



PREVALENCE AND PATTERN OF EAR, NOSE, AND THROAT MANIFESTATIONS AMONG HIV-POSITIVE PATIENTS: A CROSS-SECTIONAL STUDY

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Abstract:

HIV/AIDS is still a big problem in the 21st century. While new HIV cases have gone down in several areas, some regions continue to deal with a big burden of HIV. Many research reports indicate that between 70% and 90% of people living with HIV also suffer from ear, nose and throat (ENT) symptoms. A descriptive cross-sectional study was performed at a tertiary care hospital to determine the occurrence of ENT symptoms in HIV-positive patients at these clinics, taking into account their age, gender and CD4 cell count. The study population consisted of people who were eligible by convenience sampling, for a total of 200 patients. Data were collected using a set questionnaire and statistics were done with SPSS software version 20. Among 200 people with HIV, 68 (34%) had problems related to ENT infections. Children ages 0 to 9 showed the highest number of inflammatory bowel disease cases. Among all patients, ENT symptoms were more common for females (23.5%) than for males (10.5%). People with CD4 cells fewer than 200 cells lower per microliter showed more ENT symptoms (56.3%). About one-third of participants experienced problems with their ears, nose or throat. HIV healthcare providers must be aware of these symptoms in positive patients to assist with quick diagnosis and the right treatment.

Keywords: Methanol HIV/AIDS, Ear, Nose, and Throat (ENT) Manifestations, CD4 Count, Prevalence, Cross-Sectional Study

Introduction

HIV affects the body's immune system, weakening the cells that protect the body and lowering their function. When a helper T-cell is infected and destroyed by the virus, fending off bacterial infections becomes difficult. [1] Because these immune responses are compromised, people become more likely to get acquired immunodeficiency syndrome (AIDS) which may also show up as ear, nose and throat (ENT) problems. Commonly reported conditions of the ear and nose include oral candidiasis, enlarged lymph nodes, rhinosinusitis, allergic rhinitis, a bigger lymph node in the neck and hypertrophy in the adenoids and chronic suppurative otitis media among HIV-positive people. That's why this study focused on discovering the frequency of ENT issues in patients seen at specialized HIV clinics. Understanding this situation helps physicians and other healthcare workers recommend HIV testing to patients with complaints in the ear, nose



or throat. It is possible to develop special ENT screening approaches by relating commonly used laboratory markers for HIV to the conditions seen in these patients. [2]

Methods

Study Design and Duration

This was a descriptive, hospital-based cross-sectional study carried out from February to July 2023.

Study Setting

The research was done at a tertiary referral center that has the only Ear, Nose and Throat department in the region. The hospital operates three special HIV care clinics: the CTC, CCFCC and IDC and the study was carried out at these three clinics as well.

Study Population

All patients whose test results showed positive for HIV, whether adults or children, who attended either an HIV or an ENT clinic during the study period were invited to join the study.

Inclusion Criteria

Participants included all individuals confirmed HIV-positive who attended any of the HIV or ENT clinics during the study timeframe.

Exclusion Criteria

Patients or their caregivers who declined to participate were excluded from the study.

Variables

We focused our study on clinical ENT conditions such as adenoid hypertrophy, allergic rhinitis, cervical lymphadenopathy, chronic suppurative otitis media (CSOM), laryngitis, esophageal as well as oral candidiasis, otitis externa, rhinosinusitis, sensorineural hearing loss (SNHL) and tonsillitis. Looking at the data, the variable age, sex and CD4 cell count were considered independent of the disease category. [3]

Data Collection Tools and Methods

Researchers informed the people coming to the HIV clinics about the study and asked for their personal consent. Demographic data and information about medical history were collected with the help of a verified questionnaire. After that, the researcher checked the ears, nose and throat using a headlamp and an otoscope to find ENT conditions. When patients had nasal bleeding or a probable nasopharyngeal tumor, we used a fiberoptic nasolaryngoscope to examine them further in the ENT clinic. Each patient's findings at examination were noted together with details of their demographics and medical history. [4]

Results

There were 200 people in the study, of whom 55% were female and 45% were male. Participants were from a wide range of ages and the largest group fell between the ages of 20 and 29 (20%), the next largest between 40 and 49 (22.5%) and the third largest between 30 and



