

# Epidemiological Profiles of 10 Most Frequent Otorhinolaryngology Diseases on Outpatient Department of Bali Mandara General Hospital

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## ABSTRACT

**Background:** Ear, Nose, and Throat diseases are one of the most common health problems in the community and is very important because of its morbidity that can cause physiological function disorders. The pattern of disease in patients with ear, nose and throat complaints varies, depending on each region, patient characteristics such as gender, age, and the underlying etiology or pathological process of the disease.

**Objective:** This study was conducted to determine the 10 most common ENT diseases on the Outpatient Department of ENT at Bali Mandara General Hospital over two-years period. As well as studying variations in disease patterns based on gender and age group of the patient in Badung region, Bali. So that future treatments and disease trends can be studied and managed better. It will also assist in the further reconstruction of the health care system.

**Method:** This study was taken retrospectively based on medical record from the last two years during the period of January 2020 to September 2022, with the research subjects being outpatients who visited and checked themselves at the Ear, Nose, and Throat Department, Bali Mandara General Hospital.

**Result:** Total of ENT patients from 2020-2022 is 1,517. Which in 2020, the most frequently reported ENT disease was Coronavirus Infection 220 patients (31.34%) with male and female gender in the same ratio. This disease is most often experienced by the age group of 21-30 years. In 2021, the most frequently reported ENT disease was otitis externa with 104 patients (25.55%) followed by impacted cerumen 69 patients (16.95%) with male more frequent than female. This disease is most often experienced by the age group of 21-30 years. Meanwhile, impaction of cerumen 109 (26.72%) followed by otitis externa 95 (23.28%) was the most common disease found in the period of January - September 2022. It was more common in male than female, and at age group > 51 year.

**Conclusion:** From 2020 to 2022 the most common diseases experienced by patients with ENT complaints were otitis externa and impacted cerumen. Coronavirus infection, acute nasopharyngitis, hypertrophy of nasal turbinates, and chronic tonsillitis only appeared once as diseases that were included in the top 10 most common diseases in 2020, 2021 and 2022, respectively.

**Keywords:** Epidemiological Profiles, Otorhinolaryngology, ENT diseases, Outpatient Department

## INTRODUCTION

Ear, nose, and throat (ENT) disease is one of the most common problems when visiting a healthcare provider in developing countries <sup>(1)</sup>. The pattern of disease in

patients with ear, nose, and throat complaints varies, depending on the location of the study that affects the community's quality of life, the characteristics of the patients are based on gender, age, <sup>(2)</sup> and the

underlying etiology or pathological process of the disease. In addition, the availability of trained specialists, facilities for diagnose, and treatment of disease also affects the variety of cases found <sup>(2,3)</sup>. The etiology of a disease is based on congenital and acquired. Acquired diseases such as infection, inflammatory, neurological and vascular or perhaps due to some trauma are more common <sup>(2)</sup>. Diseases of the ear, nose and throat are of great importance because of their morbidity, which can lead to impaired physiological function. Such as hearing, breathing, swallowing, phonation, speech, smell, taste, and lower respiratory tract problems and clearance of secretions <sup>(4)</sup>. This study is the first study conducted in Bali, especially in Badung region, regarding the prevalence of the 10 most common ENT diseases in the Outpatient Department (OPD) throughout the year.

Globally, ear infections are considered as one of the leading causes of health care visits and their complications are an important cause of hearing loss, especially in developing countries <sup>(5)</sup>. At outpatient visits, the most common ear diseases are ear infections such as impacted cerumen, otitis externa and acute or chronic otitis media <sup>(6)</sup>. Based on several research such as in Indonesia, impacted cerumen or ear wax occupies the first position as the most common ear disease in 2018 and 2019 followed by otitis externa, acute otitis media, and chronic suppurative otitis media <sup>(7)</sup>. It is also supported by a study in Pakistan and India, the most common ear cases are impacted cerumen. 15.2% of ENT OPD in Pakistan has been found, 13.2% had allergic rhinitis and acute otitis media, 10.8% had chronic suppurative otitis media, 4.4% had acute sinusitis and otitis externa <sup>(8,9)</sup>.

