ENT Manifestations in the Context of the COVID-19 Pandemic from 2020 to 2023 in a Medical Service in the City of Belém, State of Pará, Brazil

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Abstract

Title: ENT manifestations in the context of the COVID-19 pandemic from 2020 to 2022 in a medical service in the city of Belém, state of Pará, Brazil.

Objective: The objective of the current study was to evaluate the ENT manifestations in the context of the COVID-19 pandemic in the period from 2020 to 2022 in a population of Belém, state of Pará, as well as to describe the epidemiological variables present in the infected people and to identify their statistical relation with the symptoms presented.

Methods: The work is characterized by being a cross-sectional, observational and retrospective study, with descriptive and analytical analysis. The research was carried out in a private clinic in the region.

Findings: From the evaluated patients, approximately 62% were female and just under 50% were between 20 and 39 years old. More than 60% of patients were diagnosed with COVID-19 in 2020, using the RT-PCR method in almost 45% of cases. Anosmia and ageusia were the most prevalent symptoms among the patients studied, with 40% and 37% respectively. The most frequent comorbidities were hypertension AH and T2DM.

Conclusion: Thus, it is concluded that ENT symptoms played an important role in the clinical condition of patients with COVID-19. In addition, the current study appears as a starting point for the search for more knowledge about the ENT manifestations caused by COVID-19 in the population of Pará.

Keywords: Cross-sectional studies; Otolaryngology; COVID-19; Health profile

Introduction

The disease caused by the new coronavirus (COVID-19), an acute respiratory syndrome caused by SARS-CoV-2, has impacted the entire planet, generating a substantial global health crisis, a scenario previously seen only in the early twentieth century with the Influenza virus. Beginning in China at the end of December 2019, it affected much of the world progressively already in the first months of 2020, with a significant mortality rate. Thus, due to the widespread infection and the high rate of contagion, the World Health Organization (WHO) declared the global pandemic by the disease [1,2].

The SARS-CoV-2 virus primarily targets the respiratory and vascular systems, producing an inflammatory process that releases high levels of endogenous chemicals. From this mechanism, the disease is characterized mainly by an acute respiratory syndrome, similar to pneumonia. However, the virus can develop other mechanisms to infect the individual, reaching other systems of the body, with the possibility of inducing dysfunction in the affected organs, through direct viral intoxication, vasculitis, thrombosis, immune dysregulation and alteration in the renin-angiotensin-aldosterone system [3,4].

The quick progression and high rate of contagion of COVID-19 makes early and accurate diagnosis essential for the prevention and management of the disease. In the context of the pandemic caused by the coronavirus, the results of diagnostic tests represented an important factor, since it would mean the social isolation or not of that individual. Reverse Transcription Polymerase Chain Reaction (RT-PCR) was the gold standard diagnostic method, with the identification of the presence of viral RNA in a nasal secretion sample. Other simpler tests have also been developed, such as the rapid and the serological tests [5,6].

The clinical picture of COVID-19 is mainly associated with lung disease, characterized by nonspecific signs and symptoms, which can progress to pneumonia and even death. However, the virus can also develop extrapulmonary symptoms, due to the Angiotensin Converting Enzyme 2 (ACE2), which is responsible for viral invasion into tissues and is present mainly in the lungs and to a lesser extent in other cells, such as glial cells and neurons. From this invasion into the nervous system, manifestations such as anosmia, ageusia, tinnitus, balance disorders and hearing loss arise [7-9].

The presence of ACE, together with the Transmembrane Protease Serine 2 (TMPRSS2), has been described in the olfactory epithelium and in the vascular pericytes of the nose

and olfactory bulb. From this, anosmia can be a result of the impact of the infection on the olfactory system, either an disfunction in cellular communication or in the structure of the epithelium. The presence of this symptom is common in other rhinoviruses, such as parainfluenza or Epstein-Barr virus [10,11]. In addition, the enzyme was also detected in the cells of the entire oral cavity, with an important presence on the tongue. It is believed that ageusia, one of the most frequent symptoms in the clinical picture of patients with COVID-19 along with anosmia, is related to the binding of SARS-CoV-2 with sialic acid receptors, unprotecting the flavor detection system, increasing the taste threshold and accelerating the degradation of gustatory particles, a mechanism previously identified in MERS-CoV. Therefore, anosmia and ageusia are important symptoms in the context of COVID-19, considering the presence of both in more than 70% of patients and may constitute the first or only symptom of the disease [12-14].