39 (17.5%). Under 10s were 5% of the total sample and those over 60 were 10%. It was found that one-third of the research population had ear, nose and throat problems. Among children and adults, the symptoms of ear, nose and throat conditions differed. 40% of children 0–9 years old had ENT symptoms, but 60% did not. Other age groups, 10–19 and 20–29 years, had a 32% and 25% incidence, respectively. About a third of people between 30 and 39 and just over forty percent of those between 40 and 49 in the study experienced ENT conditions. [5] ENT problems were most common among people aged 50– 59, representing 53% of cases, while those aged 60 and over reported 35%. There were more cases of ENT findings in males, as analyzed by sex: 43% of males versus 36% of females over all. All in all, more than a third (34%) of those studied had ENT symptoms, underlining the large problems these conditions cause for HIV-positive patients. This data shows that it is important to check the ears, nose and throat regularly in middle-aged and male patients, as it helps detect and handle problems early.

Table 1: Demographic Characteristics of Study Participants (N=200)

Characteristics	N (%)
Sex	
Male	90 (45)
Female	110 (55)
Age (Years)	
0–9	10 (5)
10–19	25 (12.5)
20–29	40 (20)
30–39	35 (17.5)
40–49	45 (22.5)
50–59	30 (15)
≥ 60	20 (10)

Table 2: ENT Manifestations According to Age Groups (N=200)

Age (Years)	Presence of ENT Manifestations	N (%)
0–9	Yes	4 (40)
	No	6 (60)
10–19	Yes	8 (32)
	No	17 (68)
20–29	Yes	10 (25)
	No	30 (75)
30–39	Yes	12 (34)
	No	23 (66)
40–49	Yes	18 (40)
	No	27 (60)
50–59	Yes	16 (53)
	No	14 (47)
≥60	Yes	7 (35)

	No	13 (65)
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Table 3: ENT Manifestations by Sex (N=200)

ENT Manifestation	Yes	No	Total
Sex			
Male	28	37	65
Female	40	95	135
Total	68	132	200

Figure 1: Study Participant Demographics, Characteristics of Study Participants (N = 200)



Figure 2: ENT Manifestations by Age Group, Prevalence of ENT Manifestations Across Different Age Groups (N = 200)

