

Characteristics of Patients with Odontogenic Infection at Dr. Hasan Sadikin General Hospital During Covid-19 Pandemic

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Abstract

Introduction : Odontogenic infection is one of the most common infections in the oral cavity. Odontogenic infections will spread through three stages; dentoalveolar stage, spatial stage, and a further stage which is the complication stage. There was a tendency to delay dental treatment due to suppress the number of COVID-19 infection, therefore it was interesting to study the characteristic of patients suffering odontogenic infections in the Oral Surgery Department of dr. Hasan Sadikin General Hospital during the COVID-19 pandemic.

Methods : The sample in this study were patients diagnosed with odontogenic infection at the Inpatient Installation of dr. Hasan Sadikin General Hospital during the COVID-19 pandemic from March 2020 – August 2021, 66 patients met the inclusion criteria. This research was conducted using total sampling. This research is a retrospective descriptive study using medical records of patients diagnosed with odontogenic infections.

Results: Based on the age, most of the odontogenic infection patients were over 48 years old, with 29 people. Based on the gender criteria, most of them were male, with a total of 45 people. Based on the occupation criteria, most of them were entrepreneur, with a total of 21 people. Based on the education criteria, most of them were at the senior high school level, with 41 people. Based on the ethnicity, most of them were Sundanese, with a total of 65 people. Based on the marital status criteria, most of them were married, with 58 people. Based on the spatial involvement mostly with 3 spatial involvement with 24 people. Based on the length of stay criteria, most of them stayed for 1-2 days with a total of 19 people. Particularly based on the COVID-19 status, most of them were COVID-19 negative about 61 people.

Keywords: patient characteristic, odontogenic infection, COVID-19 pandemic

Introduction

Infection could lead to an abscess which is a pathological cavity that contains pus due to the tissue destruction caused by pyogenic microorganisms. An abscess is caused by an infection in the surrounding tissue and sometimes

also come from the tooth. Odontogenic infection can occur in the form of a periapical abscess, pericoronal abscess, and periodontal abscess.^{1,2} Odontogenic infections always come from various kinds of microbes such as aerobic and facultative anaerobes bacteria. The cause of

odontogenic infections is usually the most common cause of inflammatory conditions in the cervicofacial region.^{2,3}

The stages of odontogenic infection begin with inoculation which starts with the initial spread of microbes/infectious agent into the soft tissues and characterized by soft, sticky and slightly smooth tissue swelling accompanied by a slight redness. During the cellulitis stage the inflammatory process reaches a peak and causes hyperemic, hard, and very painful swelling accompanied by trismus or inability to push the tongue forward.³ The next stage is abscess formation, where there is a process of necrosis with a clinical appearance of fluctuation. The final stage of odontogenic infection is an abscess rupture that occurs spontaneously or with therapeutic drainage. Stages of infection can be used as a reference to understand how severe untreated odontogenic infections can spread to the head cavity and deep neck fascia.^{1,3,4} There was a tendency to delay dental treatment due to suppress the number of COVID-19 infection, therefore it was interesting to study the characteristic of patients suffering odontogenic infections in the Oral Surgery Department of dr. Hasan Sadikin General Hospital during the COVID-19 pandemic.

Method

The samples in this research were patients diagnosed with odontogenic infections at the Inpatient Installation of dr. Hasan Sadikin General Hospital during the COVID-19 pandemic from March 2020 – August 2021. This research is

a retrospective descriptive study using medical records of patients diagnosed with odontogenic infections with a total sample size of 66 people. The variables studied in this research included age, gender, occupation, education, ethnicity, marital status, spatial involvement, length of stay, and COVID-19 status. The data collection was conducted with a total sampling method using medical records of patients diagnosed with odontogenic infection treated at the Inpatient Installations of dr. Hasan Sadikin General Hospital during COVID-19 pandemic from March 2020 – August 2021. The data that has been collected is then computerized into information. This research has obtained an ethical clearance letter from the Research Ethics Committee of the Faculty of Medicine Padjadjaran University.

Results

This research was conducted at the dr. Hasan Sadikin General Hospital, Bandung, Indonesia. The data obtained were 66 cases. The data used in this research were secondary data collected from the medical records of patients with odontogenic infections who were treated at the Inpatient Installation of dr. Hasan Sadikin General Hospital during COVID-19 pandemic from March 2020 – August 2021 to determine its characteristics based on age, gender, occupation, education, ethnicity, marital status, spatial involvement, length of stay, and COVID-19 status. The results are then presented in diagrams. (Figure. 1-9).