The most common nasal diseases recorded at outpatient visits were sinusitis, rhinitis, nasal polyps, nasal deformities, tumors, nasal vestibular disease, epistaxis, and others. Research conducted in Medan, ENT OPD at Santa Elisabeth Hospital, the most common types of ENT diseases in 2017 were patients with sinusitis as 16.71%

followed by other nasal disorders like acute nasopharyngitis and allergic rhinitis <sup>(10)</sup>. In contrast, the research conducted in India, nasal complaints are the least cause from all ENT diseases that lead patients to visit the OPD. A total of 22.59% deviated nasal septum (DNS) is the most common among all nasal diseases in India. The second was epistaxis 20%, chronic rhinosinusitis 11.85% followed by acute rhinitis 11.48%, allergic rhinitis 9.62%, and vestibulitis seen in 8.51% <sup>(9)</sup>. This result is in line with a study in Pakistan which stated that diseases of the nose accounted for the least percentage compared to the ear and throat <sup>(8)</sup>.

Tonsillitis, pharyngitis and cancer are the most common throat diseases at ENT OPD. The cause of throat disease is usually a viral infection and other causes including allergies. The most often throat complaint was sore throat caused by acute pharyngitis, swelling of the neck, and acute tonsillitis. Followed by thyroid swelling, neoplasia, and parotid swelling <sup>(9)</sup>. The high prevalence of ENT disease in Indonesia and other countries along with the emergence of various etiologies, especially infections that continue to increase from time to time, shows a shift in the pattern of ENT disease in the community. Therefore, those obstacles need to be overcome to improve public health in prevention and treatment of ENT diseases.

## **METHOD**

This research is a cross sectional, retrospective, and descriptive study based on medical record conducted at the Ear, Nose, and Throat Outpatient Department of Bali Mandara General Hospital, Badung, Bali. The study was conducted during the period of January 2020 to September 2022. The sample size was 1,517. All patients were categorized by age, gender and clinical diagnosis. Classification of cases based on the main symptoms or clinical signs when the patient visited the ENT OPD. The diagnosis was coded according to the International Classification of Diseases

(ICD -10). The results of this study were statistically analyzed, using SPSS if relevant.

## RESULT

**Table 1. Distribution of Patient Characteristic by Gender**

No	Gender	2020		2021		2022	
		F	%	F	%	F	%
1	Male	358	51,00	229	57,97	235	57,60
2	Female	344	49,00	178	42,03	173	42,40
Total		702	100	407	100	408	100

The number of outpatients at the ENT OPD Bali Mandara General Hospital from 2020 to 2022 is 1,517 patients. Male patient visits are higher than female patients each year. In 2020 there were 358 (51.00%) male and 344 (49,00%) female. In 2021 with a decrease in visits to OPD, 229 (57.97%) male patients were reported compared to 178 (42.03%) female patients and in 2022 similar results were reported from a total of 408 patients, 235 (57.60%) were male and 173 (42.40%) were female.

**Table 2. Distribution of Patient Characteristic by Age**

No	Age	2020		2021		2022	
		F	%	F	%	F	%
1	≤ 10	54	7,69	34	8,35	44	10,78
2	11-20	55	7,83	51	12,53	40	9,80
3	21-30	195	27,78	69	16,95	98	24,02
4	31-40	102	14,53	69	16,95	79	19,36
5	41-50	116	16,52	65	15,97	46	11,27
6	≥ 51	180	25,64	119	29,24	101	24,75
Total		702	100	407	100	408	100

The majority of patients who visited the ENT OPD in 2020 were patients with the age group of 21-30 years as many as 195 patients (27.78%) of 702 patients. Meanwhile, in 2021 and 2022 it was reported that ≥51 years patients were in the age group with the most visits to the polyclinic, 119 (29.24%) and 101 (24.75%) patients respectively from 2021 and 2022.

The highest frequency varies each year but the same age group occupies the first and second positions. The age group with the least frequency of visits is the same in 2020 and 2021, namely age 10 years which is as much 54 (7.69%) and 34 (8.35%) patients. In 2022, 40 patients (9.80%) aged 11-20 years were reported to be a minority group.

