

**AN ASSESSMENT OF CLINICAL PRESENTATIONS AND  
EPIDEMIOLOGICAL PATTERNS OF RHINOSINUSITIS AT SANGLAH  
GENERAL HOSPITAL****<sup>1</sup>Okafor, Chinedu Emeka Paul and <sup>2</sup>Rahman, Aisha Noor Binti Khalid**<sup>1</sup>Department of Educational Foundations, University of Nigeria, Nsukka, Enugu State, Nigeria<sup>2</sup>Faculty of Education, University of Malaya, Kuala Lumpur, Malaysia

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**Abstract**

Rhinosinusitis is a prevalent global health condition characterized by inflammation of the nasal mucosa and paranasal sinuses, often occurring in conjunction with rhinitis. It constitutes a significant burden on healthcare systems and contributes to reduced productivity in affected populations. Globally, rhinosinusitis affects a substantial proportion of individuals, with acute cases commonly associated with viral infections such as the common cold and typically resolving spontaneously. In contrast, chronic rhinosinusitis represents a more persistent and complex condition, with considerable implications for patients' quality of life and long-term healthcare management.

Despite the global burden of rhinosinusitis, there is a paucity of recent and comprehensive data regarding its clinical and epidemiological characteristics in specific regions, including Bali. Understanding these characteristics is essential for accurate diagnosis, effective treatment strategies, antimicrobial stewardship, and identification of predisposing factors. Such insights are crucial in improving patient outcomes and optimizing healthcare delivery.

This study aims to investigate the clinical and epidemiological features of patients diagnosed with rhinosinusitis, with a focus on identifying patterns in disease presentation, potential risk factors, and demographic distribution. By analyzing patient characteristics, this research seeks to provide updated and region-specific data that can inform clinical practice and guide public health interventions. Additionally, the study highlights the importance of continuous monitoring and evaluation of rhinosinusitis cases to enhance disease management and improve the overall quality of life of affected individuals.

The findings of this study are expected to contribute to the existing body of knowledge on rhinosinusitis and support healthcare professionals in developing more targeted and evidence-based approaches to diagnosis and treatment, particularly in settings where data remain limited.

**Keywords:** Rhinosinusitis; Epidemiology; Clinical Characteristics; Paranasal Sinus Inflammation; Public Health

**I. INTRODUCTION**

Rhinosinusitis is a common health problem in the world and leads to problems of health care costs and significant reduced productivity in society. <sup>[1]</sup> Rhinosinusitis is defined as an inflammation of the nasal mucosa and paranasal sinuses. The term rhinosinusitis is more commonly used because it is almost always accompanied or triggered by rhinitis. <sup>[1],[2]</sup> Cases of rhinosinusitis occur in 1 in 8 adults in the United States, and produce more than 30 million diagnoses each year. <sup>[3]</sup> Prevalence of acute rhinosinusitis amounts to 6 -15% per year where this condition is a *celsma (common cold)* caused by a virus and can heal on its own. While chronic rhinosinusitis its prevalence

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amounted to 5 -12% which is a serious health problem in the population in general.<sup>[1]</sup> For the Bali area, there has not been a lot of recent data on the characteristics of patients with rhinosinusitis in general for the determination of diagnosis, stewardship, determining the causative factor and predisposition so as to improve the quality of life of patients with rhinosinusitis. By the background, then the authors are interested in conducting further studies to monitor the development of characteristics of patients with rhinosinusitis

