



DESCRIPTION OF PATIENT PROFILE UNDERGOING TRACHEOSTOMY AT RSUP DR. HASAN SADIKIN BANDUNG IN 2021

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ABSTRACT

Introduction: Tracheostomy is a surgical procedure that involves placing a tube through a skin incision above the trachea, allowing for direct access to the airway. It is commonly performed in intensive care units for indications such as airway obstruction, air safety during ventilation, and patient comfort and development. Doctors play a crucial role in its implementation and must be aware of potential risks and complications, particularly in life-threatening situations. **Objective:** to describe the profile of patients who underwent tracheostomy at Hasan Sadikin Hospital such as age, gender, indications, and the type of tracheostomy performed. **Methods:** This research method is descriptive with cross-sectional design. Methods of data collection using medical record data. The sampling method used total sampling technique. **Results:** The study involved 77 male patients, with most of them aged between 50-64 years. Upper Airway Obstruction was the main reason for performing tracheostomy, which was done surgically in all cases. **Conclusion:** Department of T.H.T.K.L at Dr. Hasan Sadikin Hospital in Bandung performed 108 tracheostomy procedures in 2021, mostly on male patients with upper airway obstruction, all of which were done surgically.

Keywords : Tracheostomy, Indications, Types

Introduction

Emergency respiratory conditions require fast, accurate assessment and treatment because airway obstruction lasting more than three minutes can lead to death. Various emergency respiratory cases can occur anytime and anywhere, and every doctor is expected to be able to recognize the signs of respiratory emergencies and provide prompt and accurate management, especially ENT specialists, to reduce morbidity and mortality rates.¹⁻⁴

Tracheostomy is a common surgical procedure in ENT practice that involves inserting a tracheal lumen cannula through a skin incision above the trachea, by dissecting pretracheal tissue to directly view the trachea. It is also referred to as creating a stoma in the trachea and is usually temporary.

Tracheostomy is commonly used to maintain the airway, such as in patients with upper airway obstruction. Other conditions that require tracheostomy include assisting long-term respiratory processes (prolonged ventilation), airway edema, accumulation of secretions in the lower airway, and preventing aspiration. The tracheostomy procedure is divided into two methods: percutaneous and surgical.¹

Tracheostomy, a procedure commonly performed in medical settings, has gained significant attention in recent years. A study conducted by Lena M et al. at the esteemed University of Michigan Health System sheds light on the prevalence of this procedure in the United States. According to their research, approximately 100,000 tracheostomies are performed annually in the country, emphasizing the significance and frequency of this medical intervention.

Furthermore, the study delves into the specific trends observed in the state of North Carolina between 1993 and 2002. During this period, the incidence of tracheostomies for prolonged mechanical ventilation exhibited a substantial increase across all age groups, rising from 8.3 to 24.2 per 100,000 individuals. Notably, this increase was most prominent among patients aged 55 years and

older. These findings underscore the growing demand for tracheostomy procedures, particularly among the elderly population.

Significantly, the study also reveals noteworthy outcomes associated with tracheostomy procedures. It is observed that tracheostomy intervention is associated with a remarkable decrease in mortality rates, with a reduction from 39% to 25%. Additionally, the median number of ventilator days experienced by patients is reduced from 12 to 10, indicating a shorter duration of mechanical ventilation. Moreover, the median length of hospital stays is also notably reduced from 47 to 33 days, indicating an overall improvement in patient recovery and a potential alleviation of the burden on healthcare resources.

The comprehensive analysis of tracheostomy procedures conducted by Lena M et al. provides crucial insights into the prevalence, trends, and outcomes associated with this intervention. With the increasing number of tracheostomies performed each year in the United States, it becomes imperative to understand the implications of this procedure on patient outcomes, resource utilization, and healthcare practices. These findings pave the way for further research and optimization of tracheostomy procedures, ultimately contributing to improved patient care and clinical decision-making.^{5-6,8}

Doctors play a crucial role in performing tracheostomy procedures and should be aware of the potential risks, complications, and their management, especially in life-threatening situations.^{2, 7-9}

It is hoped that this writing will provide a clear overview so that doctors, especially those specializing in ENT, can understand the indications for tracheostomy and perform the procedure skillfully and safely to prevent death from failed ventilation and avoid possible complications.

Methods

This study utilized a descriptive research design. Retrospective data were collected from secondary medical records of inpatients who underwent tracheostomy procedure in 2021.

This research study focused on patients who underwent tracheostomy at Dr. Hasan Sadikin General Hospital in 2021. To gather relevant information, secondary data from medical records were utilized, specifically those from the same year. The investigation took place at Dr. Hasan Sadikin General Hospital, located in the city of Bandung.

The selection criteria for participants in this study involved the inclusion of medical records pertaining to patients who underwent tracheostomy specifically performed by the T.H.T.K.L department at Dr. Hasan Sadikin General Hospital during the year 2021. By using these specific criteria, the study aimed to ensure that the data collected would be directly applicable to the research objectives and relevant to the tracheostomy procedures conducted by the specified department within the hospital during that particular year. The exclusion criteria included patients who underwent tracheostomy procedures by departments other than T.H.T.K.L, incomplete or

missing medical record data, and medical record data that were inaccessible.

The research subjects were selected using total sampling technique, which means that all patients who met the inclusion criteria during data collection were included in the analysis.