**Table 3. Distribution of The 10 Most Common Types of ENT Diseases on January – December 2020**

No	Clinical Diagnosis	Frequency	%
1	Coronavirus Infection, Unspecified Site	220	31,34
2	Otitis Externa, Unspecified	143	20,37
3	Otitis Media, Unspecified	98	13,96
4	Impacted Cerumen	89	12,68
5	Acute Nasopharyngitis (Common Cold)	33	4,70
6	Eustachian Tube Disorder, Unspecified	27	3,85
7	Chronic Maxillary Sinusitis	27	3,85
8	Malignant Neoplasm Of Nasopharynx, Unspecified	23	3,28
9	Acute Pharyngitis, Unspecified	21	2,99
10	Chronic Pharyngitis	21	2,99

The most cases on January – December 2020 period were coronavirus infection with a frequency of 220 (31.34%) from 702 patients who visited. Chronic pharyngitis

with 21 patients (2.99%) is the least common type of disease experienced at the Bali Mandara General Hospital ENT OPD.

**Table 4. Distribution of The 10 Most Common Types of ENT Diseases on January – December 2021**

No	Clinical Diagnosis	Frequency	%
1	Otitis Externa, Unspecified	104	25,55
2	Impacted Cerumen	69	16,95
3	Otitis Media, Unspecified	43	10,57
4	Chronic Maxillary Sinusitis	34	8,35
5	Chronic Rhinitis	32	7,86
6	Chronic Serous Otitis Media	31	7,62
7	Chronic Sinusitis, Unspecified	27	6,63
8	Eustachian Tube Disorder, Unspecified	24	5,90
9	Hypertrophy of Nasal Turbinates	22	5,41
10	Malignant Neoplasm of Nasopharynx, Unspecified	21	5,16

In the period January – December 2021, 104 (25.55%) patients were otitis externa followed by impacted cerumen 69 (16.95%) were the most frequently reported disease

types. Meanwhile, 21 (5.16%) patients had malignant neoplasm of nasopharynx as the least disease experienced by patients.

**Table 5. Distribution of The 10 Most Common Types of ENT Diseases on January – December 2022**

No	Clinical Diagnosis	Frequency	%
1	Impacted Cerumen	109	26,72
2	Otitis Externa, Unspecified	95	23,28
3	Otitis Media, Unspecified	39	9,56
4	Chronic Tonsillitis	33	8,09
5	Chronic Sinusitis, unspecified	32	7,84
6	Chronic Rhinitis	26	6,37
7	Chronic Maxillary Sinusitis	21	5,15
8	Chronic Serous Otitis Media	20	4,90
9	Chronic Pharyngitis	18	4,41
10	Other Specified Disorders of Eustachian Tube	15	3,68

January – September 2022 period is slightly different from the 2021, which states that otitis externa and impacted cerumen were the most common diseases that occupy first and second positions. However, in 2022, impacted cerumen was the most common ear disease with 109 patients (26.72%), then

the second position goes by otitis externa 95 (23.28%), changing positions compared to 2021. A total of 21 patients (5.16%) was malignant neoplasm of nasopharynx as the least common disease experienced by patients.

**Table 6. Total Distribution of The Most Common ENT Diseases on January 2020-September 2022**

No	Clinical Diagnosis	2020		2021		2022	
		F	%	F	%	F	%
1	Otitis Externa, Unspecified	143	20,37	104	25,55	95	23,28
2	Impacted Cerumen	89	12,68	69	16,95	109	26,72
3	Otitis Media, Unspecified	98	13,96	39	9,56	39	9,56
4	Chronic Maxillary Sinusitis	27	3,85	34	8,35	21	5,15
5	Eustachian Tube Disorder, Unspecified	27	3,85	24	5,90	15	3,68
6	Chronic Sinusitis, unspecified	-	-	27	6,63	32	7,84
7	Chronic Rhinitis	-	-	32	7,86	26	6,37
8	Chronic Serous Otitis Media	-	-	31	7,62	20	4,90
9	Chronic Pharyngitis	21	2,99	-	-	18	4,41
10	Malignant Neoplasm Of Nasopharynx, Unspecified	23	3,28	21	5,16	-	-
11	Coronavirus Infection, Unspecified Site	220	31,34	-	-	-	-
12	Acute Nasopharyngitis (Common Cold)	33	4,70	-	-	-	-
13	Acute Pharyngitis, Unspecified	21	2,99	-	-	-	-
14	Hypertrophy of Nasal Turbinates	-	-	22	5,41	-	-
15	Chronic Tonsillitis	-	-	-	-	33	8,09

It can be concluded that from 2020 to 2022 the most common diseases experienced by patients with ENT complaints were otitis externa and impacted cerumen. Coronavirus

infection, acute nasopharyngitis, hypertrophy of nasal turbinates, and chronic tonsillitis only appeared once as a disease that entered the top 10 most common

diseases in 2020, 2021 and 2022, respectively.