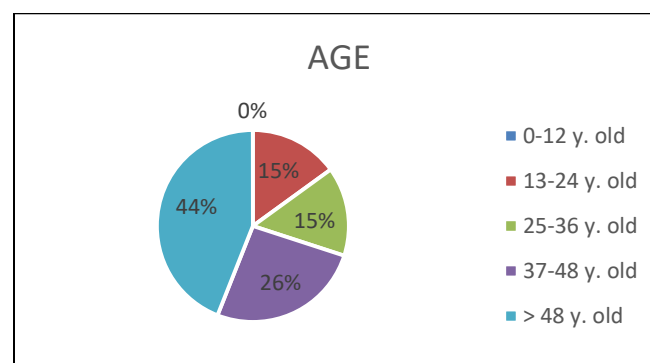


Figure 1: Patients Characteristic Based on Their Age

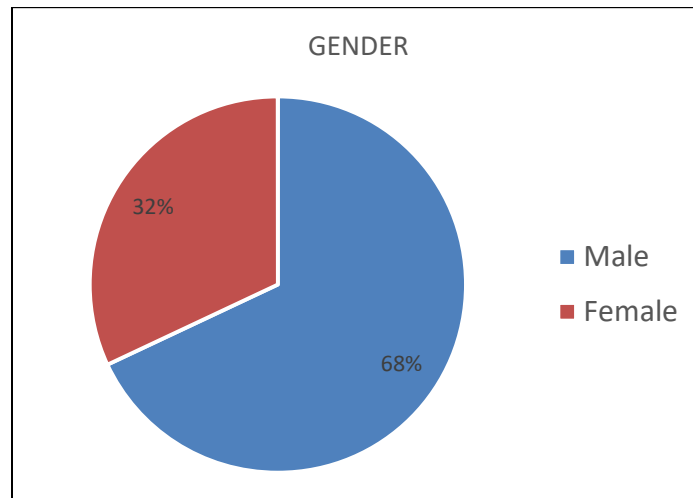


Figure 2: Patients Characteristic Based on Their Gender.

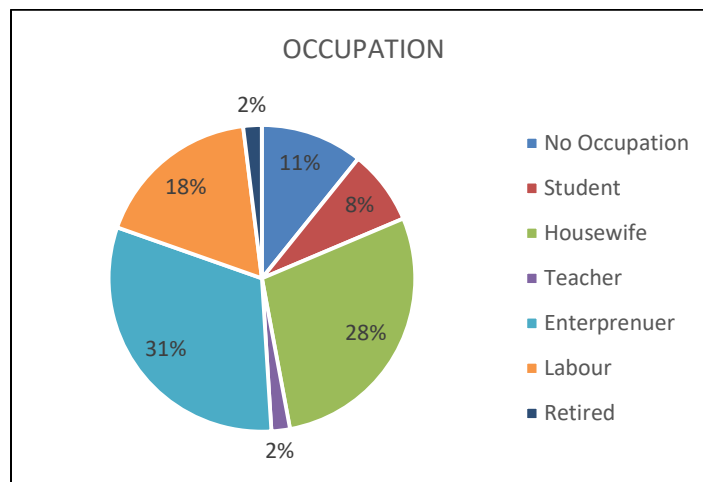


Figure 3: Patients Characteristic Based on Their Occupation.