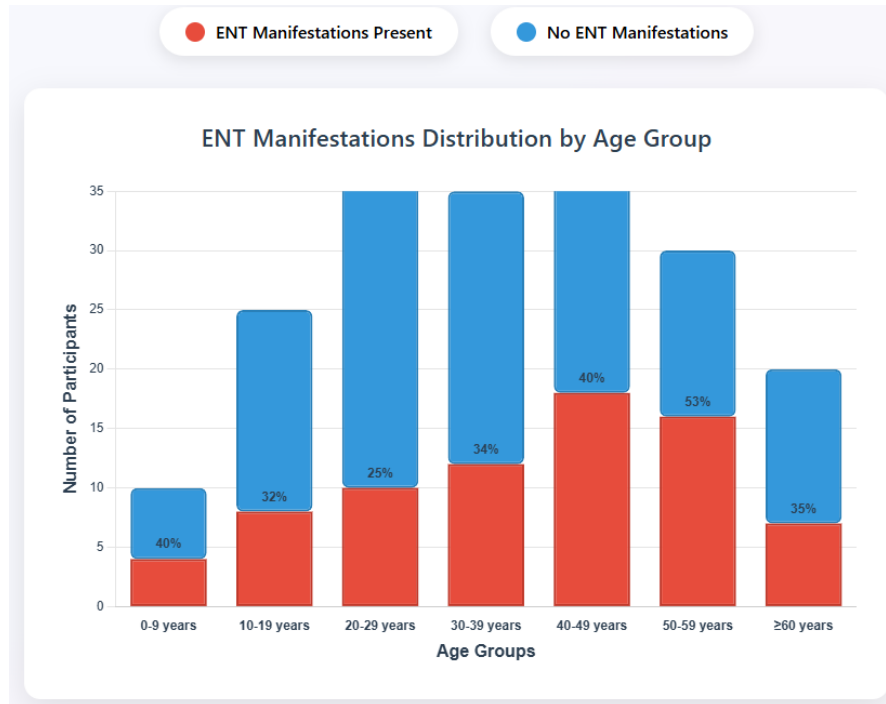
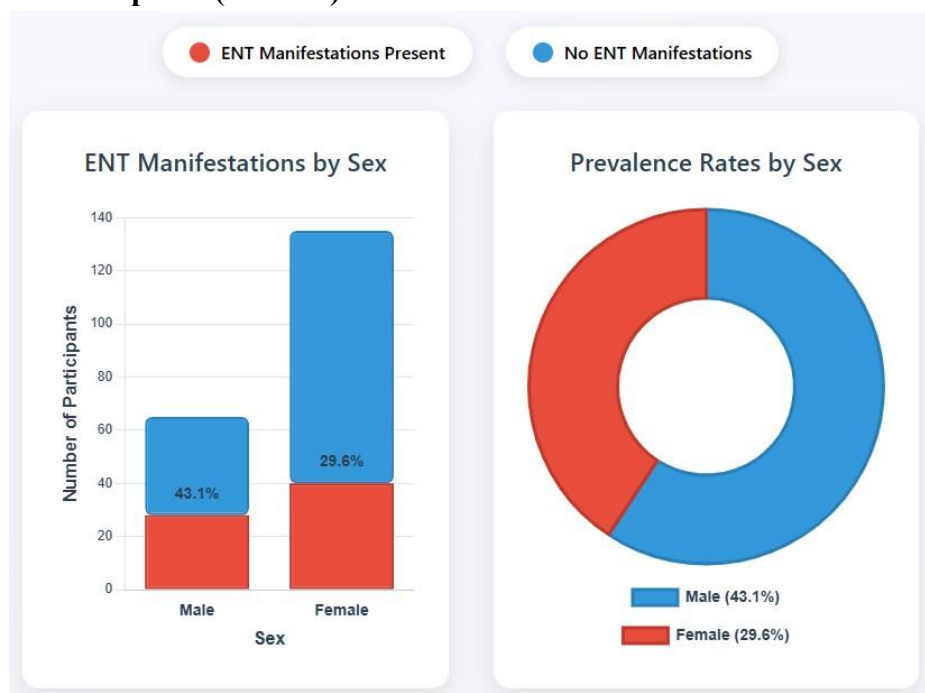


Figure 3: ENT Manifestations by Sex, Distribution of ENT Manifestations Between Male and Female Participants (N = 200)



Discussion

The rate of ENT disorders in the 200 participants in our study was 34%, similar to the 34.1% reported previously by a hospital-based study. Still, the percentage found in my study is much lower than the 61.8% reported in a prior study with a sample of just 98 respondents. The reason for this difference could be the variation in sample numbers and study places. [6] A study carried out in 2006 in another region with 968 HIV-positive patients found that 79% had ENT



symptoms. Because many patients were not yet getting HAART back then, their CD4 cells were generally low, meaning there were more cases of ENT diseases. [7] We also found that patients with low CD4 counts have more ear, nose and throat problems. Among patients involved in the current study, half of those aged 0 to 9 years developed ENT problems and the lowest percentage, 23.1%, was seen in patients 20 to 29 years old. In this study, the hospital-based group found that the largest number of cases were reported in the 20–29 age group and the smallest in the 50–59 group. These differences may be explained by a difference in how participants are grouped. [8-9] Although female participants experienced ENT problems more frequently, there was no significant difference by sex. Unlike other studies, we saw similar numbers of males and females even though the numbers were close. Enabling women and differences in going to see a doctor may explain why more women are included in our sample than men. We found that a drop in ENT disease went with an increase in CD4 counts just as in earlier studies. [10-11] When the CD4 cell count falls, a person becomes more vulnerable to infections and a few ENT infections might be considered in the staging systems for HIV. Although the research pointed out typical ENT problems, it was limited by its small sample and short duration. Also, because the study occurred at a large hospital, not all the milder ENT cases seen elsewhere were counted.

Conclusion

34% of the 200 HIV-positive patients studied had symptoms affecting the ear, nose or throat. These symptoms did not directly trouble the participants, but were found by using a screening tool. From our results, it appears that low levels of CD4 increase the likelihood of ENT problems. We therefore advise that all patients in HIV care clinics have regular screenings for ENT problems, with a particular focus on those with low CD4 cell counts

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