Pathological changes were evidenced in the hypothalamus, neuronal cortex and cerebrospinal fluids, resulting in balance disorders such as dizziness and vertigo. Thus, the relationship of these symptoms, together with auditory changes, such as tinnitus, with vasculitis of the vessels that irrigate the audiovestibular system, caused by SARS-CoV-2 infection [15-17].

From the pathophysiology presented, in association with neuritis by the viral affection of the cochlear nerve, there have also been reports of hearing loss related to the clinical picture of COVID-19. In view of the affection of the nervous tissue by the virus, Sudden Sensorineural Hearing Loss (SSHL) has been the disorder most associated with SARS-CoV-2 infection .

Within this context, otoneurology, which is dedicated to the study of the auditory system and body balance, appears as a clear candidate to be possibly impacted by the consequences that SARSCoV-2 infection brings to patients, given that, in addition to the limitation on the whole picture of COVID-19, it is an area that is in frank expansion and consolidation of new knowledge and, therefore, it needs special care .

Materials and Methods

The current work consists of a cross-sectional, retrospective and observational study, with analytical and descriptive analysis based on data collected in a private clinic in the city of Belém, in the state of Pará, Brazil. All patients who were consulted at the clinic, with electronic medical records and had COVID-19 as a diagnostic hypothesis between the years 2020 and 2022 participated in the research. A total of 174 patients were presented during the exposed period.

Such selected patients were contacted to confirm their acceptance of participation in the research, by means of agreement *via* the Free and Informed Consent Form (FICF). The research objectives and procedures were clearly explained for all participants. Those who agreed to contribute to the study signed two copies of said term. All names were safeguarded, and the researchers accessed only the registration number in the clinic's chart, after the management's authorization.

Patients who died were excluded from the study. In addition, patients with incomplete data in the electronic medical record

or without the diagnostic hypothesis of COVID-19, as well as 4 individuals who refused to participate in the research or patients who could not be contacted *via* telephone or email did not enter the study sample.

The data was obtained using the storage software of the specialized clinic in question amd was classified according to certain variables to allow the analysis of otorhinolaryngological symptoms in the population infected with SARS-CoV-2, as well as to assess gender, age, method and year of diagnosis of COVID-19, previous diagnoses and the symptoms most present in sick patients consulted at the clinic.

The data was organized in Microsoft Excel 2010. The graphs and tables are constructed with the tools available in Microsoft Word, Excel and Bioestat 5.5. All tests were performed using the Bioestat 2008 software. The qualitative variables were described by frequencies and percentages. The independence or association between two categorical variables was tested by the chi-square test or Fisher's exact test, as the case may be. Results with $p \leq 0.05$ (bilateral) were considered statistically significant.

All the subjects of the study were analyzed according to the precepts stipulated by the declaration of helsinki and the nuremberg code, respecting the norms of research involving human beings of the national health council, by signing the Free and Informed Consent Form, developed by the researchers using appropriate language level to the population, an adequate prior qualification of the researchers was exercised to carry out the research. Furthermore, the study was made only after the bureaucratic authorizations of the participating centers and after the consent of the Research Ethics Committee.

Results

Sociodemographic characteristics of patients diagnosed with COVID-19 treated at the Clínica Instituto de Diagnóstico e Prestação de Serviços Médicos, in the years 2020 to 2022, Belém-Pará in (Table 1).

Table 1: Sociodemographic characteristics of patients diagnosed with COVID-19 treated at the Clínica Instituto de Diagnóstico e Prestação de Serviços Médicos, in the years 2020 to 2022, Belém-Pará.		
Variable	Frequency	Percentage
Gender		
Female	108	62,1
Male	66	37,9
Age group		
0 to 19 years	6	3,4
20 to 39 years	85	48,9
40 to 59 years	62	35,6
60 to 79 years	19	10,9
80 or more	2	1,1

Note: The percentages are relative to the total number of patients (n=174).

