

Attitude And Practice of Dentists Towards Management of Dental Fear And Anxiety in Public Dental Hospitals In Sudan.

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Author RIAM managed the analyses of the study and the literature searches. Both authors read and Approved the final manuscript.

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Abstract:

Background: Dental anxiety is a complex phenomenon, and no one single variable can account behind its cause and development; therefore, there are a number of factors that have consistently been linked with a greater incidence of dental anxiety including personality characteristics, fear of pain, and past traumatic dental experiences particularly in childhood. **Objectives:**

General: To assess the attitude and practice of dentists towards management of dental fear and anxiety.

Specific objectives: To assess the practice of dentists regarding dental fear and anxiety management strategies and to analyze the relationship between dentist's practice of management of dental fear and anxiety and correlate it with their demographic data.

Materials and methods: The population included all dentists working in Academic dental hospital and Khartoum dental teaching hospital (184). Data was analyzes using SPSS.

Conclusion: This study examined the attitude and practice of dentists towards management of dental fear and anxiety in public dental hospitals in Khartoum- Sudan and concluded that there was a highly significant difference in age groups that use non pharmacological and pharmacological methods for management of apprehensive patients.

Keywords: Management, Dental Fear, Anxiety, dental Hospitals, Sudan.

I. Introduction

Dental fear; also called dental phobia, odontophobia, dentophobia, dentist phobia, and dental anxiety, is the fear of receiving dental care and of dentistry in general. It has been suggested that the use of the term dental phobia should not be used for people who do not experience excessive or unreasonable fear, and instead resemble individuals with post-traumatic stress disorder, resulting from previous traumatic dental experiences¹. The most feared procedures in dentistry ranked by the patients were drilling, anesthesia, and extraction. The most desired dentist's behavior were, understanding of the patient and trying to avoid causing pain, whereas the most undesired were being heavy-handed, critical, remote and distant. The dental status was strongly affected by fear and avoidance of achieving regular dental care, and the deterioration was significantly noticed in men². "Anxiety is an emotional state that helps normal individuals defends themselves against a variety of threats; anxiety disorders are a deregulation of these normal defensive mechanisms with either excessive or deficient responses". Dental anxiety is a complex phenomenon, and no one single variable can account behind its cause and development. Therefore, there are a number of factors that have consistently been linked with a greater incidence of dental anxiety, including personality characteristics, fear of pain, past traumatic dental experiences, particularly in childhood (conditioning experiences), the influence of dentally anxious family members or peers which elicit fear in a person (vicarious learning), and blood-injury fears. Fear of pain has been strongly associated with the development of dental anxiety and avoidance of dental treatment³. People's dental fear is related to invasive procedures, such as oral surgery, more than less invasive treatment, such as professional dental cleanings, or prophylaxis⁴. Causes of dental fear or anxiety can either be due to direct or indirect experiences.

Direct experiences are known to be the most common way people develop dental fears. Most individuals report that their dental fear started after a traumatic, difficult, and/or painful dental experience.⁵ but painful or traumatic experiences alone do not explain why people develop dental phobia. The attitude of the dentist plays an important role in this area. Dentists who were considered careless or not friendly were found to result in increased incidence of dental fear in patients, even if there was no any painful procedure or experience,

whereas some patients who had been through painful experience with a friendly, caring, and warm dentist failed to develop dental fear.⁶ Indirect experiences include imaginary learning through the feelings and actions of another person, that's when the fear is developed as people hear about others negative views of dentistry⁷ and stimulates generalization where the dental fear develops as a result of previous non-dentist context traumatic experience. For example, bad experiences with doctors or hospital environments may lead people to fear white coats and antiseptic smells.⁸ The treatment of a patient in pain is one of the most challenging aspects of dental care that dentists face. Previous experiences, expectations, and current emotional states play a role in experiencing pain. In the last few years, the definition of pain included the understanding that pain is influenced by the patient's cognitions, their affective and somatic states. Usually most dentists concentrate on decreasing the somatic aspect of the perception of the pain and do not take in consideration the affective and cognitive elements. Perception of pain has a strong psychological component and conscious attention is required⁹. Thus apprehension leads patients to delay or cancel dental visits or avoid the treatment completely. It is confirmed that anxious patients have more decayed, missing and less filled teeth in comparison to non-anxious patients. Their poorer oral health status usually has a negative effect on their social life. Furthermore, treating anxious patients is time consuming. It is hard to manage them during the procedure and they are often unsatisfied with the treatment done. Anxiety can affect patient/dentist relationship and might result in misdiagnosis. Dentists claim that such patients are major source of stress that can compromise their practice.¹⁰ About 75% of US adults were estimated to experience dental fear from mild to severe.^{11, 12, 13} People who are very fearful of dental care tend to avoid it until they experience a dental emergency that needs an invasive treatment which can reinforce their fear of dentistry.¹⁴ Women and younger people are noted to be more fearful than men and older individuals^{15, 16}. Recent studies have focused on the role of online communities in helping people to confront their anxiety or phobia and successfully receive dental care. The results suggest that certain individuals do appear to benefit from their involvement in dental anxiety online support groups.^{17, 18}

