

**Original Article**

# THE IMPACT OF COVID-19 PANDEMIC TO HEAD AND NECK CANCER CARE IN HASAN SADIKIN HOSPITAL BANDUNG, INDONESIA

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## ABSTRACT

**Objective:** This study represents head and neck cancer patient's care at Departement of Otorhinolaryngology-Head and Neck Surgery (ORL-HNS) in Hasan Sadikin General Hospital during COVID-19 pandemic.

**Methods:** The study is done using a retrospective descriptive method based on medical record data in patients with head and neck cancer at Oncology Departement of ORL-HNS, Hasan Sadikin General Hospital, Bandung from March to July 2020. Samples were selected with total sampling. All existing subjects who met the study criteria were enrolled. The inclusion criteria in this study were head and neck cancer patients from March to July 2020. The exclusion criteria were incomplete medical records data.

**Results:** The number of outpatient visits at ORL-HNS Departement, Dr. Hasan Sadikin General Hospital Bandung from March to July was 3723 patients with 1796 of them are oncology outpatients. There was a significant decrease in the number of ORL-HNS outpatient in April and May and began to increase steadily in June and July. This is in line with the start of the big-scale social restriction at the end of March and the start of the 'new normal' era in early June.

**Conclusion:** The study demonstrates the significant impact of the COVID-19 crisis on oncological care. During COVID-19 pandemic, the treatment of HNC patients has been severely disrupted and caused a decrease in the number of procedures at Dr. Hasan Sadikin General Hospital Bandung.

**Keywords:** COVID 19, Head and neck cancer, ORL-HNS, Pandemic

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## INTRODUCTION

The world at this time was affected by the novel Coronavirus disease (COVID-19) that first started in the city of Wuhan, Hubei province, China. The World Health Organization (WHO) facilitates the worldwide effort to deal with the effects and it declared COVID-19 as a global pandemic on March 11, 2020 [1]. At the point when the novel Covid SARS-CoV2 hit China most seriously during the long periods of December 2019–February 2020. Indonesia reported no case of infection at all. On March 2, 2020, the government announced two confirmed cases of COVID-19. As of September 25, 2020, the country has reached 262.022 confirmed cases, 4823 new cases, with 10105 number of deaths, and 4343 number of recoveries with overall positive rate is 14,34% [1, 2].

After the initial and subsequent reports of infections, Indonesia started to realize the direness of the situation, and issued various policies and actions to overcome COVID-19, including appointing 100 domestic general hospitals as Referral Hospitals on March 3, 2020. To cope with the ever-increasing number of COVID-19 patients, the number of Referral Hospitals was increased to 227 on March 18, 2020. In the end of March 2020, the government finally decided to implement Large-Scale Social Restriction in cities and provinces [1].

The COVID-19 pandemic prompted consequences for treatments, hospital visits, and healthcare systems, as underscored by the current examination, modifications in non-COVID-19 clinical consideration can't be avoided. Study investigating perspectives of cancer patients during the COVID-19 pandemic shows many patients were concerned about the consequences of the COVID-19 pandemic for their treatment or follow-up. In total, 47% of respondents were very concerned to be infected with SARSCoV-2 [1, 3]. Owing to the high infectivity and alarming increase in the number of cases affected by this contagious disease, most hospitals have decreased or all together stopped elective interventions in patients with HNC.

Ambulatory visits have been curtailed, wards and operating rooms are emptied for emergency services, and ventilators are being prepared for COVID-19 patients [4].

Otorhinolaryngologists have an increased risk of COVID-19 transmission due to the high concentration of virus particles in the nasal cavity, nasopharynx, oral cavity and oropharynx. During the early onset of the pandemic, many complaints about the availability of Personal Protective Equipment (PPE) for healthcare workers and PPE was extremely rare and expensive due to high demand. Besides limiting the capacity of medical care, the COVID-19 pandemic has explicit effect on oncological consideration. First, patients with an (active) malignancy may have an expanded danger of COVID-19. Second, malignancy may be an independent risk factor of a more severe course of COVID-19. Third, systemic anti-cancer treatment, such as chemotherapy, may increase the risk of a severe infection. Fourth, hospital visits that are required for many cancer treatments, may put cancer patients at risk to be infected with SARS-CoV-2 [3]. This study was intended to see the impact of the COVID-19 crisis on oncological care at the Department of Otorhinolaryngology-Head and Neck Surgery, Hasan Sadikin General Hospital Bandung Indonesia.