The collected data were analyzed using descriptive statistics. These data were processed using statistical software such as Microsoft Excel 2019 or IBM SPSS version 22, and presented in the form of tables and graphs.

Results

This study was conducted by analyzing medical records of patients who underwent tracheostomy procedure at RSUP Dr. Hasan Sadikin in 2021. The study subjects consisted of 120 medical record data, of which 108 met the inclusion criteria and 12 were excluded according to the study criteria.

General Characteristics of Research Subjects

The recorded characteristics in this study include age, gender, and type of indication

Table 1. Characteristics Subjects

Variable:	Frequency (N=108)	Percentage (%)
Age (years)		
<17 years	7	6,48
17-34 years	8	7,4
35-49 years	23	21,29
50-64 years	48	44,4
>64 years	22	20,37
Gender		
Male	77	71,29
Female	31	28,7

Based on the table above, the majority of research subjects were male patients, 77 people (71.29%), compared to female patients, 31 people (28.70%). The majority of patients were in the age group of 50-64 years, which accounted for 48 people (44.44%), followed by the age group >64 years with 22 people (20.37%), then the age group 35-49 years with 23 people (21.29%), the age group 17-34 years with 8 people (7.40%), and the age group <17 years with 7 people (6.47%).

Table 2. Tracheostomy Indications

Indication	Frequency (N=108)	Percentage (%)
OSNA	67	62,03
<i>Prolonged</i> ETT	23	21,29
Bronchial toilet	10	9,25
Others	8	7,4

Tracheostomy Indications

The indications for tracheostomy performed on patients are shown in Table 2. The tracheostomy indications recorded in this study include OSNA (Obstruction of Upper Airway), Prolonged ETT, Bronchial Toilet, and others.

Based on Table 2, the most common indication for tracheostomy was OSNA, which accounted for 67 people (62.03%). There were 23 patients (21.29%) indicated for tracheostomy due to prolonged ETT and 10 patients (9.25%) indicated for bronchial toilet. In addition, there were 8 patients (7.4%) with other indications such as pre-operative tracheostomy and re-cannulation.

Procedure Method

Table 3. Tracheostomy Procedure Method

Variable	Frequency (N=108)	Percentage (%)
Procedure Method		
Surgical Tracheostomy	108	100
Percutaneous Tracheostomy	0	0

Based on Table 3, all patients (100%) who underwent tracheostomy procedure by the T.H.T.K.L department underwent surgical tracheostomy and none were performed with percutaneous tracheostomy.

Discussion

The study conducted at RSUP Dr. Hasan Sadikin in 2021 involved a total of 108 patients who had undergone tracheostomy. These patients were carefully selected based on specific criteria for inclusion and exclusion. Among the individuals who underwent tracheostomy, it was observed that a significant proportion, namely 44.4%, fell within the age range of 50-60 years. This age group accounted for a majority of the tracheostomy patients in the study.

Furthermore, when considering the gender distribution of the patients, it was noted that a higher number of males underwent tracheostomy compared to females. Specifically, out of the 108 patients, 77 were male, representing approximately 71.29% of the total, while the remaining 31 patients were female, accounting for approximately 28.70% of the total.

These findings are consistent with previous research indicating that the elderly and males constitute the largest population undergoing tracheostomy procedures. A study conducted by Gilyoma et al. discovered that the male to female ratio among tracheostomy patients was 3:1, with the majority of patients being over the age of 40. This highlights the tendency for males and older individuals to require tracheostomy.¹⁰

Additionally, a systematic review conducted by Alidad et al. in 2019 examined the characteristics of patients who underwent tracheostomy. This review revealed that the average age of tracheostomy patients was 49.2 years. Furthermore, it indicated that 66.1% of these patients were male, further supporting the notion that males are more likely to undergo tracheostomy procedures.¹¹

In summary, the study conducted at RSUP Dr. Hasan Sadikin in 2021, along with previous research, consistently demonstrates that the majority of tracheostomy patients fall within the 50-60 age range, and males tend to undergo tracheostomy more frequently than females. These findings provide valuable insights into the demographic characteristics of tracheostomy patients and contribute to the existing body of knowledge on the subject.¹²

The description of tracheostomy procedure methods performed at RSUP Dr. Hasan Sadikin is presented in Table 3, which is divided into surgical and percutaneous tracheostomy.

The majority with 67 patients (62.03%) falling into this category.²² This is consistent with the findings of a study by Alabi in Nigeria, which found that 60.5% of tracheostomies were performed on patients with UAO. A study by Adedeji et al. also found that 64.5% of tracheostomies were performed due to UAO caused by laryngeal tumors (32.7%).¹³ The same was found in a study by Liliana, which found that pharyngeal or laryngeal tumors and neck abscesses were underlying conditions in patients who underwent emergency tracheostomy.

The study found that all patients (100%) who underwent tracheostomy by the ENT department underwent surgical tracheostomy and none underwent percutaneous tracheostomy. Meta-analysis results found that percutaneous procedures have a higher risk of perioperative complications such as cardiac arrest and death, but have a lower risk of peristomal bleeding and postoperative infection.¹⁴

Conclusion

Firstly, the T.H.T.K.L department performed 108 tracheostomy procedures in 2021 at RSUP Dr. Hasan Sadikin Bandung. Secondly, male patients are the most common recipients of tracheostomy. Thirdly, the majority of tracheostomy procedures are indicated for upper airway obstruction. Lastly, all tracheostomy procedures performed by the T.H.T.K.L department were done surgically.

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