Research problem: Patients with dental anxiety/fear suffer considerably from impaired oral health related quality of life and the degree of this impairment is related to the extent of dental anxiety/fear.¹⁹

Justification: Patients are often fearful, anxious or even phobic about visiting the dentist. This can be approached in a number of ways if patients were assessed to find the most suitable option. If dental anxiety is managed, patient outcomes can be greatly improved. (Dr Richard Charon and Chris Charon, Management of dental fear, anxiety and phobia)

II. Objectives

General: To assess the attitude and practice of dentists towards management of dental fear and anxiety.

Specific:

- To assess the practice of dentists of dental fear and anxiety management strategies.
- To analyse the relationship between dentists practice of management of dental fear and anxiety and demographic data.

Literature review

A research conducted by JM Armfield in 2013 in Australia about Management of fear and anxiety in dental clinic, concluded that a number of non-pharmacological (behavioural and cognitive) techniques and practical advice were presented and can be used in the dental clinic in order to reduce anxiety and help precede dental care. These techniques range from good communication to systematic desensitization and hypnosis. Clinicians can manage dentally fearful individuals; but it requires a great level of understanding, communication skills and a phased treatment approach.²¹ Furthermore, Devapriya Appukuttan conducted a research in 2016, Chennai, India about Strategies to manage patients with dental anxiety and dental phobia, he Stated that dental anxiety can be managed by psychotherapy (behavioural or cognitive), pharmacologically (by either sedation or general anaesthesia), or a combination of both, depending on the level of dental anxiety, patient characteristics, and clinical situations.²²

In another research by Mary Oeding and Megan Wright, 2012, New York, United States, about anxious or phobic patient's best treatment practices, the conclusion is that there are several behavioural and non-pharmacological techniques available that aid in the reduction of patient's anxiety or fear of dental treatment. If relaxation techniques and good dentist's communication skills is used in conjunction with local anaesthesia, many patients can easily be treated with no additional medications necessary (pharmacological methods). Satisfied anxious patients can become regular, referring or attending members of any dental practice. A caring dentist as well as dental staff who are willing to take a little extra time to treat not only the patient's teeth, but also to manage and reduce the psychological fears that resulted in delay of patients from seeking routine dental care is needed.²³ In Another study conducted by Mark Slovin in 2009, New York, USA, about Special needs of anxious and phobic dental patients, he found out that dentists and their auxiliary staff, with information and understanding of the aetiologies leading to this issue, can improve the patient's overall quality of life. Certain

Techniques are available for dentists to manage anxiety and dental fear. Through knowledge, education and certain techniques, dentists would be able to manage anxious and fearful patients; therefore their oral and systemic health can be improved.²⁴ While in another research conducted by A.A. Weiner in 1992, about Dental anxiety: differentiation, identification and behavioural management, concluded that a successful practice now depends on good communication as well as technical skills, specially the ability to manage dental anxiety. Despite this, most dentists admitted the lack of understanding the nature of anxiety and the modern methods recommended for its management, which generally depends on behavioural modes of intervention.²⁵ Another research conducted by T. Newton, K. Asimakopoulou, B. Daly, S. Scrambler, and S. Scott in 2012, London, UK, about “The management of dental anxiety: time for a sense of proportion?” it concluded that dental fear and anxiety from treatment and dental procedures are prevalent and it affects the quality of life and treatment done – both in terms of limiting visits for treatment and in the type of the dental procedure likely to be done.²⁶