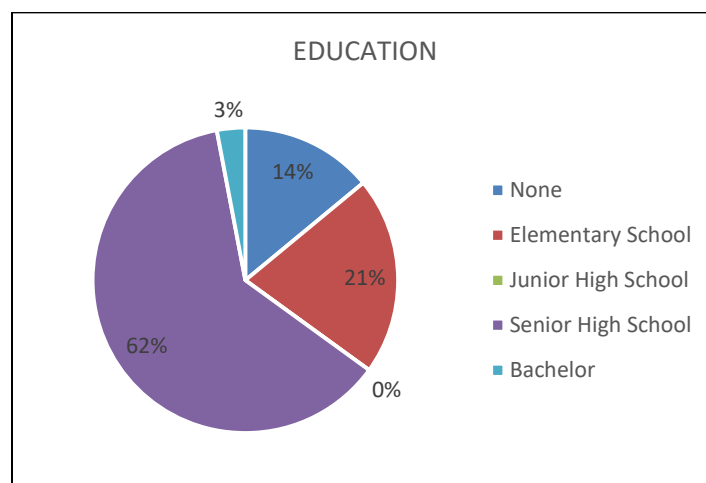


Figure 4: Patients Characteristic Based on Their Education

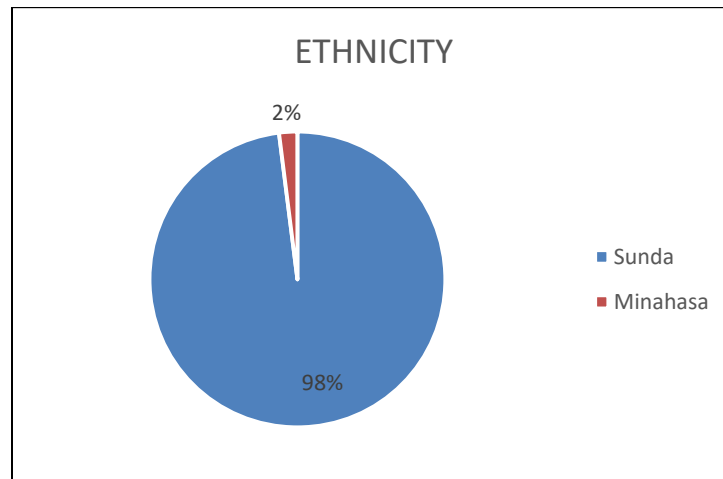


Figure 5: Patients Characteristic Based on Their Ethnicity

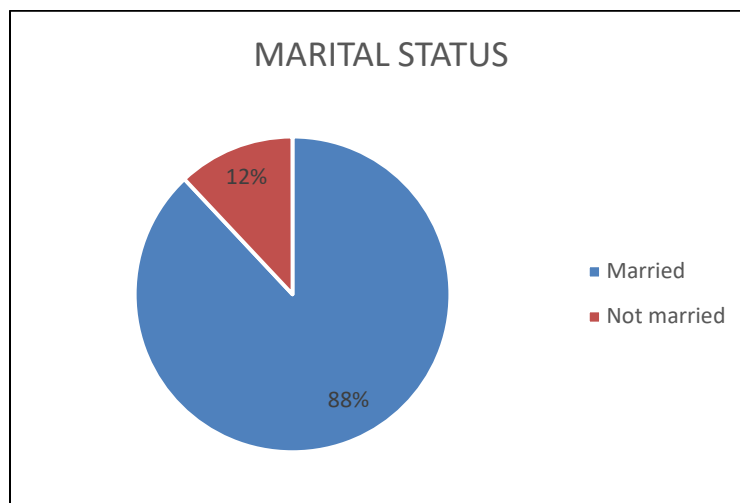


Figure 6: Patients Characteristic Based on Their Marital Status.

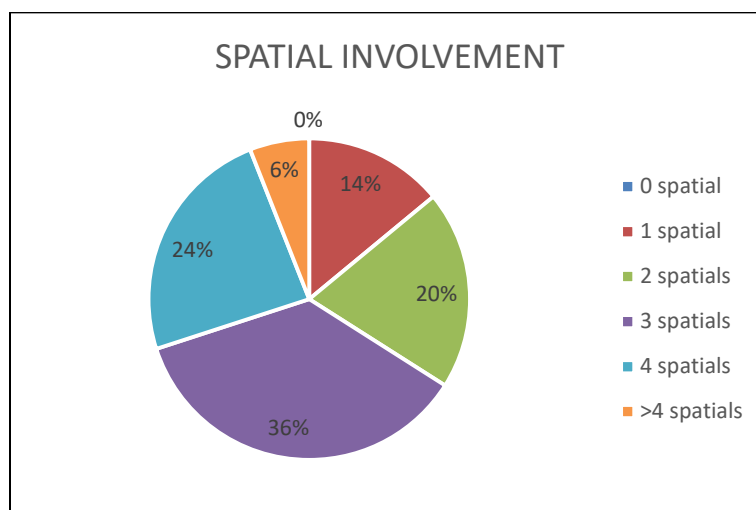


Figure 7: Patients Characteristic Based on Their Spatial Involvement.

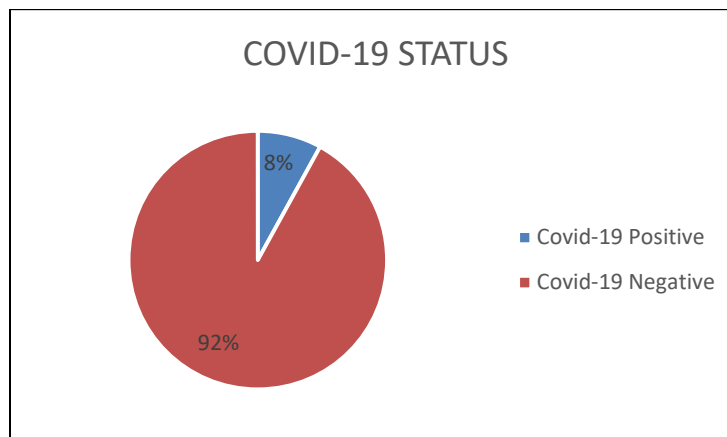


Figure 8: Patients Characteristic Based on Their COVID-19 Status.

