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Original Research

Impact of education in awareness of complications in mandibular third molar extractions - an institutional study

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ABSTRACT

Removal of mandibular third molars for various reasons is one of the most frequently carried out procedures in oral surgery. Most of the surgeries are performed with minimal intra or postoperative difficulties. However, occasionally this common procedure can result in several complications. Purpose of the study was to analyse the incidence of postoperative complications and their relationship with age, sex and patient education level. Study consisted of 60 patients with a mean age group of 17-60 years who had their mandibular third molars extracted between the months of May 2011 to July 2011. Risk factors were grouped into age, sex and patient education level. Data obtained was analysed using chi- square test. Younger age group, females, low education status of the patient was associated with an increased risk for post extraction complications. While age, sex cannot be altered directly, these factors can be altered indirectly, resulting in a potential decrease for postoperative complications. Education also plays an important role in decreasing postoperative complications.

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INTRODUCTION

Tooth extraction or exodontia is defined as painless removal of whole tooth or tooth root with minimal trauma to investing tissues so that wound heals uneventfully and postoperative prosthetic problems are minimal [1]. An impacted tooth is one that is partially erupted or un-erupted, and will not eventually assume a normal relationship with other teeth and tissues.

Mandibular third molar usually erupts in the age of 17-21 years [2]. Mandibular third molar varies considerably in different individuals and present many anomalies both in form and in position. If they fail to erupt during the expected age of eruption, they are most likely to be impacted fully or partially, in the jaw. The other reasons for the extraction of third molars includes cysts, caries, post-eruption mal-position, non-function as a result of an absent opposing tooth, difficulty with hygiene and recurrent pericoronitis. reasons is one of the most frequently carried out procedures in oral surgery. Most of the surgeries are performed with minimal intra or postoperative difficulties. However, sometimes this common procedure can result in several complications. The most common complications following third molar surgery include: sensory nerve damage, dry socket, pain, infection haemorrhage. and Less common complications include: severe trismus, iatrogenic damage to mandibular second molar and iatrogenic mandibular fracture [3-8]. Complications related to third molar range from 4.6% to 30.9% and may occur intra-operatively or develop in the postoperative period [7]. Factors associated with third molar molar complications include age, gender, medical history, poor oral hygiene, smoking, type of impaction, relationship of third molar to inferior alveolar nerve,

Removal of mandibular third molars for various

surgical time and technique, surgeon experience, number of teeth extracted, preoperative antibiotics, use of topical antibiotics, use of intra socket medications and anaesthetic technique.[9,10]

In this study we are going to see the relationship of age, gender and educational level of the patient with the postoperative complications and the outcome of the maintenance of postoperative instructions and oral hygiene.

MATERIALS AND METHODS

The purpose of the study was to analyse the incidence of complications and their relationship with age, sex and patient education level.

A group of 60 patients from the Department of Oral and Maxillofacial surgery who were to undergo mandibular third molar extractions between the months of May 2011 to July 2011 were selected for this study. All patients were healthy without serious medical alterations or blood dyscrasias. All interventions were performed under local anaesthesia. Anaesthesia was achieved, by nerve block anaesthesia of the inferior alveolar nerve and long buccal nerve with 1.8 ml of 2% lidocaine with epinephrine 1:1,00,000. Sutures were removed after one week. All patients received a course of antibiotic (Amoxicillin, 500mg three times, for 5 days) and an anti-inflammatory / analgesic (Ibuprofen or Diclofenac sodium twice daily, for 3 days), starting after surgery. Post extractions instructions were given to patients both orally and in written form. Patients were called for follow ups after 7 days, 14 days, 21 days and were checked for any kind of complications both extra orally and intra orally.

Patient data was grouped in to following sections for analysis:

	Age:	17-30,	31-40,	41-50,	, 51-60	years
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Gender: Male / Female.

Level of education: SSLC (Secondary Schooling) or below, Undergraduate, Postgraduate.

Exclusion criteria:

- Cases were multiple attempts were performed.
- Immunocompromised patient.
- Patients with systemic diseases.

Inclusion criteria:

• Subject in the age group of 17 to 60 years

Statistical analysis:

The results obtained were tabulated and subjected to **Chi-square test** with **'p' value less than 0.05%**.

RESULTS

The study sample was comprised of 60 subjects who had their mandibular third molar extractions during the study period. Twenty-five patients exhibited no postoperative complications, whereas 17 patients of the showed a single complication. Only one of the 60 patients exhibited five complications [Table 1].

