

## CHAPTER 1

### INTRODUCTION

#### 1.1 Background

The maxilla is an important bone of the midface, the position of the bone for structural support of the viscerocranium and the unique appearance which supports facial aesthetics makes the maxilla an integral functional and cosmetic cornerstone of the midfacial unit. Loss of midfacial structures such as the maxilla from damages and defects could lead towards dire consequences including impairment of deglutition, orbital function, speech and self-image. (Dalgorf and Higgins, 2008).

The main goal of maxillary fracture management is to preserve function and esthetics. Treatment for maxillary fractures varies upon multiple factors ranging from the severity of the injury, location of fracture, concomitant injuries, and the condition of the airway. Main treatments consists of: conservative treatments used for minimal to nondisplaced fractures in which there is no cosmetic or functional deficits; reduction without fixation, for mildly displaced fractures; and reduction with fixation, for largely displaced, comminuted fractures (Peretti and MacLeod, 2017).

Maxillofacial injury occurrences have been more prevalent with the increase in population in cities and industrial development which has resulted in changes in lifestyles and personal activities. These changes result in more injuries, especially on the maxillofacial region (Samieirad et al., 2017). Maxillary fractures are one of the most prevalent maxillofacial injuries, of which the incidence rate is only surpassed by mandibular fractures (Bataineh, 1998). The majority of causes for maxillary fractures are often attributed towards motor vehicular accidents with the primary demographic being male (Riasa et al., 2020).

Surabaya is an increasingly urban city in Indonesia of which the number of vehicles are many and the rapid motorization of the citizens leads to the increase of incidence rate

for motor vehicular accidents (Soehodho, 2007) which contributes a large portion towards maxillofacial injuries in the region. The gradual increase on the amount of maxillofacial injuries in Surabaya creates an urgency to provide accurate and effective treatments for the corresponding injuries. RSUD Dr. Soetomo being the leading healthcare provider in East Java treats the majority of cases of maxillary fractures.

The purpose of this research is to analyze the medical records of maxillary fractures of RSUD Dr. Soetomo which would provide an overview on the variety of treatments that were deployed with the corresponding results of each method of treatment. The data gained will supplement on providing a general overview on conditions of patients undergoing treatment for maxillary fracture and could potentially be used to aid further research on the topic.

## **1.2 Research Question**

How are the general conditions of patients who underwent treatment for maxillary fractures at RSUD Dr. Soetomo during the period of 2018 until 2020?

## **1.3 Objectives of Study**

### **1.3.1 General Objective**

To analyze the profiles of patients at RSUD Dr. Soetomo who underwent treatment for maxillary fractures.

### **1.3.2 Specific Objective**

1. To identify the age of patients when first diagnosed with maxillary fracture.
2. To differentiate genders of patients diagnosed with maxillary fracture.
3. To classify types of fracture of patients diagnosed with maxillary fracture.

4. To describe the types of treatment deployed towards patients diagnosed with maxillary fracture.
5. To discover the outcomes of treatment of patients diagnosed with maxillary fracture.
6. To discover the Average Length of Stay (ALOS) and period of time from admission to completion of treatment of patients diagnosed with maxillary fracture.
7. To discover the frequency of post-treatment malocclusion from patients diagnosed with maxillary fracture.
8. To discover the prevalence of post-treatment infections and exposed plates on patients diagnosed with maxillary fracture.

## **1.4 Benefits**

### **1.4.1 Academic Benefits**

To provide a better understanding on the different types of maxillary fractures and treatment options with its corresponding outcomes.

### **1.4.2 Practical Benefits**

To provide a general overview on the conditions of patients who underwent treatment for maxillary fractures in RSUD Dr. Soetomo.