COMPARISON IN ANXIETY LEVELS AMONG DENTISTS/ DENTAL STUDENTS AND NON-DENTAL PATIENTS UNDERGOING MANDIBULAR THIRD MOLAR SURGICAL REMOVAL

Maria Nizam[1], Junaid Nadeem[1], Naveed Pervez[2]

[1] Department of Oral & Maxillofacial Surgery Sardar Begum Dental College Peshawar

[2] Department of Pulmonolgy, MTI, KGNTH, Bannu

ABSTRACT

Objective: *To compare the age, reasons for surgical removal, awareness about impacted mandibular third molar, anxiety & panic factor, and the type of dental setup preferred among the patients when they are dentists/dental students or otherwise, nondental patients in Peshawar.*

Materials and Methods: *A sample of ten dentists and forty non dental patients was selected using stratified sampling techniques. The data was collected in local hospitals and dental clinics from January 2017 to January 2018. Preoperative factors such as depth of impaction, tooth position, and bony coverage were considered using orthopantomograms and intraoral periapical radiographs.*

Results: *The results showed that anxiety and panic factor is high among dentists/dental students when undergoing surgical removal of the impacted mandibular third molar. The results further suggested that dentists themselves believe in the quality and techniques of the hospitals, as 50% of the dentist/dental students opted for dental hospitals for their impactions.*

Conclusion: *The finding concluded that 100% of the nondental patients did their surgical removal after facing problems because of the impacted mandibular third molars.*

Keywords: *Surgical Removal, Third Molar, Mandibular, Dentists, Impaction, Anxiety, Peshawar*

INTRODUCTION

An impacted tooth is the one that fails to erupt into the dental arch within the usual expected range of time. Normal eruption of impacted teeth can be obstructed mostly by an adjacent tooth, dense overlying bone or excessive soft tissue, malpositioning of adjacent teeth and inadequate space in the arch, or other hindrances.[1]

The prevalence of impacted third molars ranges from 16.7% to 68.6% worldwide. The population of Pakistan also shows a distinct pattern for third molar impactions.[2]

Several indications exist for removal of third molars. Prophylactic removal of a third molar should be done if it is associated with the enlargement of tooth follicle or presenting with pericoronitis owing to repeated inflammation. Third molars should also be removed if they are involved in periapical abscesses, tumors or root resorption of adjacent teeth. If left untreated, third molars can result in cysts or tumors associated with unerupted teeth, resorption of bone around the teeth due to pathology and carious lesions of adjacent teeth.[3]

With the surgical removal of impacted teeth some complications can arise, which are especially anticipated by the patients who are aware of the consequences of surgery such as dentists/dental students. Minor complications include post-operative pain, swelling, trouble in mastication as well as trismus in some cases.[4] Other complications can co-occur with the surgery when the mandibular third molars if fully formed, lie in close proximity to the inferior alveolar

Correspondence:
Dr. Maria Nizam
Trainee Dental Surgeon, Department of Oral & Maxillofacial Surgery Sardar Begum Dental College Peshawar.
Email: marianizam65@gmail.com
Contact: :+92343-6135776

and lingual nerves. Damage to these nerves during the surgical removal may lead to a transitory sensory disruption. However, in some cases it might cause permanent abnormal sensation known as parasthesia, a reduced sensation known as hypoesthesia or an unpleasant abnormal sensation such as dysesthesia.[5]

Nerve injury during the routine surgical procedure of an impaction is not a common occurrence however there is always a possibility that a nerve might be damaged due to negligence of the surgeon, lack of experience on the surgeon's part, improper procedure techniques, or raising or reflecting a lingual mucoperiosteal flap.[6] For the surgery to be atraumatic the surgeon should be extensively trained in surgical techniques and must have proper skills in administration of anesthesia whether local or general.[7]

Anxiety among patients receiving dental treatment is characterized as an emotional state of restlessness or nervousness before the dental treatment due to the fear associated with it. It is the main factor that causes patients to delay or evade dental treatment which results in decaying oral health.[8]

The most potent factors bringing about dental anxiety include the dread of pain, penetration by sharp instruments such as needles or syringes, expertise of the surgeon and misgivings about contracting contagious diseases due to poor infection control. Other factors include age of the patient, gender and level of education causing awareness about dental procedures.[9] The main age group showing increased levels of anxiety before dental procedures is that of 25-26 years old. The main part of this group is comprised of students which also includes dental students.[10]

Increased level of anxiety preoperatively or peroperatively results in the patient being apprehensive, which has several effects on the patient both physically, psychologically as well as psychosomatically for example the increase in the level of the patient's blood pressure or the patient going into syncope.[11]

We hypothesize that dentists/dental students have higher anxiety levels while undergoing surgical extractions of mandibular third molars as compared to non dental students due to the awareness of the potential complications of the procedure.