Diagnostic methods of patients diagnosed with COVID-19 treated at the Clínica Instituto de Diagnóstico e Prestação de Serviços Médicos, in the years 2020 to 2022, Belém-Pará in Figure 1.

Figure 1. Date of diagnosis of COVID-19; The percentages are relative to the total number of patients (n=174).

Symptoms of patients diagnosed with COVID-19 treated at the Clínica Instituto de Diagnóstico e Prestação de Serviços Médicos, in the years 2020 to 2022, Belém-Pará in (Table 2).

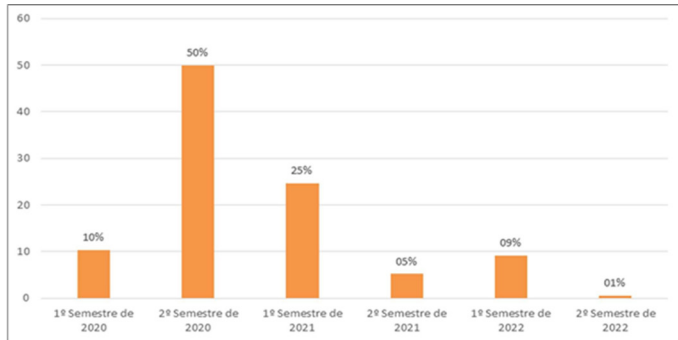| Table 2: Diagnostic methods of patients diagnosed with COVID-19 treated at the Clínica Instituto de Diagnóstico e Prestação de Serviços Médicos, in the years 2020 to 2022, Belém-Pará.		
Variable	**Frequency**	**Percentage**
Diagnostic Method		
RT-PCR	78	44,8
Clinical-Epidemiological	66	37,9
Serological test	30	17,2

Note: The percentages are relative to the total number of patients (n=174).

Ageusia and/or anosmia in patients diagnosed with COVID-19 treated at the Clínica Instituto de Diagnóstico e Prestação de Serviços Médicos, in the years 2020 to 2022, Belém-Pará Table 3.

Table 3: Symptoms of patients diagnosed with COVID-19 treated at the Clínica Instituto de Diagnóstico e Prestação de Serviços Médicos, in the years 2020 to 2022, Belém-Pará.		
Variable	**Frequency**	**Percentage**
Symptoms		
Anosmia	69	39,7
Ageusia	64	36,8
Mild rhinosinusitis	40	23,0
Cough	24	13,8
Dizziness	23	13,2
Asthenia	16	9,2
Pharyngitis	15	8,6
Fever	15	8,6
Headache	14	8,0
Hypoacusis	13	7,5
Vertigo	10	5,7
Migraine	9	5,2
Shudder	8	4,6
Tinnitus	6	3,4
Parosmia	5	2,9
Motion sickness	4	2,3
TMJ pain	4	2,3
Earache	4	2,3
Ear pressure	4	2,3
Dyspnoea	3	1,7
Heavy-headed Feeling	3	1,7
Other	11	6,3

Note: In "other" are grouped categories with less than 3 records. The percentages are relative to the total number of patients (n=174).

Previous diagnoses of patients diagnosed with COVID-19 treated at the Clínica Instituto de Diagnóstico e Prestação de Serviços Médicos, in the years 2020 to 2022, Belém-Pará in Table 4.

Table 4: Ageusia and/or anosmia in patients diagnosed with COVID-19 treated at the Clínica Instituto de Diagnóstico e Prestação de Serviços Médicos, in the years 2020 to 2022, Belém-Pará.		
Variable	**Frequency**	**Percentage**
Ageusia and/or Anosmia		
None	100	57,5
Ageusia+Anosmia	59	33,9
Anosmia	10	5,7
Ageusia	5	2,9

Note: The percentages are relative to the total number of patients (n=174).

Relationship between year of diagnosis and symptoms of patients diagnosed with COVID19 treated at the Clínica Instituto de Diagnóstico e Prestação de Serviços Médicos, in the years 2020 to 2022, Belém-Pará in Table 6.