**Table 7. Distribution of Outpatient Visit Based on Disease, Gender, and Age at Bali Mandara General Hospital ENT OPD on January – December 2020**

No	Clinical Diagnosis	Gender		Age					
		M	F	≤10	11-20	21-30	31-40	41-50	≥ 51
1	Coronavirus Infection, Unspecified Site	110	110	9	9	71	42	31	58
2	Otitis Externa, Unspecified	72	71	14	16	45	17	19	32
3	Otitis Media, Unspecified	44	54	8	11	18	16	22	23
4	Impacted Cerumen	53	36	20	6	22	7	8	26
5	Acute Nasopharyngitis (Common Cold)	19	14	3	8	8	7	1	6
6	Eustachian Tube Disorder, Unspecified	14	13	-	1	9	5	6	6
7	Chronic Maxillary Sinusitis	6	21	-	-	5	-	14	8
8	Malignant Neoplasm Of Nasopharynx, Unspecified	22	1	-	-	3	2	6	12
9	Acute Pharyngitis, Unspecified	9	12	-	-	9	3	5	3
10	Chronic Pharyngitis	9	12	-	3	5	3	4	6
Total		358	344	54	55	195	102	116	180

In 2020, the most frequently reported ENT disease was coronavirus infection with male and female in the same ratio. This disease is most often experienced by the age group of 21-30 years. While the least type of disease

is chronic pharyngitis, more common in female with a ratio of 4:3 to male. The age group ≥ 51 years often experience these complaints compared to other age groups.

**Table 8. Distribution of Outpatient Visit Based on Disease, Gender, and Age at Bali Mandara General Hospital ENT OPD on January – December 2021**

No	Clinical Diagnosis	Gender		Age					
		M	F	≤10	11-20	21-30	31-40	41-50	≥ 51
1	Otitis Externa, Unspecified	55	49	10	12	26	21	16	19
2	Impacted Cerumen	44	25	12	7	9	5	9	27
3	Otitis Media, Unspecified	28	15	7	2	9	5	9	11
4	Chronic Maxillary Sinusitis	21	13	-	1	5	8	6	14
5	Chronic Rhinitis	21	11	4	1	8	4	3	12
6	Chronic Serous Otitis Media	11	20	1	16	2	3	5	4
7	Chronic Sinusitis, unspecified	14	13	-	2	4	3	6	12
8	Eustachian Tube Disorder, Unspecified	15	9	-	1	5	17	-	1
9	Hypertrophy of Nasal Turbinates	11	11	-	9	1	2	1	9
10	Malignant Neoplasm of Nasopharynx, Unspecified	9	12	-	-	-	1	10	10
Total		229	178	34	51	69	69	65	119

In 2021, the most frequently reported ENT disease was otitis externa, more common in male than female. This disease is most often experienced by the age group of 21-30

years. While the least type of disease is malignant neoplasm of nasopharynx, it is more common in female than male and in the age group of more than 40 years.

**Table 9. Distribution of Outpatient Visit Based on Disease, Gender, and Age at Bali Mandara General Hospital ENT OPD on January – September 2022**

No	Clinical Diagnosis	Gender		Age					
		M	F	≤10	11-20	21-30	31-40	41-50	≥ 51
1	Impacted Cerumen	77	32	22	18	14	16	7	32
2	Otitis Eksterna, Unspecified	54	41	11	9	23	30	11	11
3	Otitis Media, Unspecified	21	18	8	4	9	7	3	8
4	Chronic Tonsillitis	16	17	-	3	20	4	5	1
5	Chronic Sinusitis, unspecified	18	14	-	1	6	6	9	10
6	Chronic Rhinitis	16	10	3	2	11	2	-	8
7	Chronic Maxillary Sinusitis	11	10	-	-	7	4	4	6
8	Chronic Serous Otitis Media	8	12	-	1	2	4	7	6
9	Chronic Pharyngitis	9	9	-	1	2	5	-	10
10	Other Specified Disorders of Eustachian Tube	5	10	-	1	4	1	-	9
Total		235	173	44	40	98	79	46	101