## MATERIALS AND METHODS

This study was carried out from March to July 2020 at the Department of Otorhinolaryngology-Head and Neck, Dr. Hasan Sadikin General Hospital Bandung used the retrospective method. The population was all the head neck cancer patients who were hospitalized or received outpatient treatment. Medical records from study subjects were served as the secondary data. Samples were selected with total sampling. All existing subjects who met the study criteria were enrolled. The inclusion criteria in this study were head and neck cancer patients from March to July 2020. The exclusion criteria were incomplete medical records data. The study was approved by the Research Ethics Committee of the Faculty Medicine

Universitas Padjadjaran/Dr. Hasan Sadikin Hospital Bandung, Indonesia with ethical number 318/UN6. KEP/EC/2021. The data were derived with descriptive statistics, using frequency and percentage calculations by the Excel software. The results of the study were illustrated figures.

**RESULTS**

The number of outpatient visits at Otorhinolaryngology-Head and Neck Surgery Departement, Dr. Hasan Sadikin General Hospital Bandung from March to July was 3.723 patients with 1.796 of them

are oncology outpatients. There was a significant decrease in the number of ORL-HNS outpatient in April and May and began to increase steadily in June and July. When compared with the number of ORL-HNS outpatient in February, there was a decrease of 72% of outpatients in April and reached 78% in May. Likewise, for ORL-HNS oncology patients, there was a decrease in outpatients by 58% in April and 66% in May compared to February. The number of outpatients started to increase in June with the addition of outpatients by more than 100% in ORL-HNS Outpatient and 43% in ORL-HNS oncology outpatient (fig. 1).