Relationship between age group and symptoms of patients diagnosed with COVID-19 treated at the Clínica Instituto de Diagnóstico e Prestação de Serviços Médicos, in the years 2020 to 2022, Belém-Pará.

Relationship between anosmia and the presence of anosmia and ageusia of patients diagnosed with COVID-19 treated at the Clínica Instituto de Diagnóstico e Prestação de Serviços Médicos, in the years 2020 to 2022, Belém-Pará.

Discussion

The COVID-19 pandemic brought intense repercussions during its period of greatest development during the years 2020 to 2022. In view of the global threat, researchers around the world have endeavored to gather information on the clinical presentation of the disease caused by SARSCoV-2 in order to achieve early diagnosis and decrease its morbidity and mortality. However, COVID-19 can present itself in a variety of forms, ranging from asymptomatic cases to mild and severe cases of the disease, with or without the presence of pneumonia. Most studies have focused on the potentially more severe lower respiratory tract symptoms, or in the most common general symptoms, such as fever and body pain, but there has not been as much research on ENT symptoms, which, when present, significantly affect the quality of life of affected patients. In the current study, 174 patients were analyzed to assess the impact of COVID-19 on ENT symptoms. The disease has been shown to be more prevalent in females, demonstrated by studies such as that of Mao et al., who studied 214 patients of which 127 (59.3%) were women, a result similar to that found in the current study, which also showed a group composed mostly of females (108 or 62.1%) [18]. As for age, the prevalence of SARS-CoV-2 infection in older people was observed during the pandemic period 24. However, the most predominant age group in the study, 48.9% of the individuals, was from 20 to 39 years (Table 1). Although COVID-19 does not represent a public health emergency of international importance as of May 2023, during the years 2020 to 2022 the disease affected about 750 million people around the planet, with a concentration of new cases mainly at the beginning and end of the year 2022. However, in the current study, most diagnoses (60%) were performed in the first year of the pandemic, in the year 2020, as can be seen in Figure 1, in which it is possible to observe the dates of diagnosis of COVID-19, with the presence of asymmetry in the number of cases, and from 2020 to 2022, half (50% of individuals) were diagnosed with COVID-19 in the second half of 2020. The diagnosis of SARS-CoV-2 infection has evolved during the time of the pandemic, 10 offering more options for patients. The gold standard diagnosis for COVID-19 is RT-PCR, but other more affordable, lower-priced, and faster techniques have been developed, such as serological testing. In addition, medical institutions explored the creation of protocols for the diagnosis of the disease based on clinical and epidemiological criteria, in order to decrease the occurrence of false negatives and anticipate the detection of the disease and stop the transmission of the virus. In the current study, the most frequently used diagnostic technique was RT-PCR, representing a percentage of 44.8%, the remaining individuals were diagnosed based on clinical-epidemiological data or serological test (Table 2). Such divergence of the study with the literature may be based on the predominance of diagnoses in the year 2020, a period in which the RT-PCR exam was the most used and and the other tests were not yet fully developed and disseminated on a large scale. The most common clinical condition of COVID-19 is made up of systemic and nonspecific symptoms: Fever, cough, dyspnoea, diarrhea and fatigue. However, ENT symptoms, especially sore throat, rhinorrhea and loss of smell and taste were also present significantly in the patients, most often consisting of the first symptom of COVID-19. In the current study, the most frequent symptoms observed were: anosmia (39.7%), ageusia (36.8%) and mild rhinosinusitis (23.0%), while pharyngitis was reported by only 8.6% of the patients (Table 3). A study carried out in the state of Pará in 2020 described the presence of ageusia and anosmia in almost all of the 70 patients surveyed, with a simultaneous event in all cases. When analyzing Table 4, it was observed that 57.5% did not present any of the two symptoms, while 33.9% of the patients presented both symptoms, and 5.7 and 2.9% presented anosmia or ageusia in isolation respectively from the studies of Salepci et al., the presence of comorbidities was observed in patients affected by COVID-19 in more than 80% of cases, with a predominance of Arterial Hypertension (AH) and Diabetes Mellitus Type 2 (T2DM), presenting in 33.2% and 18.4% of patients respectively. In addition, they established a relationship between these comorbidities, especially HA, and the severity of COVID-19 [19]. In the current research, of the 174 individuals analyzed, only 38 had a previous diagnosis of some other health condition, the most observed were HA, with 5.7%, and T2DM, with 5.2% (Table 5). These data can be explained by the predominant age group of the study, because the more advanced the age, the higher the prevalence of comorbidities, and it was observed in the research prevalence of young people from 20 to 39 years.