MATERIALS AND METHODS

The sample was collected using stratified random sampling technique among patients who visited local Dental Hospitals and local clinics for impaction of mandibular third molars. The sample was divided into two strata:

i. Patients who are dentists/dental students

ii. Patients who are not dentists/dental students

Local Dental Hospitals and dental clinics were contacted. A preliminary survey was conducted to determine the surgical removals done in January 2017 to January 2018. A sample of 10 dentists / dental students and 40 other patients were randomly selected. Hence the total sample size was 50. Preoperative factors such as depth of impaction, tooth position and bony coverage were considered using orthopantomograms and intraoral periapical radiographs. The location and convergence of roots of impacted third molar, surrounding bone, mandibular canal and adjacent tooth are important in imaging diagnosis for the proper surgical operation planning. A self-administered questionnaire was used to collect the data. DASS scale was use to measure anxiety.

RESULTS

Age of the respondents in surgical removal of impacted mandibular third molars is an important aspect because it shows the awareness factor on the part of the patients.

The table shows very interesting results i.e. 100 % of the respondents who were dentists/dental students underwent surgical removal of impacted mandibular third molars at 25 or less than 25 years of age where as in non-dental patients only 5% of the patients had their impactions done by 25 or less than 25 years of age. 20% in age group of 26-30, 30% in age group of 31-35, 20% in 36-40 years, 22.50% done in 41-45 years and only 2.50% patients in 46 and above years of age.

Most patients presented to the dental setup with pain associated with carious second molar, pericoronitis, symptoms associated with periodontal diseases or swelling due to odontogenic infections.

When the non-dental patients were asked to document the reason for their surgical removals 50% of the respondents reported that they had their impacted molars removed because they had developed pain,

25% were told by the dentist that they had developed a cavity in the second molar because of proximity of the third molar, 12.50% complained about pericoronitis, only 5% had periodontal disease and 7.50 % had odontogenic cysts (note: the data for this particular information was collected by questioning the respondents and seeing the OPD receipts and patient cards).

The collected data showed that the respondents who were dentists/dental students, 60% of them had none of these reasons, 20% had pain, 10% had caries in second molar due to adjacent impacted mandibular third molar and 10% had pericoronitis.

Awareness plays an important role in the surgical removal of mandibular third molar as patients who are aware of the problems caused by impacted teeth over time remove the teeth mostly before symptoms arise whereas people unaware about these factors do not remove them till they encounter pain.

The above table shows that 100% of the dentists/dental students who proceeded with the surgical removal of their impacted mandibular third molars were aware about the problems caused by impacted mandibular third molar if not removed on time, whereas only 10% of the non-dental patients were aware about it because of either siblings who are dentists or their spouses are dentists (but they had surgical removal done after developing some problems) whereas 90% of non-dental patients were not aware of the consequences of not removing an impacted tooth.

Patients such as dentists/dental students who understand certain factors such as proximity of nerves, the type of impaction and the difficulty level tend to be more anxious as compared to non-dental patients who are oblivious to these factors.

The above table shows that only 5% of the patients had anxiety and 12.50% had anxiety & panic where as 82.50% of the respondents from non-dental patients were neither anxious nor panicked. While 10% of the respondents who were dentists/dental students had anxiety and 90% of them had both anxiety & panic before/during the surgical procedure.

The collected data suggests that 80 % of the dentists/dental students had anxiety and panic because they were aware about the possible damage to the inferior alveolar nerve whereas only 2% of this group had routine anxiety and panic for surgical removal. In non-dental patients 100% of the patients had routine anxiety and panic.

Number of surgical removals carried out in the hospital as compared to dental clinics ensures that patients, regardless of whether they are dentists/ dental students, trust the equipment and techniques used in the hospital enough to proceed with their impactions there.

Dental setup that was adopted for this particular surgical removal among other patients was dental hospital and in dentists/dental students 50% chose hospitals for their impactions while 50% were done in private clinics.

