# CHARACTERISTICS OF PEDIATRIC PATIENTS WITH HEARING DISORDERS AT HASAN SADIKIN HOSPITAL IN 2020 – 2021

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## ABSTRACT

**Background.** When a person has a hearing threshold of more than 25 dB at frequencies of 500, 1000, 2000, and 4000 Hz, they are said to have hearing loss, which can affect one or both ears and affect them in mild or severe degrees.
**Objective.** Observing the traits of children who have hearing loss at ORL-HNS Polyclinic. Dr. Hasan Sadikin General Hospital Bandung in 2020–2021.
**Method.** In this study, a descriptive research design was adopted. Retrospective data collection from secondary data on medical records of children who had treatment at ORL-HNS Polyclinic Dr. Hasan Sadikin General Hospital Bandung during the pandemic time and had hearing loss diagnosis.
**Result.** This research was done from January 2020 to December 2021. Based on anamnesis, physical examination, diagnosis, and supporting examinations in up to 226 pediatric patients with hearing loss, secondary data from medical records were gathered. Children between the ages of 0 and 17 made up the study's hearing-impaired subjects.
**Conclusion.** One of the most important and prevalent issues in the world is hearing loss. The community's productivity is severely hampered by this disorder, which also isolates the sufferer from their surroundings. Children are not the only one who face the threat of hearing loss; teenagers and adults as well. Because it can have an impact on future academic performance and interpersonal interactions, this hearing loss warrants special consideration, especially in children. As a result, it's crucial to monitor hearing health starting at a young age.

***Keywords:*** hearing disorders, children, bilateral

## INTRODUCTION

One of the most important and prevalent issues in the world is hearing loss. The community's productivity is severely hampered by this disorder, which also isolates the sufferer from their surroundings. Children are not the only one who face the threat of hearing loss; teenagers and adults as well. Because that it can have an impact on future academic performance and interpersonal interactions, this hearing loss warrants special consideration, especially in children. As a result, it's crucial to monitor hearing health starting at a young age. At a hearing threshold of more than 25 dB at frequencies of, hearing loss is the impairment of the ability to hear, either partially or entirely, in one or both ears. of 500, 1000, 2000 and 4000 Hz. Deafness, on the other hand, denotes total loss of hearing in one or both ears. Conductive hearing loss, sensorineural hearing loss, and a combination of both are the three different types of hearing loss. WHO estimates that 278 million people worldwide, 75 to 140 million of whom live in Southeast Asia, suffer from hearing loss. While this is going on, 12 kids out of every 1,000 live births have hearing loss, which amounts to 0.1-0.2% of infants. According to Riskesdas 2013, 2.6% of the population in all regions of Indonesia over the age of 5 has hearing loss. Estimated prevalence in Indonesia is 4.5% (11.5 million), with ear problems being the primary cause 18.5%, hearing loss 16.8%, and severe deafness 0.4%.

Cerumen, ear infections, aging, heredity, exposure to loud noises (like explosions), and infections during pregnancy are a few factors that can raise the chance of hearing loss (such as TORCH infection). Hearing screening is essential, especially in infants, as infection during pregnancy is one of the causes of hearing loss in children.

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## METHODS

A descriptive research design was adopted for this investigation. Retrospective data collection from secondary data on medical records of children who had treatment at ORL-HNS Polyclinic Dr. Hasan Sadikin General Hospital Bandung during the pandemic time and had hearing loss diagnosis (in 2020 and 2021). The study's target population consisted of all participants having a hearing loss diagnosis. The study's participants were all young patients at ORL-HNS Polyclinic at Dr. Hasan Sadikin General Hospital Bandung who had been diagnosed with hearing loss. From 2020 to 2021 medical records are used to collect secondary data. Both inclusion and exclusion criteria are used in selection. It tries to lower data processing and gathering errors. The inclusion criteria for medical record data for pediatric patients at ORL-HNS Polyclinic at Dr. Hasan Sadikin General Hospital Bandung in 2020 and 2021 who have been diagnosed with hearing loss.


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Exclusion criteria are missing or incomplete patient medical record information and unavailable patient medical record information. Whole sampling was used as the method of subject retrieval for the investigation. In other words, the analysis included all patients who during data collection met the inclusion criteria.

The medical records of children who were diagnosed with hearing loss at the ORL-HNS Polyclinic Dr. Hasan Sadikin Hospital Bandung in 2020 and 2021 served as the study's primary data source. Descriptive statistics will be used to examine the acquired data. Statistical software (Microsoft Excel 2019) will be used to process the data, and a table graph will be used to illustrate it. The confidentiality of the data from medical records is the study's ethical consideration. The provision of information on disease conditions that may be used for scientific advancement as well as data sources to improve the quality of therapy for patients constitute indirect benefits for patients, but direct benefits for patients do not exist. Medical record data will be handled with the utmost care throughout the collection process and throughout the research process before being returned to the location where the medical records are kept. Initials will be used to retrieve the patient's name data. The study's initial identifying data are only known to researchers. The expense of a patient's follow-up will be covered by the researcher if the medical record data is necessary. The use of medical record will only be carried out with approval from the relevant Dr. Hasan Sadikin Hospital's Bandung authorities in order to uphold ethics and confidentiality of information concerning the patient's sickness.

