

DESCRIPTIVE STUDY OF TONSILLECTOMY IN PATIENTS AT RS TK III BALADHIKA HUSADA JEMBER FROM 2022 TO 2023

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A B S T R A C T

Background: Tonsillectomy is the most common performed surgical procedure. Over 500,000 cases are performed annually in children under 15 years old. This study was conducted to identify patients undergoing tonsillectomy therapy at RS TK III Baladhika Husada Jember. **Methods:** A retrospective descriptive study using secondary data with a consecutive sampling method. **Results:** The total number of patients in this study was 55. The largest group of patients was in the age range of 17-25 years, comprising 40 (72.7%) patients. The most frequent diagnosis indicating the therapy was chronic tonsillitis in 50 (90.9%) patients. The results of this study showed that the longest hospitalization for patients undergoing tonsillectomy was five days, while the shortest was two days. **Conclusion:** The patients undergoing tonsillectomy at RS Baladhika Husada Jember were predominantly male and aged 17-25 years. The most common diagnosis leading to tonsillectomy was chronic tonsillitis, with the most frequent hospitalization duration being three days.

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I. INTRODUCTION

Tonsillectomy is the most common performed surgical procedure. Over 500,000 cases are conducted each year in children under 15 years old. Tonsillectomy is a surgical procedure performed with or without adenoidectomy that removes the entire tonsil, including its capsule, by dissecting the peritonsillar space (Bohr & Shermetaro, 2024). The function of the tonsils is to provide defense and serve as an initial immunological barrier against inhaled or ingested pathogens (Anderson & Paterek, 2024; Sherwood, 2016). The palatine tonsil is a component of the Waldeyer's ring of lymphoid tissue. Other components of the Waldeyer's ring include the adenoid, tubal tonsils, and lingual tonsil. The lymphoid tissue and surrounding muscle are encased by a developing fibrous capsule, and the space between the lymphoid tissue and muscle is referred to as the peritonsillar space (Bohr & Shermetaro, 2023).

A study involving 207 patients at Hasan Sadikin General Hospital in Bandung showed that 106 (51.2%) patients underwent tonsillectomy and adenoidectomy for infection indications, 100 (48.3%) for obstruction indications, and 1 (0.05%) for neoplasm (Atiyah et al., 2015). A total of 50 out of 68 patients with tonsillitis received tonsillectomy therapy at the ENT outpatient clinic of Dr. Ramelan Naval Hospital in Surabaya from 2019 to 2021 (NUR PUTRI et al., 2023). A randomized controlled trial conducted in 27 hospitals in England indicated that 224 out of 429 patients received tonsillectomy therapy, while the remaining patients were treated conservatively (Wilson et al., 2023).

The most common indications for tonsillectomy in children, according to the American Academy of Otolaryngology–Head and Neck Surgery Foundation (AAOHN), are recurrent throat infections and obstructive sleep apnea. Throat infections are defined as sore throats caused by viruses or bacteria affecting the pharynx, palatine tonsils, or both, which may be referred to as pharyngitis, acute tonsillitis, adenotonsillitis, or tonsillopharyngitis. Obstructive sleep apnea is characterized by obstructive breathing patterns or inadequate

oxygenation/ventilation during sleep, including symptoms such as snoring, mouth breathing, and pauses in breathing (Mitchell et al., 2019). Tonsillectomy can reduce the incidence of throat infections in the short term compared to children who do not undergo the procedure. However, further research is needed to assess the long-term benefits of tonsillectomy concerning throat infections (Morad et al., 2017). Meanwhile, a study by Todd et al. demonstrated that adenotonsillectomy effectively improves the quality of life for children with sleep-related breathing disorders (Todd et al., 2017).

The indications for tonsillectomy in adults are clinically extrapolated from those established for children, according to the AAOHNS; however, further research is still necessary. Recurrent tonsillitis remains the most common indication for tonsillectomy in adults. Currently, conducting clinical evaluations of adult patients to meet the criteria established for children has become a standard practice. The literature available on tonsillectomy related to recurrent infections is relatively sparse and is often considered to be of low quality due to short evaluation periods (Randall, 2020). Nevertheless, it is essential to provide rigorous and optimal treatment for patients with recurrent tonsillitis to reduce excessive antibiotic use and the incidence of ineffective tonsillectomy (Guntinas-Lichius et al., 2023). In pediatric patients, tonsillectomy is the primary option for managing sleep-related breathing disorders. However, there is insufficient literature to support tonsillectomy as the primary treatment for addressing sleep apnea in adults (Reckley et al., 2018). Nonetheless, tonsillectomy has been shown to be effective in patients with obstructive sleep apnea, regardless of whether their tonsils are large or small (Camacho et al., 2016).