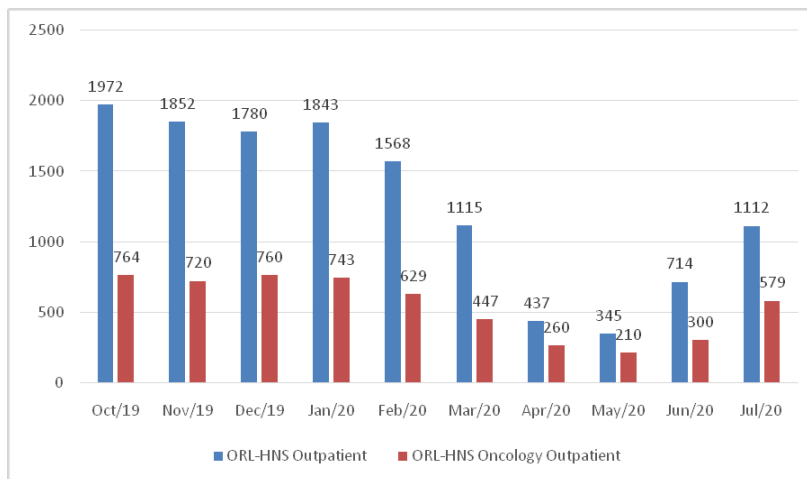


Fig. 1: Comparison of outpatient's number per month from March to July

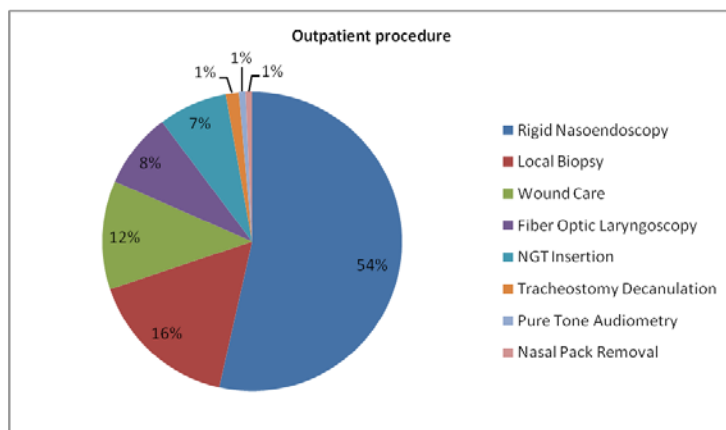


Fig. 2: Outpatient procedure

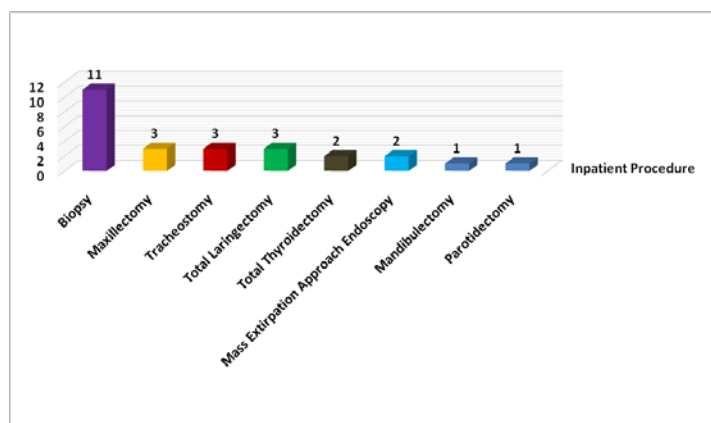


Fig. 3: Inpatient procedure

The predominant of head and neck clinical diagnoses were nasopharyngeal carcinoma (53,88%), followed by sinonasal (15,1%) and larynx (12,8%). The majority of histological findings found in this study were undifferentiated carcinoma with 126 patients (48,84%), followed by squamous cell carcinoma with 66 patients (25,58%). The findings of patients with advanced head and neck tumors were higher than those in the early stages. There were 129 patients (50 %) at stage IV, and 73 patients (28,29%) at stage III

The most common procedure performed in outpatient clinics is rigid endoscopy with a total of 151 procedures (54%), followed by local biopsy with 46 procedures (16%) (fig. 2).

Besides, the most common procedure performed in inpatient rooms is biopsy with a total of 11 procedures, followed by maxillectomy and tracheostomy with 3 procedures each (fig. 3).

## DISCUSSION

The pandemic has carried new challenges to public health in various nations. However, COVID-19 which caused by a strain of coronavirus (SARS-CoV2), revealed our lack of preparedness given its unexpected and fast spread that caught many governments around the world unprepared. Indonesia is the fourth most populous country in the world, and thus is predicted to suffer greatly and over a longer time period when compared to other less-populous countries.<sup>[1]</sup> The degree of COVID-19 spread is currently around 5.3%, which could theoretically rise if precautionary steps are not taken into account. Consequently, global avoidance of the dissemination of COVID-19 is a critical and immediate priority [10]. Most recent Coronavirus (COVID 19) Situation in Indonesia announced by WHO shows as of 23 September, 59.6% of affirmed cases were in Java: DKI Jakarta East Java, Central Java and West Java are the four top province as far as the number of affirmed cases. As revealed by the government on 23 September, the quantity of individuals testing for COVID-19 with polymerase chain response (PCR) was 25.498 and the combined number of individuals testing was 1.799.563. As of the same day, the proportion of people that recovered among the total confirmed COVID-19 cases was 73.0% [5].

The number of outpatient visits at Otorhinolaryngology-Head and Neck Surgery Department, Hasan Sadikin General Hospital Bandung from March to July was 3.723 patients with 1.796 of them are oncology outpatients. There was a significant decrease in the number of the ORL-HNS outpatient in April and May and began to increase steadily in June and July. This is in line with the start of the big-scale social restriction at the end of March and the start of the 'new normal' era in early June. Many patients were concerned about the consequences of the COVID-19 pandemic for their cancer treatment or follow-up. Study from Jodee *et al.* about the impact of the COVID-19 pandemic on cancer treatment based on the patient's perspective shows that 47% of patients were very concerned to be infected with SARS-CoV-2. Patients who were under treatment were more often concerned to be infected than patients in follow-up and patients with incurable disease were also more often concerned than patients with curable or cured disease.<sup>[5]</sup> The decrease in the number of patients was also caused by Hasan Sadikin General Hospital as a one of the reference hospital for COVID-19 cases and limiting the number of non-emergency patients for treatment.

COVID-19 cases in Indonesia continue to increase rapidly. February 4, Health Ministry declared Novel 2019-nCov as a disease that outlines potential transform of COVID-19 into an outbreak and what can be done. A specific emergency situation of COVID-19 declared by head of BNPB on 28 February 2020. President of Indonesia issued one decree and two fundamental regulations on the last day of March 2020. These regulations include: First, Regulation on National budgeting policy and the stability of budgeting system for COVID-19 pandemic disaster and/or Managing threats for the national economy and/or the stabilization of budgeting system; Second, A declaration of community health emergency situation for COVID-19; Third, Big scale social restriction for accelerating COVID-19 eradication [1].