## RESULTS

The study ws done at Hasan Sadikin General Hospital Bandung from January 2020 to December 2021. Anamnesis, physical examination, diagnosis, and supporting examinations for 226 pediatric patients with hearing loss were used to collect secondary data from medical records. 25 additional research volunteers were excluded during this time, leaving 201 subjects who met the research inclusion criteria.

The majority of the 201 study participants (patients) fell into the 0–2 year age group (toddlers), while the minority fell into the 2–5 year group (toddlers). The study's youngest participant was 0 years old, while the oldest participant was 17 years old. (Table 1)

**Table 1. Distribution of samples by age**

| Age | Number (n) | Percentage (%) |
|---|---|---|
| 0 – 1 month (infant) | 32 | 15.92 |
| 1 month – 1 year (baby) | 42 | 20.89 |
| 1- 2 years (toddler) | 52 | 25.87 |
| 1- 5 years old (toddler) | 31 | 15.42 |
| 5 – 17 years old (child) | 44 | 21.90 |

Male patients contributed more than female sex to the features of the study sample as a whole. (Table 2)

**Table 2. Distribution of samples by sex**

| Gender | Number (n) | Percentage (%) |
|---|---|---|
| Man | 106 | 52.74 |
| Woman | 95 | 47.26 |

Based on the features of the study sample, 156 patients with sensorineural type problems (77.62%) were identified among a total of 201 research participants. (Table 3)

**Table 3. Distribution of samples by type of hearing loss**

| Types of Hearing Loss | Number (n) | Presented (%) |
|---|---|---|
| Conductive | 38 | 18.90 |
| Sensorineural | 156 | 77.62 |
| Mixed | 7 | 3.48 |

According to the study sample's characteristics based on the severity of hearing loss, the majority of patients had low degrees of hearing loss. (Table 4)

**Table 4. Distribution of samples by degree of hearing loss**

| Degree | Number (n) | Percentage (%) |
|---|---|---|
| Normal | 0 | 0 |
| Low degree | 149 | 74.13 |
| Medium degree | 26 | 12.94 |
| Medium degree - heavy | 21 | 10.44 |
| Very heavy degree | 5 | 2.49 |

The majority of patients reported hearing loss in both ears, according to the study sample's characteristics depending on the affected ear (bilateral). (Table 5)

**Table 5. Distribution of samples by affected ear**

| Affected ear | Number (n) | Percentage (%) |
|---|---|---|
| Unilateral | 42 | 20.89 |
| Bilateral | 159 | 79.11 |

## DISCUSSION

In order to identify patient characteristics based on variables such as age, gender, type of hearing disorder, and damaged ears, this study employs a retrospective descriptive method that looks at secondary data through the patient's medical record. According to the age distribution of the study's participants, patients between the ages of 1-2 years old received the greatest number at the Dr. Hasan Sadikin General Hospital. This was probably due to their ability to communicate better than infants under the age of one. The age group from 5 to 17 years old has the next-highest number of patients. This age group already has a greater understanding of health, and it is the working age group, which requires good health from hearing, particularly the ear, to school activities. According to gender, it was discovered that there were more patients with male sex than female sex, but the ratio between the two was about equal. Moreover, evidence shows that sensorineural hearing loss is more prevalent than other types of hearing loss. This occurs because, at a child's age, the auditory organs and nerves are still developing. If the development of the auditory organs and nerves is imperfect, it will lead to a decline in hearing function. The majority of individuals have minor degrees of hearing loss, according to the severity of the condition. According to the ear that is affected, it was discovered that the majority of patients have hearing loss in both ears (bilateral), which can result from the formation of faulty hearing organs and nerves that affect the entire hearing organ.

Age is one of the risk factors that can result in hearing loss, thus research on the subject is quite helpful. A number of variables, such as aging, heredity, exposure to loud noises (such as explosions), and infections during pregnancy, might raise the risk of hearing loss (such as TORCH infection). One of the reasons of hearing loss in children is this infection during pregnancy. As a result, hearing screening is required, especially in infants. Age affects how common hearing loss is, and in this day and age, young people are already predisposed to hearing loss. The high occurrence of hearing loss, its effects, and the

issues it may create in the future must, of course, be anticipated. To do this, one must lead a healthy lifestyle, get enough sleep, and keep good ear health and hygiene.

According on the research that has been done, it is recommended that additional epidemiological studies be done in order to ensure that the findings are more representative. Also, it is hoped that the authors of this study can contribute to future research to improve children's hearing in the future.

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