Impacted cerumen was the most common disease found in the period of January - September 2022. It was more common in male than female, and at the age of  $\geq 51$  years. Other specified disorders of eustachian tube were the least reported with more frequent in female patients and the age group of  $\geq 51$  years as the majority of patients who visited with these complaints.

## **DISCUSSION**

The latest research states the age group that most often suffers from Ear, Nose, and Throat disease is at a young age, not in accordance with the results found from this study, that 2020 to 2022 the most frequent age groups varied, namely at the age of 21-30 years and  $\geq 51$  years. The most frequent gender reported visiting the ENT OPD at Bali Mandara General Hospital was male compared to female in line with research conducted by Mina and Amardeep et al in India with a ratio of 53.2%: 46.8% and 55.6%: 44.4%<sup>(9,11)</sup>. Based on this study, the most common ENT disease prevalence from January 2020 – September 2022 at the Bali Mandara General Hospital was the ear compared to the nose and throat case, this result is supported by research conducted by Ebenezer (44.54%), Nanda (47%), and Fasanla (62.7%)<sup>(2,12,13)</sup>. The most commonly reported ear diseases are otitis externa and impacted cerumen. Likewise in Indonesia, Lampung by Suprayitno, et al, in 2018 and 2019 from 1,436 samples, 251 (17.48%) were impacted cerumen, and followed by otitis externa 251 (16.16%) patients. In 2020 there was a shift in the position of the most disease pattern, otitis externa which was ranked first with 110 patients (21.03%), and the second most ear disease has been reported were impacted cerumen 81 patients (15.49%)<sup>(7)</sup>. In line with the results of a study in Nigeria with children aged <18 years as research subjects, it was stated that cases of impacted cerumen (16.9%) were the most common ear cases recorded in the ENT OPD<sup>(14)</sup>. Slightly different from the research of Pakistan, ear disease is said to be the

majority disease with cerumen impaction as the most common disease reported 15.2%, but the second position is occupied by cases of allergic rhinitis and acute otitis media 13.2%, chronic suppurative otitis media 10.8%, and otitis externa only contributed as much as 4.4% including the least reported ear disease<sup>(8)</sup>.

Otitis externa is an acute or chronic inflammation of the ear canal caused by bacterial, fungal, and viral infections. Factors that facilitate inflammation of the outer ear are changes in pH in the ear canal and also minor trauma when picking or cleaning the ear<sup>(15)</sup>. Accidentally picking the ear changes the physiological mechanisms in the ear canal which will then cause impaction of the cerumen and infection due to trauma or maceration of the epithelial layer<sup>(14)</sup>. Based on other study in Bali, the age group most affected by otitis externa at Sanglah General Hospital Denpasar for one year was 15-49 years (68.6%)<sup>(15)</sup>. Those statement supports the results of our research, namely the most otitis externa patients from 2020-2022 are in the age group of 21-40 years.

Excess earwax or cerumen is a very common problem, with an estimated prevalence of between 700,000 and 2 million adults in England and Wales. Although cerumen formation can occur in any individual, risk factors include anatomic deformities, hair in the ear canal, physical protection for cerumen excretion, dermatological conditions affecting the ear, use of cotton buds, and increasing age. Cerumen impaction is defined as the accumulation of cerumen that causes hearing complaints, such as hearing loss, ear fullness, itching, otalgia, tinnitus, and sensation of imbalance. Cerumen impaction is a common reason for consultation with a primary care physician and occurs in approximately 10% of children, 5% of healthy adults, up to 57% of elderly people in nursing homes, and one third of patients with mental retardation<sup>(16)</sup>.

