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## CHARACTERISTICS OF SENSORINEURAL DEAF IN ORL-HNS CLINIC AT ROEMANI HOSPITAL

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<sup>1</sup> **Abstract:** Sensorineural hearing loss (SNHL) is hearing loss caused by damage to the cochlea or retrocochlea. This hearing loss can affect any age with a variety of different etiologies. Common causes of SNHL include exposure to loud noises, genetic factors, or the natural aging process. WHO has launched the Sound Hearing 2030-Better Hearing for All program which is an initiative program in efforts to prevent and reduce hearing loss. This program aims to reduce hearing problems by 90% by 2030. The aim of this study was to analyze the characteristics of people with Sensorineural Deafness at the ORL-HNSClinic of Roemani Hospital. This study used a descriptive retrospective research method using secondary data from the patient's medical records. This study used a cross sectional approach research design with the sampling technique using purposive sampling technique. The most distribution of Sensorineural Deafness at Roemani Hospital is in the age group > 50 years 81.8%, men suffer more sensorineural deafness 57.6%, the group of people who do not work 84.8%, bilateral 76.8% than unilateral 23.2%, degree of severe hearing loss 65.7%, no history of comorbid disease 72.7%, no history of taking ototoxic drugs 100%, no history of trauma 100%. The most distribution of Sensorineural Deafness at Roemani Hospital is in the age group > 50 years, men, who do not work, in both ears or bilateral, severe degree, do not have a history of comorbid diseases, do not have a history of taking ototoxic drugs, do not have history of trauma.

**Keywords:** sensorineural, deafness, hearing loss, characteristics

### Introduction

<sup>1</sup> Sensorineural Hearing Loss (SNHL) is a hearing loss caused by damage to the cochlea or retrocochlea. Disorders can occur at any age with various causes such as exposure to loud noises, genetic factors, or the natural aging process. Sensorineural hearing loss is divided into several degrees, namely mild, moderate, severe and very severe.

<sup>11</sup> WHO data at the 2020 shows that 466 million people in the world suffer from hearing loss. This hearing loss has increased from 2013 data, namely that there were 360 million people suffering from hearing loss, with 75 - 140 million of them in Southeast Asia. Based on these data, 328 million (91%) sufferers were adults (145 million women and 183 million men) while 32 million (9%) other sufferers were children. In 1998, the "WHO Multi-Center Study" declared Indonesia to be the country in Southeast Asia with the fourth highest prevalence of deafness, namely 4.6%. The other three countries

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14 are Nepal (16.6%), Thailand (13.3%) and Sri Lanka (9%). Every year 15,000 cases of sensorineural hearing loss are reported worldwide and from South America 4,000 people experience sensorineural hearing loss. The highest incidence is at the age of 50 and 60 years, while the lowest incidence is at the age of 20 and 30 years. Of the patients with sensorineural hearing loss, 26% are bilateral. The incidence rate in men and women is almost the same. The annual incidence of sensorineural hearing loss is estimated to be 5 to 20 cases per 100,000 people.<sup>5</sup>

In Indonesia, Teuku Husni and Thursina in their research at the ORL-HNSclinic at Dr. Zainoel Abidin Hospital Banda Aceh obtained results from 175 hearing loss sufferers, most of whom were in the age group of 60-74 years (28%), most of whom were male (53.14%), experienced bilateral disorders on both sides of the ear (80.57%) and types of hearing loss in the form of nerve deafness (49.43%). Then for the degree of deafness that is most often moderate and moderate-severe (23.7%). In the older age group (60-74 years) presbycusis is most common (57.14%), this event is more common in men 52.38%. The age group with the least hearing loss is the age group 5-14 years.<sup>6</sup>

WHO has launched the Sound Hearing 2030-Better Hearing for All program, which is an initiative program in efforts to prevent and reduce hearing loss. This program aims to reduce hearing problems by 90% by 2030. In Indonesia, the National Committee for the Prevention of Hearing Loss and Deafness was formed to achieve the program's goals.<sup>6</sup>

2 Based on the background above, the researcher is interested in doing research to determine the characteristics of sensorineural deaf patients in the ORL-HNS clinic at Roemani Hospital.

### Material and Methods

8 This study used a descriptive retrospective research method using secondary data derived from patient medical records. This study used a research design with a cross sectional approach. The sampling technique used purposive sampling technique.

The population in this study were all patients suffering from Sensorineural deafness who were treated and had examinations at the ENT Clinic, Roemani Hospital.