 Table 1. Occurrence of Postoperative complications among the subjects

Number of postoperative complications	Frequency	Percentage (%)
Nil	25	52.1
1	17	29.2
2	9	6.3
3	8	10.4
5	1	2.1
Total	60	100.0

Table 2. Incidence of	postoperative comp	lications in various age	groups of study subjects

Number of Post		Age groups			
operative complications	17-30 years	31 - 40 years	41 -50 years	51 – 60 years	
Nil	5	11	4	5	25
1	9	6	2	1	17
2	6	0	3	0	9
3	5	1	0	1	8
5	1	0	0	0	1
Total	26	18	9	7	60

CYMPTON	EDUCATION LEVEL			Total
STIVIFICIVI	SSLC or Below	Graduates	Post graduates	
Nil	11	14	0	25
1	11	4	2	17
2	7	2	0	9
3	6	2	0	8
5	0	1	0	1
Total	35	23	2	60

Table 3. Educational Status vs Incidence of postoperative complications

a X2=12.803 p=0.119 ns(ns= not significant)

Table 4. Gender vs Incidence of postoperative complications

OVMOTOM		GEN	Total	
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Nil	Number (%)	17 (65.4%)	8 (36.4%)	25
1	Number (%)	8 (19.2%)	9 (40.9%)	17
2	Number (%)	3 (3.8%)	6 (9.1%)	9
3	Number (%)	3 (7.7%)	5 (13.6%)	8
5	Number (%)	1 (3.8%)	0 (.0%)	1
Total		32	28	60

a X2=5.622 p=0.229 ns(ns= not significant)

When comparing age in relation to number of complications, we observed increased incidence of complication in the age group between 17-30, [Table 2] (a X2=7.175 p=0.846 ns).

In aspect of level of educational status of the patients evaluated results showed that there was increased incidence of complication in patients with education qualification of SSLC or below. [Table 3] (a X2=12.803 p=0.119 ns).

Gender evaluation to number of complications reviled that there was an increased incidence of complication in female gender. [Table 4] (a X2=5.622 p=0.229 ns) (ns= not significant)

DISCUSSION

The purpose of this study was to estimate the overall frequency of complications encountered after mandibular third molar extractions with respect the age, sex and patient education level. The most common post extraction complication was pain, especially in young female patients. This finding is also echoed in studies conducted by Contar et al. (11). Their study showed that pain was the most common complication and it was associated to local food impaction due to poor oral hygiene and presence of traumatic oral ulcers under the suture and incidence of pain was highest among women [11].

Data showed that out of 60 patients who had mandibular third molar extractions, 17 of them were exhibited 1 complication (29.2%), 8 patients experienced 3 complications (10.4%), 9 patients had 2 complication (6.3%), only one patient had 5 complications (2.1)%, 25 patients had no postoperative complications (52.1%).

Patient's age when the mandibular third molar is removed has been reported to be of great importance may studies have related postoperative and complications to age. In our study there was increased incidence of complications in the age group between 17 and 30 years. Our results show complication rate of 30.4% with one symptom, 13.01% with 2 symptoms, 8.7% with three symptoms and 4.3% with five symptoms. Older patients were at higher risk for extended operation time than younger patients [10]. Increased age (>25 years) appears to be associated with a higher complication rate for mandibular third molar extractions. This association of age with increased incidence of complications has been shown in a studies by Chi H Bui et al. [9] and Sung- kiang et al. [12].

In our study, gender was found to be a risk factor for post-extraction complications. Female patients experienced to have more number of post extraction complications than male patients. From the total number of female patients 40.9% experienced 7 symptoms, 9.1% with 2 symptoms, and 13.6% with 3 symptoms. Other published literature shows 3 times more likely that a female would report postoperative pain than a male. Females had almost 5 times higher risk for getting postoperative dry socket than in males [10].

Our study showed that there was increased incidence of complications in patients with education level of SSLC or below when compared to that of graduates and postgraduates. 32.1% of patients had 1 postoperative complication, 3.6% had 2 complications and 17.9% in cases of 3 complications.

Age, gender and low education level were found to be risk indicators for postoperative complications. Younger age group was found to increase the risk of developing postoperative complications. Females had more complications than males. Lengthy interventions generally produced more pain. [13,3]

Patients with low education status were at high risk of developing postoperative complications. It was found that even after giving post extraction instructions both orally and in written form, there were complications in patients with low education status. In developing countries like India where the average literacy rate is around 74.04% in urban centres and much lesser in semi urban and rural areas, it is very important to educate people and create awareness about oral hygiene. Our study shows that even if the extraction of mandibular third molar is carried out under all aseptic conditions, patients are administered with medications, it is very necessary for a patient to follow post extraction instructions. This can be achieved only by a good education. Education creates awareness among individuals. By educating people we can reduce the incidence of post extraction complications.

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