II. METHODS

This is a retrospective descriptive study that utilized secondary data obtained from the medical records of RS TK III Baladhika Husada Jember from 2022 to 2023. The sampling method used was consecutive sampling, in which all subjects who met the selection criteria were included in the study. Data processing was performed using the medical records from the hospital and analyzed descriptively using SPSS version 29.

III. RESULTS

Gender

Table 1. Distribution of Patients by Gender

Male		Female	
n	%	n	%
43	78	12	22

The total number of patients in this study was 55. Table 1 indicates that there were 43 male patients (78%), while 12 patients (22%) were female.

Age

The results of the study on age distribution are presented in Table 2. The largest group of patients was in the age range of 17-25 years, consisting 40 patients (72.7%). The second largest group included patients aged 12-16 years, with 9 patients (16.3%). This was followed by the 5-11 year age group, which had 3 patients (5.4%), and the 31-35 year age group, with 2 patients (3.4%). Finally, there was 1 patient (1.8%) in the group aged under 5 years.

Table 2. Distribution of Patients by Age

Age	n	%
<5 years	1	1,8
5-11 years	3	5,4
12-16 years	9	16,3
17-25 years	40	72,7
26-30 years	-	-
31-35 years	2	3,4
>35 years	-	-
Total	55	100

Diagnosis

This study examined 55 patients who underwent tonsillectomy at RS TK III Baladhika Husada Jember. The most common diagnosis leading to the procedure was chronic tonsillitis, which affected 50 patients (90.9%). Additionally, 3 patients (5.4%) were diagnosed with chronic nonspecific tonsil and adenoid disease. Furthermore, 2 patients (3.6%) underwent tonsillectomy due to tonsillar hypertrophy. These results are illustrated in Figure 1.

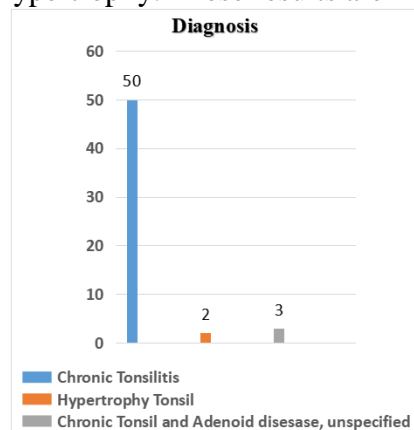


Figure 1. Number of Patients by Diagnosis

Length of Stay

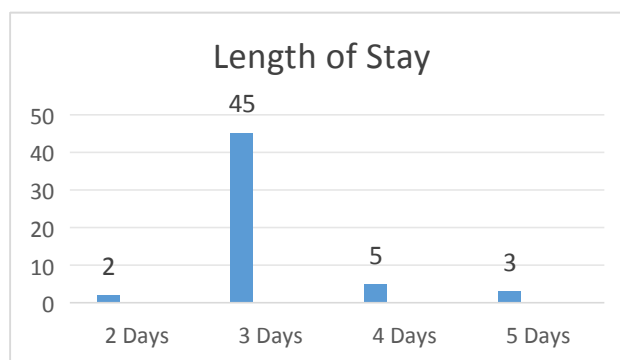


Figure 2. Number of Patients by Length of Stay

According to Figure 2, the majority of patients were hospitalized for three days, totaling 45 patients. The results of this study indicate that the longest length of stay for patients undergoing tonsillectomy was five days. In contrast, the shortest length of stay recorded in this study was two days.

IV. Discussion

The results presented in Table 1 indicate that the majority of patients, by gender, were male, with 43 patients (78%), while 12 patients (22%) were female. This finding aligns with a study conducted at the ENT Clinic of RSPAL Ramelan Surabaya, where the number of male patients was 38 (55.9%), compared to 30 female patients (44.1%) (NUR PUTRI et al., 2023). In contrast, a randomized controlled trial conducted across 27 hospitals in England reported the opposite results, with 344 female patients (78%) and 97 male patients (21%), indicating that more females underwent tonsillectomy than males (Wilson et al., 2023). The differences in gender related to airway obstruction are not yet well understood. However, it is hypothesized that these differences emerge after puberty, potentially influenced by hormonal changes (Han et al., 2023).