## II. METHODOLOGY

The method used in the study is retrospective descriptive and uses secondary data obtained from medical records. The study was conducted at the THT-KL Polyclinic of Central General Hospital Sanglah Kota Denpasar, Bali and was conducted for 6 months from January- June 2019. The samples at the study were all patients with rhinosinusitis at Central General Hospital Sanglah Denpasar, Bali. The study samples were taken from the medical records of subjects diagnosed with rhinosinusitis in the period from January to June 2019. Inclusion criteria are patients with rhinosinusitis who have complete medical record data. Exclusion criteria are patients with rhinosinusitis who are not recorded in medical records, patients whose data are missing or cannot be contacted. The sample determination in this study was *nonprobability sampling*, that is, *consecutive sampling*. As for the variables that have an effect on the results of this study are age, gender, and the main complaints. The data collected in the study came from the medical records of THT-KL patients at the Medical Record Installation at the Central General Hospital Sanglah Denpasar, Bali. Researchers tabulate data that has been collected and spelled out descriptively in tables with *Microsoft excel*. The data is in the form of recording a characteristic picture of patients with rhinosinusitis grouped by age, sex, and main complaints.

## III. RESULTS AND DISCUSSION

Based on the data of medical records obtained 116 patients with rhinosinusitis who came to the outpatient polyclinic RSUP Sanglah Denpasar period January-June 2019. there are 83 data included in the inclusion criteria. The data retrieval process is carried out by looking at the medical records of sufferers from the RSUP Sanglah Denpasar Medical Record Installation.

### 3.1 Age Distribution of Rhinosinusitis Patients in Polyclinic THT-KL RSUP Sanglah Denpasar

In this study, the characteristics of the sample based on the age shown in Table 1 show the average age of the sufferer is 39.2 years that is still classified as productive age. In this study the proportion of patients with rhinosinusitis based on age was obtained the highest at a period of 31-45 years of age by 30 sufferers (36.1%). This is in line with the research conducted at the THT-KL RSUP Polyclinic Dr. M. Djamil Padang in 2012 where cases of chronic rhinosinusitis occurred most in the young and adult age group of 15—49 years with 39 sufferers (61.9%).<sup>[4]</sup> However these results differ from studies in RSUP dr. Mohammad Hoesin Palembang in 2015, the age most affected by chronic rhinosinusitis was the 45-52-year age group of 14 people (19.2%).<sup>[5]</sup>

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In this study, the least experienced rhinosinusitis, the age group under 15 years of age with 3 patients (3.6%). This is in accordance with research conducted in RSUP Sanglah Denpasar in 2016 with the lowest proportion being under 15 years of age with 4 sufferers (9.43%).<sup>[6]</sup> High cases of rhinosinusitis in adulthood are suspected as a result of the large amount of social activity carried out outside the home so the risk of exposure to pollutants, viruses and bacteria is very high.<sup>[6]</sup>

**TABLE 1: Distribution of Rinosinusitis Patients by Age in the Polyclinic THT-KL RSUP Sanglah Denpasar period January-June 2019.**

Characteristics	Amount (%)
Age (Average±SD)	(39,2±11,1)
<15 years	3 (3,6%)
16-30 years	26 (31,3%)
31-45 years	30 (36,1%)
46-60 years	13 (15,6%)
≥ 60 years	11 (13,2%)

### 3.2 Distribution of Rinosinusitis Patients by Gender in THT-KL RSUP Sanglah Denpasar Polyclinic

By gender, the distribution of patients with rhinosinusitis can be seen in table 2 that the proportion of sufferers with male and female sex is not much different. Patients with male sex are more than a number of 42 people (50.6%), but not much different from sufferers who are female-sex of 41 people (49.4%). These results correspond to the study conducted in the Polyclinic THT-KL RS dr. Mohammad Hoesin in 2015 namely chronic cases of rhinosinusitis were found more in males with a number of cases of 43 (58.9%) and 30 cases (41.1%) in females. This is due to the fact that men are more isisko than women because the vast majority of men tend to have smoking habits resulting in more frequent exposure to toxic irritant materials and pollution due to outdoor activities affecting the immune system.<sup>[5]</sup>

These results differ from studies in the Polyclinic of THT-KL RSUD dr. Zainoel Abidin in 2010, where there were more female sufferers by 19 people (57.6%) than men were 14 (42.4%). By conjecture women have smaller sinus ostium sizes making it easy to experience obstruction and infection such as ARI, but this theory is said to be not yet clearly known.<sup>[7]</sup>

