

## Demographic Profile of Subjects Reported with Condylar Fracture at a Tertiary Dental Care Centre in North Karnataka

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### Original Research Article

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**Abstract:** Mandible is one of the strongest bones of the facial skeleton; still it is it has structures like condyles which are prone to fracture due to its anatomy and distribution of heavy masticatory and other functional load. Mandibular condyle fracture accounts for 25-35% of the mandibular fractures. A prospective demographic study was done at Bapuji Dental College & Hospital, Davangere, to determine condylar fractures occurring in north Karnataka region. A total of 16 condylar fractures were assessed in a period 2015- 2017.

**Keywords:** Mandible, condylar fracture, maxillofacial.

### INTRODUCTION

The first ever inscription on mandibular fractures dates back to 1650 BC. Mandibular fractures are more common as fractures of the bones of the mid-face and comprise most of injuries treated by an oral and maxillofacial surgeon. Condylar fractures account for approximately 11–16% of all facial fractures and 25 – 35 % of the mandibular fractures and deserves a special consideration apart from the rest of the mandible due to their different anatomy and healing potential [1, 2]. Most follow indirect trauma via forces transmitted to the condyle from a blow elsewhere. The patterns and etiology of mandible fractures varied considerably among different study populations. There has been an increase in the frequency of fractures due to violent mechanisms especially in adolescents and young adults due to increased unsupervised physical activity and sports, more so in sub-urban and urban areas. The effect of social, cultural and environmental factors vary with varied geographic regions, population density, socioeconomic status, regulatory affairs (viz., speed limits, compulsory use of seat belts and helmets) and political era, which influence the incidence and etiology of condylar fractures.

A better understanding of the profile of mandibular fractures patients will assist health care providers in better planning of treatment of maxillofacial injuries & preventive strategies for the population at large. Such demographic and epidemiological information can also be used to guide the aspects of public health awareness programs targeted for prevention of such injuries.

### MATERIALS AND METHODS

The study was a prospective one, conducted in the department of oral and maxillofacial surgery, Bapuji Dental College and Hospital, Davangere, Karnataka, to determine the incidence of condylar fractures occurring in sub-urban area of north Karnataka. A total of 16 subjects with condylar fractures, were evaluated and treated during the period from November 2015 to May 2017.

### Inclusion criteria

- Isolated condylar fractures.
- Patients who come under ASA I category and ASA II physical status classification.

### Exclusion criteria

- Patients less than 12 years old.
- Patients unwilling to sign informed consent form.
- Medically compromised patients unfit for general anesthesia.

All the patients were selected consecutively on the basis of the inclusion criteria as mentioned above. A detailed history of the patient was recorded in each case as per the proforma and was followed by clinical examination. Consent was obtained from all the patients after informing them about the

procedure, materials and methods and ethical approval was taken before starting the study

**RESULTS**

**Age and gender distribution**

In this study, the age distribution of the patients was between 16-54 years and the mean age was

35 years. Out of them, 3 were females comprising of 18.75% and 13 were males (81.25%) of the total cases. Male: female ratio was 4.3:1. Among all age groups, males are more commonly affected than females due to more outdoor physical activities among males.

**Table-1: Showing gender wise distribution of cases of condylar fracture**

Gender wise distribution of cases of condylar fracture	
Gender	Number
Male	13
Female	3

**Table-2: Showing age wise distribution of cases of condylar fracture**

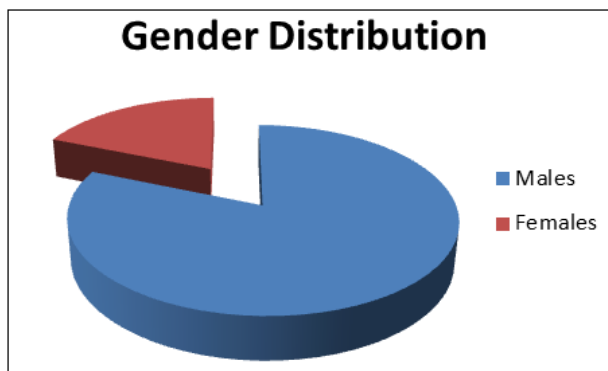
Age wise distribution of cases of condylar fracture		
S. No.	Age (years)	Number of cases
1	0-9	0
2	10-19	1
3	20-29	7
4	30-39	4
5	40-49	1
6	50-59	3
7	60-69	0
8	70-79	0



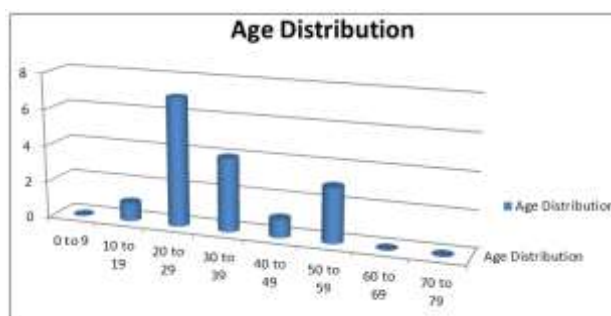
**Photograph-1: showing left side condylar fracture**



**Photograph-2: showing right side condylar fracture**



Graph-1: showing gender wise distribution of cases of condylar fracture.



Graph-2: showing age wise distribution of cases of condylar fracture

## DISCUSSION

The commonly fractured bone of the face is the mandible [3-6]. A study of the frequency of fractures at different anatomic sites of the mandible revealed that the fracture of mandibular condyle accounts for 10% to 40% of cases [3, 4, 7]. According to Widmark And Santler, fractures of the mandibular condylar process are the most common fractures in the mandible and maxillofacial region. Approximately 11-16% of all facial fractures and 30-40% of all mandibular fractures are the fractures of the mandibular condyle [6]. A study published by Ellis *et al.*, [8] showed that mandibular condyle fractures represented 29.3% of mandibular fractures, with a peak incidence of mandibular fractures in patients aged 20 to 30 years in men and 30 to 40 years in women. The mean age of patients with condylar fractures was 35 years in our study, similar to the data reported by Silvennoinen *et al.*, [9] and Marker *et al.*, [5] The results of the this study indicated that condylar fractures are common in patients aged 20 to 40 years. Studies of women who have taken an active role in the labor force and have become more active outside of their home have presented with a similar male/female ratio to that of our population. The male/female ratio of our sample was 4.3:1, similar to that reported by Zachariades *et al.*, [10] and Silvennoinen *et al.*, [9] but greater than that reported by Marker *et al.*, [11, 12] (2:1). Considering the distribution between genders, men predominated. The patients who had experienced the most condylar fractures were 20 to 40 years old.

## CONCLUSION

Careful assessment of the fractures of mandibular condyle and the demographic data regarding the distribution and incidence in relation to the gender and age in the sub-urban areas will help in implementation of proper safety measures and patient education. None the less it provides us with a platform for further research.

## Conflicts of interest

The author declares that there is no source of funding and there is no conflict of interest among all authors.

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