Table 5: Previous diagnoses of patients diagnosed with COVID-19 treated at the Clínica Instituto de Diagnóstico e Prestação de Serviços Médicos, in the years 2020 to 2022, Belém-Pará.

Variable	Frequency	Percentage Diagnósticos Prévios
Diagnósticos Prévios		
Arterial Hypertension (AH)	10	5,7
T2DM	9	5,2
BPPV	4	2,3
Herpes Zoster	3	1,7
Meniere's Syndrome	3	1,7
Hypothyroidism	2	1,1
SLE	2	1,1
Sinusitis	2	1,1
Asthma	1	0,6
Dyslipidemia	1	0,6
Migraine	1	0,6

Note: The percentages are relative to the total number of patients (n=174).

When analyzing Table 6, it is inferred that there was a significant association between the date of diagnosis and the anosmia symptom (p<0.001), with a higher than expected number of patients with anosmia in the first year of the pandemic, 2020. There was also a significant association between the date of diagnosis and ageusia (p<0.001), where a higher frequency than expected was also observed in the first pandemic year. The mild rhinosinusitis symptom showed an association between the date of diagnosis and the presence or absence since (p<0.001),

where a lower frequency of this 11 symptom was detected in the years 2021 and 2022. Asthenia was more frequent in patients diagnosed after the first year of the pandemic (p<0.001). A significant association (p<0.001) was also detected between the period of diagnosis and the presence of pharyngitis, in which there was a lower and higher frequency than expected in the years 2020 and 2022 respectively. The symptom fever was more frequent among patients after the first year of the pandemic scenario, in 2021 and 2022 respectively 17.3% and 29.4% of patients reported fever, a proportion that was higher than expected at random (p<0.001). Headache was one of the symptoms that also showed a statistical association between the distribution of frequencies and the year of diagnosis (p=0.013), where there was a greater preponderance of this symptom in 2021.

Table 6: Relationship between year of diagnosis and symptoms of patients diagnosed with COVID19 treated at the Clínica Instituto de Diagnóstico e Prestação de Serviços Médicos, in the years 2020 to 2022, Belém-Pará.

Variable	2020 (n=105)	2021 (n=52)	2022 (n=17)	p-valor
Anosmia				<0,001
No	44 (41,9)*	44 (84,6)†	17 (100,0)†	
Yes	61 (58,1)†	8 (15,4)*	0 (0,0)*	
Ageusia				<0,001
No	45 (42,9)*	48 (92,3)†	17 (100,0)†	
Yes	60 (57,1)†	4 (7,7)*	0 (0,0)*	
Mild rhinosinusitis				<0,001
No	95 (90,5)†	34 (65,4)*	5 (29,4)*	
Yes	10 (9,5)*	18 (34,6)†	12 (70,6)†	
Cough				0,102
No	94 (89,5)	44 (84,6)	12 (70,6)	
Yes	11 (10,5)	8 (15,4)	5 (29,4)	
Dizziness				0,187
No	91 (86,7)	43 (82,7)	17 (100,0)	
Yes	14 (13,3)	9 (17,3)	0 (0,0)	
Asthenia				<0,001
No	104 (99,0)†	42 (80,8)*	12 (70,6)*	
Yes	1 (1,0)*	10 (19,2)†	5 (29,4)†	
Pharyngitis				<0,001
No	103 (98,1)†	45 (86,5)	11 (64,7)*	
Yes	2 (1,9)*	7 (13,5)	6 (35,3)†	
Fever				<0,001
No	104 (99,0)†	43 (82,7)*	12 (70,6)*	
Yes	1 (1,0)*	9 (17,3)†	5 (29,4)†	
Headache				0,013
No	101 (96,2)†	43 (82,7)*	16 (94,1)	
Yes	4 (3,8)*	9 (17,3)†	1 (5,9)	
Hypoacusis				0,423
No	97 (92,4)	47 (90,4)	17 (100,0)	
Yes	8 (7,6)	5 (9,6)	0 (0,0)	
Other				0,059
No	75 (71,4)	28 (53,8)	13 (76,5)	
Yes	30 (28,6)	24 (46,2)	4 (23,5)	