DISCUSSION

In a study conducted by Saqib et al it was elucidated that dental students suffer from anxiety while undergoing dental procedures. A study carried out in Brazil revealed that 27.5% dental students guaranteed that their level of anxiety increased while receiving dental treatment.[12] Taani in his study revealed the factors causing dental anxiety in university attending students. Fear of injection was reported to be the main cause of anxiety among patients receiv-

Table 1: Age of the Patient

Age in Years	Dentists/Dental students		Other Patients	
	Number	Percentage	Number	Percentage
Up to 25	10	100	2	05.00
26-30	0	0	8	20.00
31-35	0	0	12	30.00
36-40	0	0	8	20.00
41-45	0	0	9	22.50
46 and above	0	0	1	02.50
Total	10	100	40	100

Table 2: Reasons for Surgical Removal

Reasons	Dentists/Dental students		Other Patients	
	Number	percentage	Number	Percentage
Pain	2	20%	20	50.00
Caries in second molar	1	10%	10	25.00
Pericoronitis	1	10%	5	12.50
Periodontal disease	0	0	2	05.00
Odontogenic cyst	0	0	3	07.50
None of the these	6	60	0	0
Total	10	100	40	100

Table 3: Awareness about Impacted Mandibular Third Molar

Awareness	Dentists/Dental students		Other Patients	
	Number	percentage	Number	Percentage
Aware	10	100	4	10.00
Unaware	0	0	36	90.00
Total	10	100	40	100

Table 4: Anxiety and Panic regarding Surgical Removal

Anxiety & Panic	Dentists/Dental students		Other Patients	
	Number	Percentage	Number	Percentage
Anxiety	1	10	2	05.00
Anxiety & Panic	9	90	5	12.50
No Anxiety & Panic	0	0	33	82.50
Total	10	100	40	100

Table 5: Reasons for Anxiety & Panic

Reasons	Dentists/Dental students		Other Patients	
	Number	Percentage	Number	Percentage
Routine Anxiety & Panic	2	20	7	100
Awareness about IAN damage	8	80	0	0
Total	10	100	40	100

Table 6: Surgical Removals Done in Hospitals/Private Clinics

Dental setups	Dentists/Dental students		Other Patients	
	Number	Percentage	Number	Percentage
Hospitals	5	50	40	100
Private clinics	5	50	0	0
Total	10	100	40	100

ing dental treatment. Along with this, the vibrations and the sounds generated by a dental drill as well as sitting on a dental chair were found to perpetuate anxiety among patients.[13]

Rauf et al also demonstrated in their study that the principal age group presenting for removal of mandibular third molar impactions included patients in the second decade and third decade due to increased recognition of the advantages of timely removal of third molars.[2] Our results also showed that 100% of the dentists/dental students had their impactions done at 25 or less than 25 years of age

before it could create any problems, whereas 100% of the nondental patients had their impacted molars surgically removed after they had developed problems in the form pain, pericoronitis, periodontal diseases, carious second molars or odontogenic cysts. 100% of the dentists/dental students were aware of the consequences of the impacted mandibular third molar, whereas 90% of nondental patients were unaware. Only 10% were aware of the impacted mandibular third molars but not the problems associated with it.

Eroglu in his study indicated that being aware of the dental procedure or having details about the procedure may further set off anxiety levels in patients.[9] Past dental experiences in students also effect anxiety levels. Favorable experiences are known to reduce anxiety for future procedures.[14] 90% of the dentists/dental students suffered from anxiety and panic because they knew about the possible IAN damage, whereas 12.50% of the nondental patients suffered from routine anxiety and panic, i.e. routine anxiety and panic during any surgical procedure and 82.50% reported having no anxiety and panic as they considered that tooth removal is not a dangerous procedure.

The collected data showed that 50% of the dentists/dental students themselves opted for Maxillofacial and Oral Surgery wards in dental hospitals for their surgical removals of impacted mandibular third molars; this showed their satisfaction about the quality of work, adopted techniques, and hygiene level of the dental hospitals.

CONCLUSIONS

Anxiety levels were found to be higher pre-operatively among dental students because of the increased knowledge about the procedure. It was also established that 100% of the non-dental patients did their surgical removal after facing problems because of the impacted mandibular third molars. And 50% of the dentists/dental students did their surgeries in the private clinics and 50% in the hospital.

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