The highest incidence rate, grouped by age as shown in Table 2, occurs in the 12-25 year age group, with 40 patients (72.7%). This finding is consistent with a study conducted at Pertamina Bintang Amin Hospital in Bandar Lampung, where out of 92 patients who underwent tonsillectomy, 52.5% were in this age group (Ladyani Mustofa et al., 2020). This may be attributed to involution through increased production of fibrous tissue and fat atrophy, commonly observed between the ages of 8-10 years. Some individuals may experience immunopathological processes such as adenoiditis, chronic tonsillitis, recurrent otitis media, rhinosinusitis, and even allergic diseases. This is due to the rapid growth phase, which involves antigen sampling. Additionally, some individuals may also face complications related to anatomical obstruction of the oropharynx and nasopharynx, such as sleep-disordered breathing caused by adenotonsillar hypertrophy and nasal obstruction (Arambula et al., 2021).

The most common diagnosis indicating the need for tonsillectomy in this study, as shown in Figure 1, was chronic tonsillitis, affecting 50 patients (90.9%). This finding aligns with the research conducted by Patel et al., which included 574 patients, revealing that 62.2% of patients indicated for tonsillectomy were due to infection. However, there are differences in the indications for tonsillectomy between adults and children. In children, chronic or recurrent tonsillitis remains the primary indication for the procedure. Nevertheless, with the increasing use of antibiotics, the surgical indications have shifted towards addressing upper airway obstruction (Patel et al., 2022). The indications for tonsillectomy in patients aged one to 18 years refer to the Paradise criteria (Baugh et al., 2011).

- ≥ 7 episodes in the past year, ≥ 5 episodes in each of the last 2 years, or ≥ 3 episodes in each of the last 3 years.
- Clinical presentation of an episode must include at least throat pain plus ≥ 1 clinical symptom:
 - Temperature $> 38.3^{\circ}\text{C}$ (100.9°F)
 - Cervical lymphadenopathy (painful or enlarged lymph nodes > 2 cm)
 - Tonsillar or pharyngeal exudate
 - Positive culture for Group A beta-hemolytic streptococcus
- Administration of antibiotics in conventional doses for confirmed/suspected streptococcal episodes.
- Each episode, along with qualifying symptoms, must be documented; or, if not fully documented, subsequent observation by a physician of 2 episodes with patterns/frequency/clinical symptoms consistent with the initial history.

Meanwhile, a retrospective study conducted by Sumilo et al. over 12 years found that out of 18,281 tonsillectomy procedures, only 2,144 (11%) patients met the evidence-based criteria.

Of the 15,760 patients indicated for evidence-based tonsillectomy, 13,616 (86%) did not undergo the procedure (Sumilo et al., 2019).

A comparative study between conservative management and tonsillectomy in patients aged ≥ 16 years found that tonsillectomy is clinically effective in reducing throat pain for adults with recurrent tonsillitis. Another advantage of tonsillectomy in adults is that it may reduce overall treatment costs compared to conservative management (Wilson et al., 2023). In adult patients, tonsillectomy is often performed due to a higher rate of antibiotic therapy failure attributed to resistant bacteria (Patel et al., 2022). With lower resource requirements, tonsillectomy can provide an improved quality of life for patients with recurrent tonsillitis (Douglas et al., 2017; Senska et al., 2015).

The length of hospital stay for the 55 patients is illustrated in Figure 2. Among these, 45 patients had a hospital stay of 3 days, while the longest duration required was 5 days. This duration is calculated from the time of admission, through postoperative care, until the patient is deemed fit for outpatient discharge or release from the hospital. The average length of hospital stay following tonsillectomy has decreased from an average of 3 days and 2 hours to less than 24 hours (Cooper, 2016). Several factors influence the length of stay for postoperative patients. Generally, prolonged hospitalization is due to ongoing complaints following tonsillectomy. The most common serious complication of tonsillectomy is delayed bleeding, which occurs in 2% to 4% of all patients (Schmidt et al., 2007). However, a study conducted in Germany involving 213 tonsillectomy procedures found that primary bleeding (< 24 hours) occurred in 2% of patients, while secondary bleeding (> 24 hours) occurred in 24% of patients. Male gender was associated with a higher bleeding rate. In the study by Coordes et al., postoperative monitoring for 2 days was found not to be related to the incidence of bleeding (Coordes et al., 2015). Additionally, age was correlated with the incidence of postoperative bleeding, with older age being associated with a higher risk of bleeding (Inuzuka et al., 2020; Myssiorek & Alvi, 1996).

V. CONCLUSION

Patients undergoing tonsillectomy at RS Baladhika Husada Jember were predominantly male, particularly in the age group of 17 to 25 years. The most common diagnosis leading to tonsillectomy was chronic tonsillitis, with the majority of patients requiring an average hospital stay of 3 days.

VI. CONFLICT OF INTEREST

The researchers declare that there are no conflicts of interest in this study.

VII. ACKNOWLEDGMENTS

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