5 The number of samples in this study were 99 patients who met the inclusion and exclusion criteria. Inclusion Criteria: All sensorineural deaf patients undergoing examination at the ENT Clinic-KL Roemani Hospital from January 2015 to December 2020. Exclusion criteria: Patients with incomplete medical records, medical records that are more than the last 5 years, Patients aged 0-17 years, Congenital sensorineural deafness, Patients with labyrinthitis.

### Results and Discussion

Table 1. Characteristics Data of Sufferers of Sensorineural Deafness

Characteristics		N (%)
Age	>50	81 (81.8)
	41-50	10 (10.1)
	31-40	5 (5.1)

	21-30	2 (2,0)
	17-20	1 (1,0)
Gender	Male	57 (57,6)
	Female	42 (42,4)
Job	Work	15 (15,2)
	Doesn't work	82 (82,8)
Side of ear	Bilateral	76 (76,8)
	Unilateral (right)	14 (14,1)
	Unilateral (left)	9 (9,1)
Degree of hearing loss	Profound	0
	Heavy	65 (65,7)
	Moderate	23 (23,2)
	Mild	11 (11,1)
History of comorbid disease	Hypertension	10 (10,1)
	Diabetes Melitus	17 (17,2)
	Others	0
	No	72 (72,7)
History of consuming ototoxic drugs	Yes	0
	No	99 (100)
History of trauma	Yes	0
	No	99 (100)

The most distribution of Sensorineural Deafness at Roemani Hospital is in the age group > 50 years 81.8%, men suffer more sensorineural deafness 57.6%, the group of people who do not work 84.8%, bilateral 76.8% than unilateral 23.2%, degree of severe hearing loss 65.7%, no history of comorbid disease 72.7%, no history of taking ototoxic drugs 100%, no history of trauma 100%.

The most common distribution of sensorineural deafness at Roemani Hospital was in the age group >50 years, with 81 people (81.1%). This is suitable with Alexander (2013) and Harris research. This is in accordance with the theory that the older the age (>50 years old), the hearing function decreases.<sup>7</sup>

The distribution of sensorineural deafness based on gender was mostly male, namely 57 people (57.6%) compared to women, namely 42 people (42.4%). This is suitable with Alexander (2013) and Byl et all research. The research stated that the sex ratio of male to female SNHL sufferers was balanced (1,07 : 1). There isn't theory that stated the difference between male and female ratio.<sup>7</sup>

This research found that 84 people (84.8%) were found to be deaf in the non-working group, 15 people (15.2%) were working. This isn't suitable with Naek Silitonga et all research, that stated that there is a relationship between noise and workers' hearing. This is probably because most of the patients who come for treatment at the ENT clinic at Roemani Hospital are elderly, so they are no longer working.<sup>8</sup>

The distribution of sensorineural deafness based on the ear side affected, Bilateral deafness as many as 76 people (76.8%), than unilateral as many as 23 people (23.2%). This is suitable with Junetta research that bilateral deafness is more than unilateral. This is due to Sensoryneural hearing loss are caused by multiple etiologies, such as older ages, noise, comorbid disease, congenital deafness, etc.<sup>9</sup>

The most common distribution of degree of severe hearing loss (profound) as many as 65 people (65.7%). This is suitable with Alexander research that found that profound degree of deafness is majority case. This is due to that patients come for treatment when complaints are disturbing.<sup>7</sup>

This research found that did not have a history of comorbid diseases as many as 72 (72.7%). This is suitable with Jankar and Gupta research. This research also found that 99 people (100%) were deaf who had no history of taking ototoxic drugs or trauma. This isn't suitable with Shah RK research. This is due to incomplete recording in the medical record.<sup>9</sup>

In this study there is a weakness, namely the existence of several data records medical incomplete so that it was not included as sample research, it takes longer research time to look for factors risk of sensorineural hearing loss. In addition, the research method used in this study is a retrospective descriptive method so that the results are obtained only in the form of an overview of the patient's condition based on medical records and does not compare or relate the variables which is related.

## Conclusion

This research at Roemani Hospital involved 268 sensorineural hearing loss sufferers with several variables analyzed. The characteristics of sensorineural hearing loss at Roemani hospital was most common in the age group over 50 years, more in men, and the majority did not work. Sensorineural hearing loss generally occurs in both ears with severe degrees. The majority of patients do not have a history of comorbid illnesses, take ototoxic drugs, or experience trauma.

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