Note: The most frequent symptoms are listed. Categorical variables are displayed as n (%). The percentages are relative to the total of each column. In all cases, the chi-square test was used. *: this frequency was lower than what would be expected at random. †: This frequency was higher than expected.

The relationship between symptoms and different periods of diagnosis can be explained by the variations presented by SARS-CoV-2, the development of knowledge and tools to cope with the pandemic and vaccination. There were several waves of infection, with massive increases in the number of infected, which were influenced by the aforementioned factors. The various strains of the virus had different characteristics, some with higher transmissibility and others more fatal. The Alpha variant emerged in late 2020 and proved to be more fatal than the original strain of the SARSCoV-2 virus, while the Beta, also discovered in 2020, was shown to be 50% more transmissible, with both strains covered by vaccination. The Delta and Omicron variants emerged in 2021 and, despite immunization campaigns around the world, were responsible for high waves of infection and mortality, given that Delta was classified as a variant that causes severe disease while Omicron had a high rate of transmissibility. In addition to the characteristics of each variant of the virus, immunization played a strong role in reducing severe conditions and hospitalizations because of the disease, being observed throughout the planet the prevalence and greater severity of the disease in unvaccinated people.

It was possible to observe the existence of a significant association only between sex and the symptoms of the "others" group (p=0.005), in which manifestations such as deafness and vocal cord paresthesia are included. Among males, 53 (80.3%) had no other symptoms, and this proportion was higher (†) than expected; Of the 108 females, 45 (41.7%) also had no other symptoms, and this proportion was higher (†) than expected.

Table 7 shows the association between age group and reported symptoms. There was a significant association between age group and anosmia (p<0.001): of the 62 individuals aged 40 to 59 years, 44 (71%) did not have anosmia, and this proportion was higher than expected; Of the individuals aged between 60 and 79 years, 17 (89.5%) did not report anosmia, and this proportion was higher than expected by the statistical test (†); of the individuals aged 20 to 39 years, 55.3% had anosmia,

and this proportion was higher (†) than expected. There was also a significant association between age group and ageusia (p=0.002): of the individuals aged between 60 and 79 years, 94.7% 12 did not have ageusia, and this proportion was higher than expected by the statistical test; In the age group of 20 to 39 years, 49.4% reported ageusia, in a higher proportion than expected. There was a significant association between age group and hypoacusis (p<0.001): of the individuals aged 80 years or more, 100% had hypoacusis, and this proportion was higher (†) than expected. The data found are in line with the world literature on the subject, which demonstrate the higher prevalence of loss of smell and taste in the young population, while hearing loss is more prevalent in the older population.

When comparing the symptoms and the presence or absence of previous diagnoses for some other pathology, only an association was observed between the complaint of dizziness and the presence of some comorbidity (p=0.004). The other symptoms had no statistical correlation with the presence of a previous diagnosis.

Between anosmia and ageusia, there was a significant association (p<0.001): of the individuals without anosmia, 100 (95.2%) also did not present ageusia, and this proportion was higher (†) than expected; of the patients who reported anosmia, 59 (85.5%) had ageusia, and this proportion was higher (†) than expected (Table 8). In other words, the joint occurrence of anosmia and ageusia was significantly higher than expected by the statistical test.

Table 7: Relationship between anosmia and the presence of anosmia and ageusia of patients diagnosed with COVID-19 treated at the Clínica Instituto de Diagnóstico e Prestação de Serviços Médicos, in the years 2020 to 2022, Belém-Pará.

Variable	Without Anosmia (n=105)	With Anosmia (n=69)	p-value
Ageusia			<0,001
Without Ageusia	100 (95,2)†	10 (14,5)*	
with Ageusia	5 (4,8)*	59 (85,5)†	

Note: Categorical variables are displayed as n (%). The percentages are relative to the total of each column. The chi-square test was used. *: this frequency was lower than what would be expected at random. †: This frequency was higher than expected.

