%)	Total (%)
Oral Surgery	07 (6.6)	21 (19.81)	28 (26.41)
Orthodontics	04 (3.77)	05 (4.72)	8 (8.49)
Periodontics	02 (1.89)	04 (3.77)	6 (5.66)
Pediatric Dentistry	11 (10.38)	07 (6.6)	18 (16.98)
Prosthodontics	09 (8.49)	13 (12.26)	22 (20.75)
Operative Dentistry	06 (5.66)	10 (9.43)	16 (15.09)
Oral and maxillofacial Surgery	47 (44.34)	21 (19.81)	68 (64.16)
Public Health	20 (18.87)	25 (23.58)	45 (42.45)

**Table 2.** Factors influencing and discouraging the desire to specialize.

Influencing Factors n (%)		Discouraging Factors n (%)	
Family and Friends' expectations	14 (13.20)	Long time consuming	24 (22.64)
Social status	20 (18.87)	Study too expensive	45 (42.45)
Competence in the field	11 (10.37)	Much competitive	2 (1.88)
Financial reasons	35 (33.02)	The salary that does not consider the value of the study degree	31 (29.24)
Lack of existing specialists in field	7 (6.60)	Further studying	1 (0.94)
Further studying	5 (4.72)	Marriage	1 (0.94)
Status of parents	1 (0.94)	Lack of leadership and study with too difficulty	2 (1.88)
<b>Total</b>	<b>106</b>	<b>Total</b>	<b>106</b>

**Table 3.** Comparison of choosing specialty among gender.

Specialties	First choice specialty		Second choice specialty	
	Males (%)	Females (%)	Males (%)	Females (%)
Oral Surgery	3 (2.83)	4 (3.77)	15 (14.15)	6 (5.66)
Orthodontics	4 (3.77)	-	3 (2.83)	2 (1.89)
Periodontics	1 (0.94)	1 (0.94)	2 (1.89)	2 (1.89)
Pediatric Dentistry	2 (1.89)	9 (8.49)	2 (1.89)	5 (4.72)
Prosthodontics	5 (4.72)	4 (3.77)	9 (8.49)	4 (3.77)
Operative Dentistry	2 (1.89)	4 (3.77)	5 (4.72)	5 (4.72)
Oral and maxillofacial Surgery	40 (37.74)	7 (6.60)	17 (16.04)	4 (3.77)
Public Health	5 (4.72)	15 (14.15)	9 (8.49)	16 (15.09)
<b>Total</b>	<b>62</b>	<b>44</b>	<b>62</b>	<b>44</b>

## 4. Discussion

The present study reports the occurrence attitudes and the perspectives towards

postgraduate specialization of pre and final year students of Kinshasa University/Dental medicine department. The choice of specialization in a dental career is motivated by several factors which may be different in each country or region or each University. The present report may be difficult to discuss with others findings. However, the similar possible outcome will be a guideline of discussion for the present study.

In this study, several students (81%) responded that they had the desire to pursue a specialist career. This result was highly different compared to other findings (James, Veselina, & Alisa, 2016) where only 38% of students responded to pursue a specialist career. In another hand, the present result was also consistent with other reports (Puryer & Patel, 2016) regarding the desire to pursue a specialization career in dentistry (71%), and the less encouragement by the dental educational institution (James, Veselina, & Alisa, 2016) in the UK within 13% and 18% respectively. Encouragement or orientation of the students in the field of specialization should be one of the preoccupations of the Dental educational institution as was mentioned that (Scarbecz & Ross, 2007) students were six times more likely to specialize if they received encouragement compared to the student who had not. With regard to motivations underlying dental students' career choice, the financial reasons followed by the Social status were the most influencing factors for specialization in our series. This result means that the specialists formed will maybe not have high levels of clinical skills, or they are useless for the benefit of the population or the patients. Conversely, the influencing factors such as having a competence or talent in a particular field for specialization was very less admitted by the students in this study when compared with others findings (Saeed, Jimenez, Howell, Karimbux, & Sukotjo, 2008; Smith, Lambert, & Goldacre, 2015) in which having a talent in a particular field or possession of special skills was the most popular reason to specialize. However, the prospect of so many more years studying was a discouraging factor as was recently reported (James, Veselina, & Alisa, 2016).