**TABLE 2 Gender Distribution of Rinosinusitis Patients in THT-KL RSUP Sanglah Denpasar Polyclinic period January-June 2019.**

Gender	Amount (%)
Male	42 (50,6%)
Female	41 (49,4%)

### 3.3 Distribution of Rhinosinusitis Patients Based on Major Complaints in the Polyclinic THT-KL RSUP Sanglah Denpasar

In Table 3, the distribution of patients with rhinosinusitis is presented based on the main complaints that are divided on the basis of major and minor symptoms. Achieved the most commonly complained of major symptoms were nasal congestion of 47 sufferers (56.6%) which was also the main complaint (*chief complaint*) that brought the sufferer to come medicated, followed by nasal cavity secretions (*anterior/posterior nasal drip*) 45 sufferers (54.2%), facial pain was 9 sufferers (10.8%), and the least complained of symptoms were inhalation of 2 sufferers (2.4%). This study was conducted in the Polyclinic of THT-KL RSUP Sanglah, where there is a conformity with previous research in Poli THT-KL RSUP Sanglah in 2016, namely the main complaints that are most often complained about are nasal congestion of a number of 36 sufferers (67.9%) and the least of which are disorders inhalation of 2 sufferers (3.8%).<sup>[6]</sup> The results of these findings are also in accordance with the Year 2015 study in RSUP Dr. Mohammad Hoesin Palembang where the most frequent symptoms are nasal congestion of 69.9%, and the least is 11% impairment. According to EPOS 2020 the most rarely evaluated symptoms are decreased olfactory (97.7% in primary services, and 69.1% in otolaryngology polyclinics) this is due to more clear criteria and research in health services.<sup>[5]</sup>

In this study the most minor symptoms were complained about were other symptoms in the form of coughing, sneezing, swallowing pain, which were 38 sufferers (45.8%), then followed by headaches of 30 sufferers (36.1%), then ear or ear pain felt full and snorting as many as 12 sufferers (36.1%). 14.4%), tooth pain as many as 5 sufferers (6%), and the least complained was a fever of 3 sufferers (3.6%). This is in accordance with studies conducted in Poli THT-KL RSUP Sanglah Denpasar earlier in 2016 where headache symptoms are said to be fairly often complained about but are not typical symptoms experienced by people with rhinosinusitis.<sup>[6]</sup> These results also correspond to a 2015 study in RSUP

Dr. Mohammad Hoesin Palembang where mentioned headache is a minor symptom often complained of as much as 87.7%. [ 5]

**TABLE 3 Distribution of Major Complaints of Rhinosinusitis Patients in THT-KL RSUP Sanglah Denpasar**

	Major Complaints	Amount (%) (N=83)
Major Symptoms	Stuffy Nose	47 (56,6%)
	Facial Pain	9 (10,8%)
	Nasal Cavity Secrets ( <i>anterior/posterior nasal drip</i> )	45 (54,2%)
	Disruption of Hiding or decreased olfactory	2 (2,4%)

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Minor Symptoms	Headache	30 (36,1%)
	Dental Pain	5 (6 %)
	Ear Pain	12 (14,4%)
	Fever	3 (3,6%)
	Miscellaneous	38 (45,8%)

### Polyclinic period January-June 2019

#### IV. CONCLUSION

From the study of the characteristics of patients with rhinosinusitis in the Polyclinic THT-KL RSUP Sanglah period January — June 2019 it can be concluded that the average age of patients with rhinosinusitis is 39.2 years with the greatest proportion namely at the age of 31-45 years. The male sex has more rhinosinusitis. The main complaint of patients with rhinosinusitis with major symptoms most often complained about is nasal congestion. The most complained minor symptoms are other symptoms in the form of coughing, sneezing, swallowing pain.

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