Table 8: Relationship between age group and symptoms of patients diagnosed with COVID-19 treated at the Clínica Instituto de Diagnóstico e Prestação de Serviços Médicos, in the years 2020 to 2022, Belém-Pará.

Variable	0 to 19 years (n=6)	20 to 39 years (n=85)	40 to 59 years (n=62)	60 to 79 years (n=19)	80 or more (n=2)	p-value
Anosmia						<0,001
No	4 (66,7)	38 (44,7)*	44 (71,0)†	17 (89,5)†	2 (100,0)	
Yes	2 (33,3)	47 (55,3)†	18 (29,0)*	2 (10,5)*	0 (0,0)	
Ageusia						0,002
No	3 (50,0)	43 (50,6)*	44 (71,0)	18 (94,7)†	2 (100,0)	
Yes	3 (50,0)	42 (49,4)†	18 (29,0)	1 (5,3)*	0 (0,0)	
Mild rhinosinusitis						0,190
No	6 (100,0)	66 (77,6)	43 (69,4)	17 (89,5)	2 (100,0)	
Yes	0 (0,0)	19 (22,4)	19 (30,6)	2 (10,5)	0 (0,0)	
Cough						0,490
No	4 (66,7)	75 (88,2)	54 (87,1)	15 (78,9)	2 (100,0)	
Yes	2 (33,3)	10 (11,8)	8 (12,9)	4 (21,1)	0 (0,0)	
Dizziness						0,063
No	6 (100,0)	79 (92,9)	50 (80,6)	14 (73,7)	2 (100,0)	
Yes	0 (0,0)	6 (7,1)	12 (19,4)	5 (26,3)	0 (0,0)	
Asthenia						0,721
No	6 (100,0)	75 (88,2)	58 (93,5)	17 (89,5)	2 (100,0)	
Yes	0 (0,0)	10 (11,8)	4 (6,5)	2 (10,5)	0 (0,0)	

Pharyngitis						0,301
No	6 (100,0)	78 (91,8)	58 (93,5)	15 (78,9)	2 (100,0)	
Yes	0 (0,0)	7 (8,2)	4 (6,5)	4 (21,1)	0 (0,0)	
Fever						0,729
No	6 (100,0)	78 (91,8)	57 (91,9)	16 (84,2)	2 (100,0)	
Yes	0 (0,0)	7 (8,2)	5 (8,1)	3 (15,8)	0 (0,0)	
Headache						0,558
No	6 (100,0)	80 (94,1)	56 (90,3)	16 (84,2)	2 (100,0)	
Yes	0 (0,0)	5 (5,9)	6 (9,7)	3 (15,8)	0 (0,0)	
Hypoacusis						<0,001
No	6 (100,0)	82 (96,5)	56 (90,3)	17 (89,5)	0 (0,0)*	
Yes	0 (0,0)	3 (3,5)	6 (9,7)	2 (10,5)	2 (100,0)†	
Other						0,722
No	5 (83,3)	59 (69,4)	40 (64,5)	11 (57,9)	1 (50,0)	
Yes	1 (16,7)	26 (30,6)	22 (35,5)	8 (42,1)	1 (50,0)	

Conclusion

Otorhinolaryngological symptoms played an important role in the clinical condition of patients with COVID-19, as they were present in most infected patients. Most of the patients consulted were females between 20 and 39 years old. In addition, they were diagnosed with the disease through the RT-PCR exam and in 2020, especially in the second semester. The most prevalent symptoms were ageusia and anosmia, with mainly simultaneous occurrence and with a strong statistical relationship to the age group of 20 to 39 years and to the year 2021 as the period of diagnosis of the disease. The most common comorbidities were AH e T2DM, but previous diagnoses showed no statistically significant correlations with symptoms. Finally, the analysis of this information emerges as a starting point for more studies involving the population of this locality, in order to contemplate, even more, the knowledge about the otorhinolaryngological symptoms caused by COVID-19.

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