The choosing specialty in a dental career has been well documented elsewhere. The findings seem to be related to each country realities, politic and the time's context of the study. In UK 83% of graduate's dental student's preferred Restorative dentistry as the most intended specialty (Fisher, Wilson, & Bartlett, 2007), while nine years later, 71% of dental students of the same institution expressed to specialize with Orthodontics specialty (James, Veselina, & Alisa, 2016). Studies views of Japanese, Canadian and Thai undergraduates found that Orthodontics was the most preferred subject in the first two countries, and Oral Surgery in the latter country (Karibe, Suzuki, Sekimoto, Srithavaj, Iamaroon, Wari-ta, Kawakami, Ogata, Shirase, & Nakahara, 2007). In addition, Orthodontics was also the most preferred subject in dental undergraduate's students of USA (Saeed, Jimenez, Howell, Karimbux, & Sukotjo, 2008; Weaver, Chmar, Haden, & Valachovic, 2005). Other findings of involved senior dental students from all dental schools across the USA also reported Orthodontics followed by Oral and Maxillofacial Surgery and Paediatric Dentistry to be the most popular specialties

as did for Canada (Gallagher, Patel, & Wilson, 2009). In the present study, the most popular first choices specialties among pre and final year dental students were Oral and Maxillofacial Surgery, followed by Public Health. And in the second choice, the Public Health was the most popular second choices specialty followed by Oral and Maxillofacial Surgery.

Even though gender is a controversial determinant in choosing specialty (Fisher, Wilson, & Bartlett, 2007; Scarbecz & Ross, 2007; Dhima, Petropoulos, Han, Kinnunen, & Wright, 2012), the present study found gender with an impact on the choice of some specialties. This agrees with other reports (Karibe, Suzuki, Sekimoto, Srithavaj, Iamaroon, Warita, Kawakami, Ogata, Shirase, & Nakahara, 2007) where males were more likely to advance into an Oral and Maxillofacial Surgery field, whereas females were more interested in Paediatric Dentistry. In our study, males were also more likely to advance into an Oral and Maxillofacial Surgery field, however, females were more inclined to study the Public Health.

## 5. Conclusion

The present study shows that several undergraduates' students had an intention to specialize, with a preference for Oral and Maxillofacial Surgery, and Public Health. The most influencing factor in the choice of specialty was represented by the financial reasons and the cost of study too expensive was seemed to be the largest discouraging major factor. The results of this study can serve to guide the department to kindly decide on the selection or administration of the new academic assistant, and for the future studies.

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## Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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## Annexe: Formulaire d'enquête

### Identité

#### 1) Identité personnelle

- a) Sexe: i) Masculin ii) Féminin
- b) Nationalité:
- c) Province:
- d) Ethnie:

#### 2) Profession des Parents

- a) Enseignement
- b) Fonctionnaire
- c) Professeur
- d) Autres

#### 3) Appartenez-vous à quel groupe d'âge?

- a) 20 - 25 ans
- b) 26 - 31 ans
- c) 32 - 37 ans
- d) 38 - 43 years

### Spécialisation

1) Avez-vous l'intention de poursuivre une carrière de spécialiste?

- a) Oui
- b) Non
- c) Ne sais pas

2) Sentez-vous que vous avez suffisamment besoin de la spécialité et bénéficiez-vous des encouragements de votre département pour pouvoir décider du cheminement de carrière choisir ?

- a) Oui
- b) No

3) Si vous décidez de se spécialiser à l'avenir, quel serait votre premier choix de la spécialité?

- a) Chirurgie buccale
- b) Orthodontie
- c) Parodontologie
- d) Dentisterie pédiatrique
- e) Prothèse dentaire
- f) La dentisterie opératoire
- g) Chirurgie maxillo-faciale
- h) Santé publique

4) Si vous décidez de se spécialiser à l'avenir, que serait votre deuxième choix de spécialité?

- a) Chirurgie buccale
- b) Orthodontie

- c) Parodontologie
- d) Dentisterie pédiatrique
- e) Prothèse dentaire
- f) La dentisterie opératoire
- g) Chirurgie maxillo-faciale
- h) Santé publique

5) Lequel de ces facteurs est susceptible d'affecter votre décision sur la spécialisation?

- a) Famille & les attentes des amis
  - b) Statut social
  - c) Votre compétence dans le domaine
  - d) Récompense
  - e) Des raisons financières
  - f) Manque de spécialistes existants en matière
  - g) Etudes complémentaire
  - h) autres
- 6) Ce qui peut vous décourager de se spécialiser ?
- a) Ces études prennent beaucoup trop de temps
  - b) Trop cher
  - c) Inutile
  - d) Trop de compétitions
  - e) Un salaire qui ne tient pas compte du degré de l'étude
  - e) Etudes complémentaire

**Merci d'avoir répondu à notre enquête**