III. Materials and methods

The research methodology for this study will be qualitative in nature. Qualitative research is defined as an umbrella term covering an array of interpretative techniques which seek to describe, decode, translate and otherwise come to terms with the meaning, not the frequency, of certain more or less naturally occurring phenomena in the social world. It aims to develop concepts that aid in the understanding of natural phenomena with emphasis on the meaning, experiences and views of the participants.²⁷ This research will help to gain insight into doctor’s subjective experiences, attitudes, feelings and beliefs and the reasons for an action in management of dental fear and anxiety at Khartoum dental teaching hospital and Academic dental teaching hospital.

Type of study: Descriptive cross-sectional study.

Study area: This research was conducted by collecting data from all dentists working in Academic Dental Hospital and Khartoum Dental Teaching Hospital, since they are the major public dental hospitals in Khartoum.

Study population: The population included all dentists working in Academic dental hospital and Khartoum dental teaching hospital.

Study Variables:

Dependent variables: attitude and practice.

Independent variables: age, gender and years of experience.

Data collection tool:

Data was collected using closed ended structured, self-administered questionnaire prepared by the investigator.

Data analysis:

SPSS (statistical package for social science) using version 21 was used to analyze the data.

The data was analyzed and presented in the form of correlations and cross tabulations.

Ethical consideration: The study was approved by the ethical Committee in the University of Medical Sciences and Technology and permission was obtained from the administration of the Academic dental hospital and Khartoum dental teaching hospital. An informed consent was given to the participants along with the questionnaire to clarify the purpose of the research and assure them that their participation is entirely voluntary, and the information provided will be used confidentially for research purposes.

IV. Results

This study examined the attitude and practice of dentists towards management of dental fear and anxiety in public dental hospitals in Khartoum Sudan. In this study, dentists were interviewed; according to the results obtained, there was a highly significant difference in age groups that use non pharmacological methods and pharmacological methods. 68.0% of dentists in all age groups use non pharmacological methods; while the number who uses the non pharmacological methods in the age group 20-30 is 72.7%. While 4.5% uses pharmacological methods, and 19.7% uses both techniques [Table 1]. However, in managing apprehensive patients using non pharmacological methods there was no significant difference between dentists with all age groups (36.2%), while in the age group 20-30 years, 41.8% prefer the use of verbal methods in managing apprehensive patients [chart 1]. The most commonly used pharmacological method is conscious sedation in all age groups with 52.5%, and 66.7% within the age group of 51-60 years. And general anesthesia being the least used method with only 10.0% in all age groups [Table 1.1] In relation to gender, 77.9% of females use non-pharmacological methods in managing apprehensive patients, while 6.8% of males use pharmacological methods. 2.1%. Females and 26.1% of males use both techniques. However, the difference is significant [Table 2] Conscious sedation is used by both genders ;(54.8%) but males prefer the use of general anesthesia [Table 2.1]. Additionally, in relation to experience, 69% of dentists regardless of the years of experience use non-

pharmacological methods; however, older dentists are more likely to use non pharmacological methods [Table 3]. The types of non-pharmacological methods used in relation to the dentist's experience shows that 36.8% use verbal methods only, indicating that this is the most commonly used method by dentists regardless of the years of experience. It also shows that 3.9% of dentists use deep breathing method, which means that this is the least method used; which is statistically significant [Figure 2]. Conscious sedation is used by 55.8% of dentists, while 66.7% within the 1-2 years of experience group, and 9.3% use general anesthesia; with 15.4% of dentists falling within the category of 10 or more years of experience, while 20% of dentists within 3-5 years of experience use deep sedation [Table 3.1]. In relation to title, 74.1% of house officers and 5.8% of general practitioners used pharmacological methods [Table 4]. Additionally, 71.4% of general practitioners use conscious sedation which is the most commonly used method regardless of the title [Figure 3]. Verbal methods were more commonly used than deep breathing [Figure 4].