Globally, around 14% of COVID-19 cases reported to WHO are among health workers, and in some countries, this number rises to as much as 35%. As of 12 September, 115 doctors have died from COVID-19, according to the Indonesian Doctors Association. To provide safe care for patients, health workers need a safe environment and adequate resources. One of the key strategies to keeping patients safe is keeping health workers safe.<sup>[5]</sup> Healthcare workers have emerged as a vulnerable population group during COVID-19 and securing supply chains of personal PPE has been identified as a critical issue to protect healthcare workers and to prevent health system overwhelm. During the early onset of COVID-19 pandemic, The Indonesian Doctors Association receives many complaints about the availability of PPE for healthcare workers and PPE was extremely rare and expensive due to high demand. In June 2020 the Trade Ministry has revoked the temporary ban on exporting PPE and its raw materials to provide enough supply and meet domestic needs [8].

Practically after 3 mo of passing the emergency response period and the big scale of social restriction, the Indonesian government has begun exploring the implementation of a new normal life and loosening the big scale of social restriction. This policy is in line with the continuous improvement of facilities in health services, including regulations on the prevention of virus transmission and an adequate supply of PPE.

Otorhinolaryngologists have an increased risk of COVID-19 transmission due to the high concentration of virus particles in the nasal cavity, nasopharynx, oral cavity and oropharynx. This is reinforced by the number of certain procedures and actions that cause Aerosol Generating Procedures (AGP) which are more difficult to prevent than droplets. The Indonesian Otorhinolaryngology-Head and Neck Surgery Association formulates guidelines for Adaptation of New Habits in ORL-HNS Services in the Era of the COVID-19 Pandemic. The guideline includes recommendation of PPE that complies with standards, especially when carrying out examinations or actions that cause aerosols in the form of actions related to the airway, patient services in outpatient clinics, emergency departments, and inpatients, and in the operating room by providing the main points of consideration before restarting elective operative services and considering the use of telemedicine for patients who do not require a physical examination [7].

The most common procedures performed in outpatient clinics are rigid nasoendoscopy (151) and local biopsy (46), while inpatient procedures are biopsy (11) and maxillectomy (3). During the COVID-19 pandemic, the procedures carried out were much less than before. Endoscopy are not considered AGP, but these procedures have the potential to increase the likelihood of coughing, choking, and sneezing, which in turn cause aerosolization, so it should be considered to prevent this aerosolization based on the clinical setting of the individual patient. The use of PPE is very important in keeping medical personnel and staff safe from transmission of COVID-19. The specific type of PPE used depends on the procedure. This is intended to reduce contact between patients and health workers at the hospital to prevent the spread of COVID-19. Personal protective equipment (PPE) in accordance with the standards is needed by an ENT surgeon, especially when carrying out examinations or actions that cause aerosols in the form of actions related to the airway. The type of PPE that is used when examine outpatient services is PPE level 2 which consists of head cap, google, face shields, N-95 masks, waterproof gowns, gloves, and shoe covers. Meanwhile, the type of PPE used when performing surgery is PPE level 3 consisting of a overall suit, head cap, google, face shield, N-95 mask, surgical mask, waterproof gown, double-layer gloves and boots. All patients undergoing surgery must be screened for COVID-19 [6, 7].

With the routine outpatient department (OPD) services being suspended to keep a check on social distancing, the government in most of the countries directed to start teleconsultations for the patients. The telemedicine approach clearly encourage us to reach more to communities with ENT screening. Being a specialty of high risk of exposure, telemedicine can be used for screening and triage of patients not only in COVID-19 times but also even after this phase and the services can be provided to inaccessible or difficult to reach patient [11].

**CONCLUSION**

COVID-19 pandemic has presented an unprecedented situation in human history, with massive disruption of health care activities. The treatment of HNC patients has been severely disrupted, with increased waiting times. Patients need to be directed to alternative treatment facilities, separate from a COVID-19 facility. Preoperative screening for COVID-19, availability of personal protective equipment, and isolation of suspected patients will act as confidence builders for health care teams treating patients with cancer during these challenging times.

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Nil

**AUTHORS CONTRIBUTIONS**

All the authors have contributed equally.

**CONFLICT OF INTERESTS**

Declared none

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