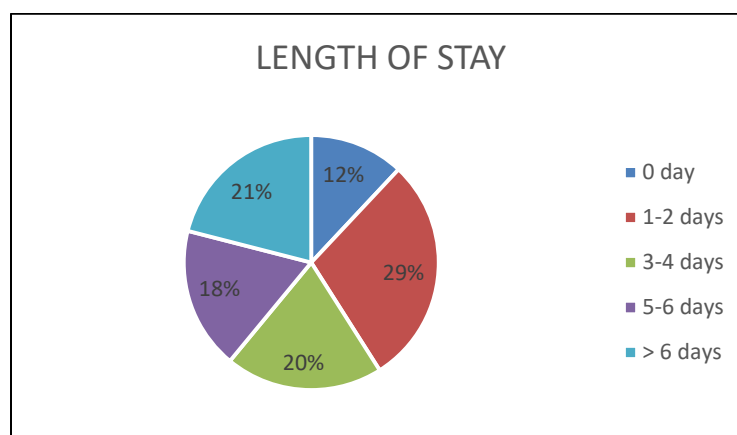


Figure 9: Patients Characteristic Based on Their Length of Stay (LOS)

Discussion

The odontogenic infection has afflicted mankind for as long as the human has existed. Even after several researches conducted, human has not succeeded in eliminating bacterial infections. In the orofacial region, most bacterial infections happen because either the normal flora is disturbed or moved to a site where they are not normally seen. Pyogenic orofacial infections are most often originated from odontogenic infection. They can vary from periapical abscess, superficial infections and deep infections in the neck. They commonly spread into the adjacent fascial spaces (masseter, sublingual, submandibular, temporal, buccal, canine, and parapharyngeal) and can cause additional complications if treatment is not given. Early diagnosis of infection and proper therapy is very important, and modern antibiotic

therapy has greatly reduced complications from the spread of this infection.^{1,4}

Odontogenic infection is the most common disease worldwide and is the main reason to visit the dentist. Common odontogenic emergency infections are a periapical abscess (25%), pericoronitis (11%), and periodontal abscess (7%).² But there was a tendency to delay dental treatment due to suppress the number of COVID-19 infection. Based on the study conducted by Parvin et al, it was concluded that, public knowledge is to be improved about risk of virus transmission that can be related with dental treatment and also people should be encouraged to use virtual facilities, such as teledentistry, so that no dental emergencies is left untreated during the pandemic time. In addition, the level of satisfaction was at a medium level for dental patients in the study area. Social distancing status,

availability of alcohol, and sanitizer for hand cleaning at the entrance were factors associated with the satisfaction of patients. Dental providers need to work on the COVID-19 prevention and control strategy such as maintaining social distance, availing, alcohols, and sanitizers at the entrance, also doing regular satisfaction evaluation, and monitoring feedback regularly, to decrease the fear of exposure to the COVID-19.⁵

This research on the characteristics of patients with odontogenic infection at the Inpatient Installation of dr. Hasan Sadikin General Hospital during COVID-19 pandemic from March 2020 – August 2021 was conducted using the descriptive method from the patients' medical records. This research was conducted to see the characteristics of patients with odontogenic infection based on their age, gender, occupation, education, ethnicity, marital status, and length of stay. It was found out from the results that the total of odontogenic infections patients at the Inpatient Installation of the dr. Hasan Sadikin General Hospital during COVID-19 pandemic from March 2020 – August 2021 were 66 patients, which were fit into the inclusion criteria and taken as samples.

Conclusion

Based on the results of research conducted at the Inpatient Installation of dr. Hasan Sadikin General Hospital during COVID-19 pandemic from March 2020 – August 2021, it can be concluded as follows:

1. Based on the age criteria, most of the odontogenic infection patients were over 48 years old, with a total of 29 people or 44% of the samples.
2. Based on the gender criteria, most of the odontogenic infection patients were male, with 45 people or 68% of the samples.
3. Based on the occupational criteria, most of the odontogenic infection patients were entrepreneurs, with 21 people or 32% of the samples.
4. Based on education criteria, most of the odontogenic infection patients were at senior

high school education level with 41 people or 62% of the samples.

5. Based on ethnicity criteria, most of the patients with odontogenic infection were Sundanese, with 65 people or 98% of the samples.
6. Based on the marital status criteria, most of the patients with odontogenic infection were married, with 58 people or 88% of the samples.
7. Based on the spatial involvement criteria, most of the patients with odontogenic infection were 3 spatials involvement, with 24 people or 36% of the samples.
8. Based on the COVID-19 status criteria, most of the patients with odontogenic infection were negative COVID-19, with 61 people or 92% of the samples.
9. Based on the length of stay criteria, most of the patients with odontogenic infection were 1-2 days hospitalized, with 19 people or 29% of the samples.

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