Diseases in the nose that are often complained by outpatients at Bali Mandara

General Hospital were chronic rhinitis and chronic sinusitis, including maxillary sinusitis. In 2021 there were 32 patients with chronic rhinitis (7.86%) and in 2022 there was a decrease due to sampling with a shorter period of 9 months, as many as 26 patients (6.37%). The prevalence of nasal disease in Bali is still unclear because of the limited research conducted. Based on research in the world, from 184 articles that discuss the epidemiology of rhinitis, the number of cases ranges from 1% to 60%. Rhinitis is a general term describing nasal symptoms resulting from inflammation and or dysfunction of the nasal mucosa. The prevalence of unspecified rhinitis ranges from 10.4% to 37.8% in Africa, 14.0% to 63.3% in America, 1.1% to 50.2% in Asia, from 4.1% to 56.6 % in Europe<sup>(17)</sup>.

This low prevalence can partly be explained by the fact that patients with rhinitis tend to self-diagnose and self-medicate, and those who consult their physicians tend to suffer from moderate to severe rhinitis more often. Public awareness is starting to increase around the world because of over-the-counter medicines for rhinitis, and with the development of the internet which makes it easier for people to get information about rhinitis. Medical examinations have also become more accessible, thus rhinitis can be easily diagnosed. However, the prevalence of rhinitis appears to have increased in many parts of the world, regardless of the definition of rhinitis. In addition, access to health services varies widely according to geographic location, health care system, or socioeconomic status of the patient. This geographic variability in the prevalence of rhinitis can partly be explained by different environmental exposures, such as different pollen species, different lifestyle factors, including dietary habits and keeping pets indoors, changing seasonal patterns, and air pollution or genetic risk factors. different individuals<sup>(17)</sup>.

Chronic rhinosinusitis (CRS) is an inflammatory condition of the sinonasal mucosa characterized by sinonasal symptoms of nasal blockage/ obstruction/

congestion, nasal drainage (anterior or postnasal), decreased sense of smell and symptoms outside the nose which include craniofacial pain, sleep disturbances, and mood disturbances. Endoscopic findings: nasal polyps, edema or mucosal obstruction in the middle meatus (or other sinus outflow), mucopurulent drainage from the middle meatus (or other sinus outflow) and radiographic findings of thickening or opacity of the mucosa in the osteomeatal complex or paranasal sinuses. CRS is a significant health problem and affects 5% to 12% of the world's general population<sup>(18)</sup>. Based on this study, it was found that there were 27 cases of chronic sinusitis in 2021 (6.63%) and 32 people (7.84%) in 2022. Meanwhile, in the world, the prevalence of chronic sinusitis was 6.9% in Helsinki, Finland and Brandenburg, Germany. up to 27.1% in Coimbra, Portugal, 5.5% in Brazil to 28% in Iran have been reported, with intermediate percentage 8% in China, 11% in South Korea, 4.8% to 12% in the United States, and 16% in the Netherlands<sup>(19)</sup>.

The frequency of patients suffering from eustachian tube disorder is 27 people (3.85%) in 2020, increasing in 2021 by 24 people (5.90%), and in 2022 for a period of 9 months, 15 people (3.68%) has been reported. The eustachian tube (ET) equalizes pressure between the middle ear and the nasopharynx and drains accumulated secretions from the middle ear. If ET function is impaired, symptoms such as ear fullness, feeling of pressure, pain, feeling of stuffiness, or popping in the ear may occur<sup>(20)</sup>. Chronic eustachian tube dysfunction can cause otitis media with recurrent or persistent effusion (OME), hearing loss, transient speech development delay in children, tympanic membrane retraction, or even cholesteatoma. Global data show that eustachian tube dysfunction affects about 1% of adults<sup>(21)</sup>. The incidence of ETD is higher in children with at least 80% of all preschool children<sup>(22)</sup>. Among the general population in the United States, ETD has a prevalence of 4.6% among adults and 6.1% among children.

The results of some of these studies are inconsistent with the results obtained by researchers, that the age group suffering from ETD is erratic from year to year, in 2020 the age group of 21-30 years suffers the most from this disease, in 2021 in the age group 31-40 years, and 2022 in the age group 51 years <sup>(23)</sup>.