V. Discussion

The results of this study agrees with the study done by Devapriya Appukkuttan, Chennai, India about Strategies to manage patients with dental anxiety and dental phobia where it was stated that dental anxiety can be managed by psychotherapy (behavioral or cognitive), pharmacologically (by either sedation or general anesthesia), or a combination of both, depending on the level of dental anxiety, patient characteristics, and clinical situations. [22] This study clarifies that experience has a major role in the selection of the method used by the dentist to control the behavior of an apprehensive patient; the older the dentist the more likely to use no pharmacological approaches (table 3); it is also obvious that house officers in general go for pharmacological methods (Table 4). These findings agree with the conclusions of previous works of Mary Oeding and Megan Wright, 2012, New York, United States and also agree with the statements of A.A. Weiner in 1992, about Dental anxiety. This study tried to clarify that the issue of fear, anxiety and phobia of visiting the dentist can be approached in a number of ways if patients were assessed to find the most suitable option. If dental anxiety is managed, treatment outcomes can be greatly improved.

VI. Conclusion

This study examined the attitude and practice of dentists towards management of dental fear and anxiety in public dental hospitals in Khartoum- Sudan and concluded that there was a highly significant difference in age groups that use non pharmacological and pharmacological methods. Dental anxiety and phobia can have adverse impacts on a person's quality of life, and hence it is imperative to identify and alleviate these significant obstacles to pave the way for better oral health and overall well-being of the individual. It is the duty and responsibility of the dentist to provide excellent dental care to all patients even those with special needs as well.

Recommendation

As this is a preliminary study, further research is advised on the attitude and practice of dentists towards management of dental fear and anxiety in public dental hospitals keeping the following points in mind:

- 1- Dentists should enroll themselves in programs aiming at managing dental fear and anxiety.
- 2- Management of dental fear and anxiety should be included in the undergraduate curricula.

Conflict of interest: the authors declared none.

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Table 1: Distribution of study according to age

		Age * managing apprehension					Total
		Managing apprehension					
		Non pharmacological	pharmacological	I don't treat apprehensive patients	Non pharmacological+ pharmacological		
A	(20 thru 30)	Count	80	6	10	14	110
		% within Age	72.7%	5.5%	9.1%	12.7%	100.0%
	(31 thru 40)	Count	29	2	1	10	42
		% within Age	69.0%	4.8%	2.4%	23.8%	100.0%
	(41 thru 50)	Count	10	0	2	5	17
		% within Age	58.8%	0.0%	11.8%	29.4%	100.0%
	(51 thru 60)	Count	2	0	1	6	9
		% within Age	22.2%	0.0%	11.1%	66.7%	100.0%
Total		Count	121	8	14	35	178
		% within Age	68.0%	4.5%	7.9%	19.7%	100.0%

Chi-Square Tests				
	alue	V	d	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.012 ^a	2	9	.011
Likelihood Ratio	0.036	2	9	.018
Linear-by-Linear Association	5.094	1	1	.000
N of Valid Cases	78	1		

a. 9 cells (56.3%) have expected count less than 5. The minimum expected count is .40.

Pvalue is significant

Chart 1:

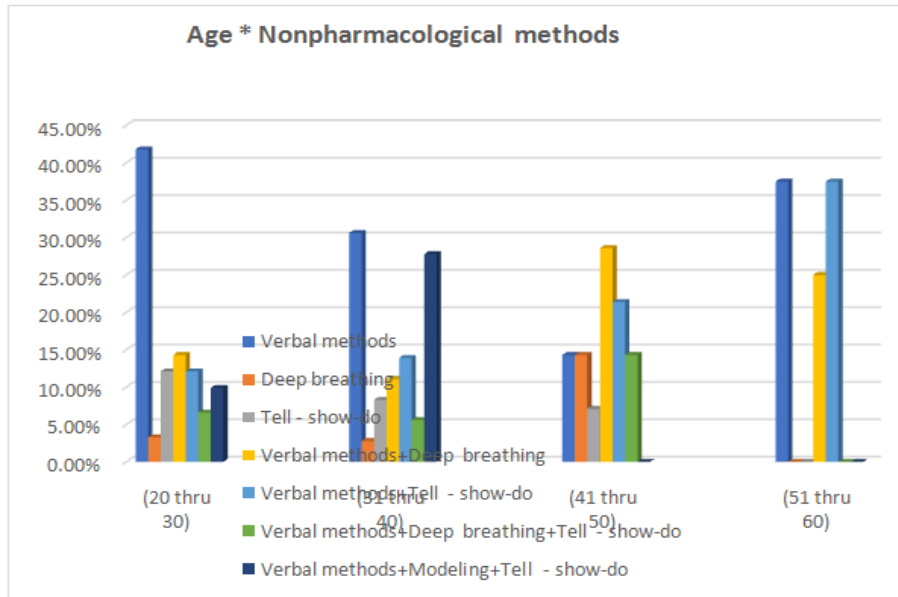


Table 1.1:

Chi-Square Tests									
Age * pharmacological methods									
		Pharmacological methods					total		
		conscious sedation	Deep p sedation	Gen eral Anesthesia	conscious sedation+Deep sedation+General Anesthesia				
Age	20 thru 30)	Count	13	4	1	4	22		
		% within Age	59.1	18.2	4.5	18.2	100.0		
	31 thru 40)	Count	5	0	2	4	11		
		% within Age	45.5	0.0	18.2	36.4	100.0		
	41 thru 50)	Count	1	1	0	2	4		
		% within Age	25.0	25.0	0.0	50.0	100.0		
51 thru 60)	Count	2	0	1	0	3			
	% within Age	66.7	0.0	33.3	0.0	100.0			
Total	Count	21	5	4	10	40			
	% within Age	52.5	12.5	10.0	25.0	100.0			

P value is not significant

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	9.947 ^a	9	.355
Likelihood Ratio	11.934	9	.217
Linear-by-Linear Association	.160	1	.690
N of Valid Cases	40		

a. 13 cells (81.3%) have expected count less than 5. The minimum expected count is .30.

Table 2: distribution of study according to gender

Gender * managing apprehension							
		managing apprehension				Total	
		Non pharmacological	pharmacological	I don't treat apprehensive patients	Non pharmacological-pharmacological		
Gender	Male	Count	53	6	6	23	88
		% within Gender	60.2%	6.8%	6.8%	26.1%	100.0%
	Female	Count	74	2	8	11	95
		% within Gender	77.9%	2.1%	8.4%	11.6%	100.0%
Total		Count	127	8	14	34	183
		% within Gender	69.4%	4.4%	7.7%	18.6%	100.0%

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	9.740 ^a	3	.021
Likelihood Ratio	9.928	3	.019
Linear-by-Linear Association	6.665	1	.010
N of Valid Cases	183		

a. 2 cells (25.0%) have expected count less than 5. The minimum expected count is 3.85.

Gender * pharmacological methods							
		Pharmacological methods				Total	
		conscious sedation	Deep sedation	General Anesthesia	conscious sedation-Deep sedation-General Anesthesia		
Gender	Male	Count	12	3	3	8	26
		% within Gender	46.2%	11.5%	11.5%	30.8%	100.0%
	Female	Count	11	2	1	2	6
		% within Gender	68.8%	12.5%	6.3%	12.5%	100.0%
Total		Count	23	5	4	10	4
		% within Gender	54.8%	11.9%	9.5%	23.8%	100.0%

P value is significant.

Table 2.1

Chi-Square Tests				
	Value	df	Asymp. Sig. (2-sided)	
Pearson Chi-Square	2.611 ^a	3	.456	
Likelihood Ratio	2.742	3	.433	
Linear-by-Linear Association	1.806	1	.179	
N of Valid Cases	42			

a. 5 cells (62.5%) have expected count less than 5. The minimum expected count is 1.52.

P value is not significant

Table 3: Distribution of study according to experience.

Experience * managing apprehension							
			Managing apprehension				Total
			Non pharmacological	pharmacological	I don't treat apprehensive patients	Non pharmacological+pharmacological	
Experience	(1-2 yrs)	Count	54	4	5	7	70
		% within Experience	77.1%	5.7%	7.1%	10.0%	100.0%
	(3-5 yrs)	Count	21	2	3	7	33
		% within Experience	63.6%	6.1%	9.1%	21.2%	100.0%
	(6-9 yrs)	Count	28	2	3	6	39
		% within Experience	71.8%	5.1%	7.7%	15.4%	100.0%
	(10 or more yrs)	Count	24	0	3	15	42
		% within Experience	57.1%	0.0%	7.1%	35.7%	100.0%
Total		Count	127	8	14	35	184
		% within Experience	69.0%	4.3%	7.6%	19.0%	100.0%

Chi-Square Tests					
	alue	V	f	d	Asymp. Sig. (2-sided)
Pearson Chi-Square	3.743 ^a	1		9	.132
Likelihood Ratio	4.916	1		9	.093
Linear-by-Linear Association	.700	8		1	.003
N of Valid Cases	84	1			

a. 7 cells (43.8%) have expected count less than 5. The minimum expected count is 1.43.

P value is not significant

Chart 2:

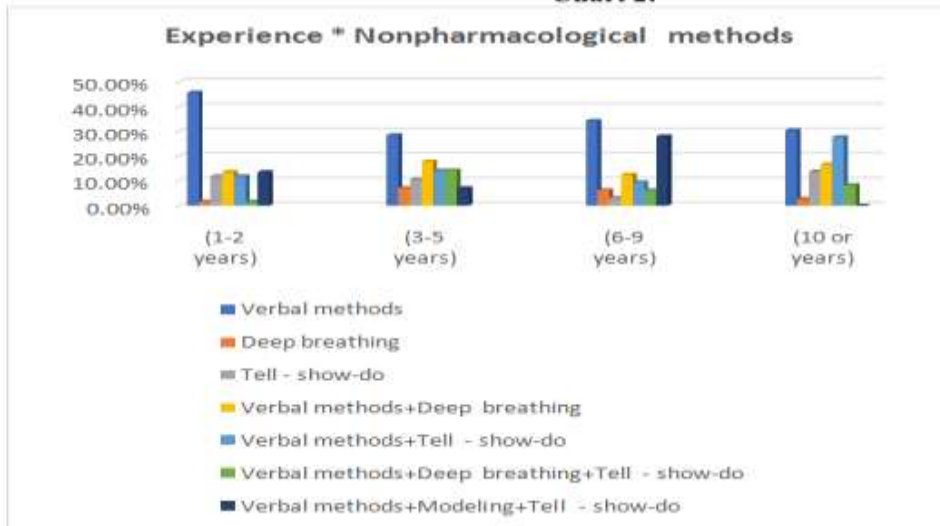


Table 3.1

Experience * pharmacological methods		Pharmacological methods					Total
Experience	Count	conscious sedation	Deep sedation	General Anesthesia	conscious sedation-Deep sedation-General Anesthesia		
1-2 yrs	15	10	2	1	2	15	
	% within Experience	66.7%	13.3%	6.7%	13.3%	100.0%	

Table 4: Distribution of participants according to method used.

Chart 3:

Title * managing apprehension		Managing apprehension				Total
title	Count	Non pharmacological	I don't treat apprehensive patients	Non pharmacological-pharmacological		
House officer	40	3	4	7	54	
	% within Title	74.1%	5.6%	7.4%	13.0%	100.0%
General Practitioner	36	3	6	7	52	
	% within Title	69.2%	5.0%	11.5%	13.5%	100.0%
Registrar	28	2	1	7	38	
	% within Title	73.7%	5.3%	2.6%	18.4%	100.0%
Consultant	23	0	3	14	40	
	% within Title	57.5%	0.0%	7.5%	35.0%	100.0%
total	127	8	14	35	184	
	% within Title	69.0%	4.3%	7.6%	19.0%	100.0%