Based on this study, the results showed that female had a prevalence of 59.1% suffering from pharyngeal laryngeal disorders compared to male which was 40.9%. In contrast to the research conducted by Kandouw et al which stated that the male gender was more frequent 18.49% than the female 17.07% <sup>(24)</sup>. This can happen because there is no difference between the anatomy and histology of the larynx in female and male, so that the possibility of disease in the larynx between male and female does not differ. From this study the highest cases were found in the 12 to 25 year age group, which was 68 cases. Welford et al said there were 1,814,000 cases of pharyngitis in 2010 with 692,000 cases in patients under the age of 15 years <sup>(25)</sup>. The results of the same study were found in the study of Kandouw et al, which stated that tonsillitis was most experienced in the 11-19 year age group <sup>(24)</sup>. Although relatively rare in the toddler age group, tonsillitis can still occur at the age of 1-5 years because the immune system of the tonsils at this age often decreases so that viruses and bacteria enter and cause inflammation. Age group does not affect the incidence of tonsillitis and pharyngitis as evidenced by the results of different studies regarding the most common age group with the disease, as well as those found from this study.

The high incidence of Nasopharyngeal Carcinoma (NPC), associated with Epstein Barr Virus or EBV infection, environmental and dietary habits. In addition, a history of frequent contact with carcinogenic substances such as Benzopyrene, Benzoathracene (a type of Hydrocarbon in charcoal), industrial smoke, chemical gases, wood smoke and some plant extracts are suspected to increase the risk of NPC

occurrence. Symptoms of nasopharyngeal carcinoma can be divided into four groups, namely symptoms of the nasopharynx itself, symptoms in the ears, eyes, nerves, metastases and symptoms in the neck <sup>(26)</sup>. NPC is a cancer found in the epithelial cells of the nasopharyngeal mucosa. The incidence and prevalence of NPC is high in Southeast Asia, and low in Europe <sup>(27)</sup>. Indonesia is a developing country with the incidence of NPC ranks 4th after cervical cancer, breast cancer and skin cancer. Based on data from Riskesdas 2007 using case-control analysis, the prevalence of NPC was mostly found in Central Java Province at 14.3%, East Java Province with a prevalence of 9.4% and East Nusa Tenggara Province at 8.4% <sup>(28)</sup>. NPC patients at Sanglah General Hospital from 2014-2016, the highest prevalence were in 2016 with 114 people, were found in the productive age group (36-55 years) and more frequent in male <sup>(29)</sup>. Similar to the results of this study in 2020, it was found that 23 people with NPC (3.28%) mostly occurred in male and at the age group of  $\geq 51$  years.

## CONCLUSION

Diseases that are included in the 10 most common diseases at the ENT OPD of Bali Mandara General Hospital are Otitis Externa, Cerumen Impaction, Chronic Maxillary Sinusitis, Eustachian Tube Disorder, Chronic Sinusitis, Chronic Rhinitis, Chronic Serous Otitis Media, Chronic Pharyngitis, Malignant Neoplasm Of Nasopharynx. Meanwhile, Coronavirus Infection, Acute Nasopharyngitis, Hypertrophy of Nasal Turbinates, and Chronic Tonsillitis only appear once as diseases that are included in the top 10 most common diseases in 2020, 2021 and 2022, respectively.

In 2020 the most cases were Coronavirus Infection with a frequency of 220 (31.34%) from 702 patients who visited, and the least type of disease was Chronic Pharyngitis with 21 patients (2.99%). In 2021, Otitis Externa with 104 patients (25.55%) followed by Cerumen Impaction 69

(16.95%) was the type of disease that was most frequently reported, and the least disease reported by 21 people (5.16%) is a malignant neoplasm of the nasopharynx. In the period January – September 2022 Cerumen Impaction was the most common ear disease that 109 patients (26.72%) complained of, followed by Otitis Externa 95 (23.28%), and 21 people (5.16%) were Malignant Neoplasm of The nasopharynx was the least common disease experienced by the patient. Based on gender, male patient visits were higher than female each year from 2020-2022. And based on the age group that most often suffers from Ear Nose and Throat disease is at a young age, from 2020 to 2022, namely at the age of 21-30 years and  $\geq 51$  years

From this study, it can be concluded that from 2020 to 2022 the most common diseases experienced by patients with ENT complaints were Otitis Externa and Cerumen Impaction. Therefore, appropriate prevention is needed in the community to help reduce the high incidence by focusing on the etiology, such as trauma or individual lifestyle.

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