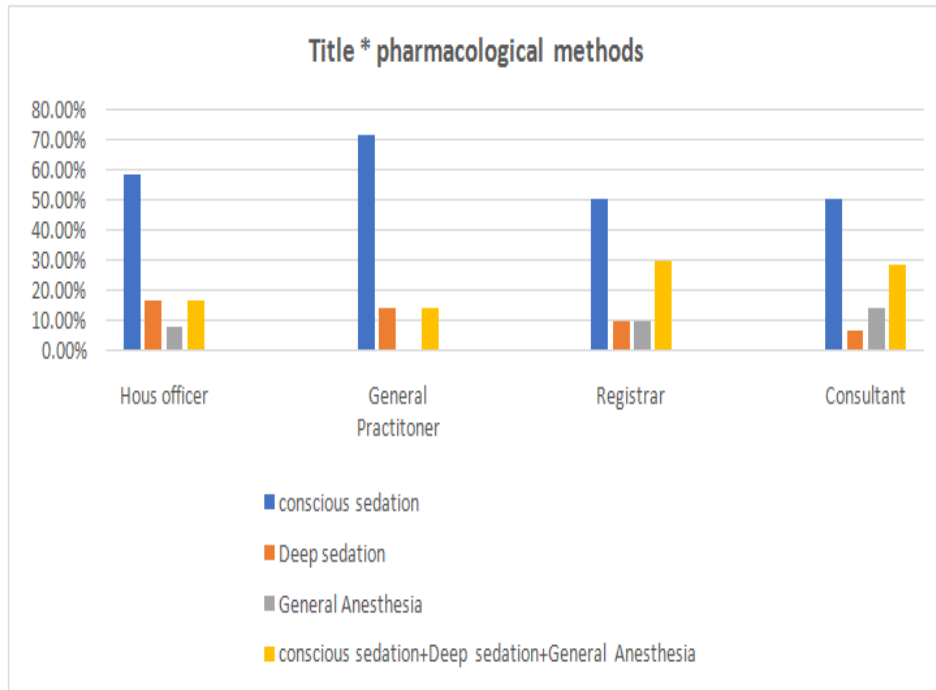
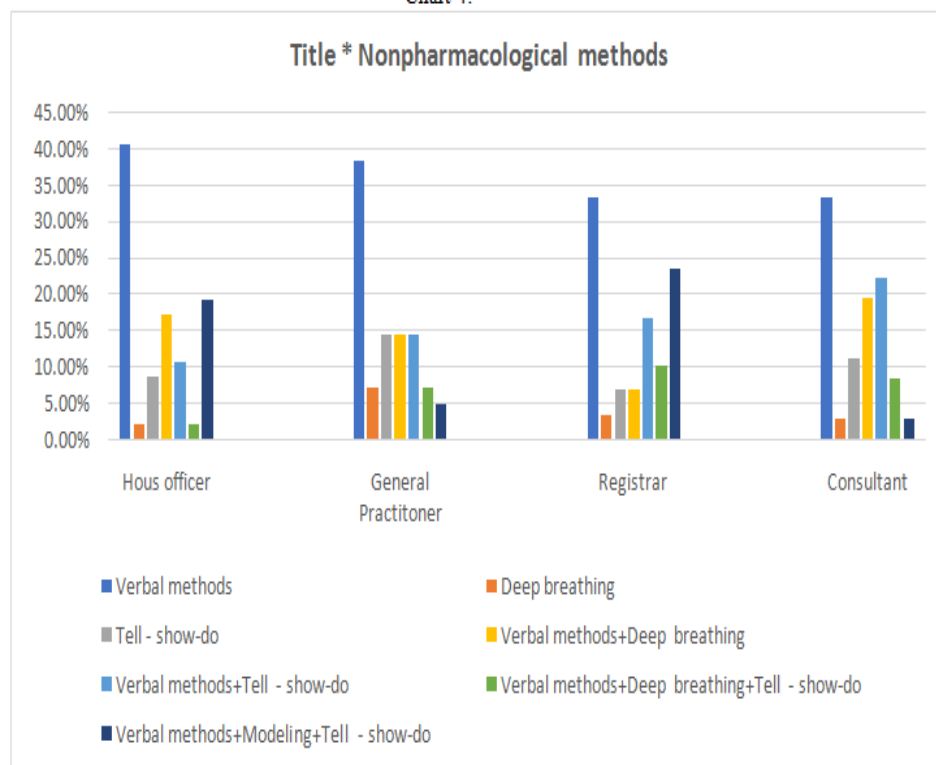


Chart 4:



*Rawaa Ibrahim Ahmed Mahdi. "Attitude And Practice of Dentists Towards Management of Dental Fear And Anxiety in Public Dental Hospitals In Sudan." IOSR Journal of Dental and Medical Sciences (IOSR-JDMS) 16.8 (2017): 51-60.