International Journal of Otorhinolaryngology
2018; 4(2): 46-50
http://www.sciencepublishinggroup.com/j/ijo
doi: 10.11648/j.ijo.20180402.13
ISSN: 2472-2405 (Print); ISSN: 2472-2413 (Online)

Ear Nose and Throat Diseases among HIV Infected Patients at Fepsi Hospital in Butembo, Democratic Republic of the Congo

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To cite this article:

Franck Katembo Sikakulya, Joel Kambale Ketha, Michel Kalongo Ilumbulumbu, Olivier Mumbere Mulisya, Gabriel Kambale Bunduki, Richard Byaruhanga, Moise Muhindo Valimungighe. Ear Nose and Throat Diseases among HIV Infected Patients at Fepsi Hospital in Butembo, Democratic Republic of the Congo. *International Journal of Otorhinolaryngology*. Vol. 4, No. 2, 2018, pp. 46-50.
doi: 10.11648/j.ijo.20180402.13

Received: August 21, 2018; **Accepted**: September 6, 2018; **Published**: October 12, 2018

Abstract: Background: Ear, Nose and Throat (ENT) diseases are recognized as common early presentations of HIV infection. Despite the large number of HIV infected patients worldwide, information regarding Ear Nose and Throat diseases among HIV infected patients is very limited; Objective of this survey was to determine the incidence of Ear Nose and Throat diseases among HIV infected patients at FEPSI hospital in Butembo. Methods: This was a retrospective study carried out from 1stJanuary 2017to 31stDecember2017 at FEPSI Hospital which is one of the referral hospitals involved in the management of HIV infected patients in Butembo, Eastern of the Democratic Republic of the Congo. Results: The incidence of Ear Nose and Throat diseases among HIV infected patients was found to be 8.7% (25/288). Acute Rhinitis was the most frequent Ear Nose and Throat disease in our survey with 60%; Female were more affected than male with a ratio of 1.08; The age range 21- 40 and 41-60 were the most affected with 36.0% each; Housewives were more affected with 44.0%; married patients were more affected with 64.0%. Rhinorrhea was the most Ear Nose and Throat manifestation in our survey with 60%. Conclusion: Ear Nose and Throat diseases remain a big problem for HIV infected patient in Butembo city, eastern of DR of the Congo. It is important for otolaryngologists or all physicians to be aware of Ear Nose and Throat diseases, so early diagnosis and timely intervention to be instituted to improve survival rates.

Keywords: Ear, Nose, Throat, Diseases, HIV, Butembo

1. Introduction

Opportunistic infections are the most complication of human immunodeficiency virus (HIV) infection. HIV infection is a worldwide problem, with an approximated of 42 million people infected among adults worldwide, two thirds of them live in sub-Saharan Africa; 47% of cases are females and an estimated of 1.3 million children less than 15 years of age [1]. The Ear, Nose and Throat (ENT) diseases among HIV infected patients are more frequent and preoccupy ENT specialists, physicians and other health professionals even if HIV infected patients can live a life

with considerable quality in relation to Ear Nose and Throat health [2].

Ear Nose and Throat diseases are recognized as common early presentations of HIV infection. Among HIV-infected patients, 80 - 100% will present Ear Nose and Throat diseases during the course of their disease [3]. Human Immunodeficiency Virus (HIV) remains a global pandemic, particularly in sub-Saharan countries in Africa, Southeast Asia, and Latin America. HIV compromises the immune system, and renders the infected person susceptible to develop opportunistic diseases [4].

Various studies reported varied prevalences of Ear Nose and Throat diseases from HIV infected patients in different countries. Diseases of the Ear Nose and Throat region in HIV infected patients involve all Ear Nose and Throat sites, in USA where doctors are well informed 40% of patients with HIV gad head and neck diseases, however as awareness increased, with early detection of infection processes, better follow-up and advanced diagnostic techniques it has been proven that about 80% of patients with HIV develop head and neck diseases [6-9]. In Asia, especially in Iran, Approximately 61% of study participants presented at least one ENT diseases during the survey conducted by Jafari *et al.*[3]. Another survey reported that in Three hundred one patients who participated, One hundred ninety seven (197) or 65.4% had Ear Nose and Throat diseases in Manila in Philippines [10]. In another survey done by Campanini *et al.* in ITALY it was found that the use of antiretroviral drugs has Ear Nose and Throat diseases from 79% to 27% [9].

A total of 153 HIV infected patients have presented ENT diseases in a study which was done at Steve Biko Academic Hospital in Pretoria, South Africa [11]. Sulyman AB *et al.* in their study reported that 74 out of the 89 HIV patients (82.8%) had Ear Nose and Throat diseases in a Nigerian Tertiary Health Institution [12]. In a survey that had been led in Ear Nose and Throat service of Brazzaville teaching hospital reported that Ear Nose and Throat diseases from patients infected by HIV has a global prevalence of 19%; in Mali 65 cases in 3 years were recorded and 21 cases in 11 years in Benin [13].

In Democratic Republic of the Congo, little is known about Ear Nose and Throat diseases among HIV infected patients. One survey carried out in Ear Nose and Throat department in Kinshasa reported that 52 HIV infected patients have presented Ear Nose and Throat diseases [2].

The Ear Nose and Throat diseases are varied and polymorphous. They only have little impact, or even not of the all on the general evolution of the illness, but they are however a source of supplementary discomfort for patient. Insofar as they can be inaugural, they constitute a point of call to the consultation and drive enough frequently to track down the infection.

Therefore, the objective of this survey was to determine the incidence of Ear Nose and Throat diseases from HIV infected patients at FEPSI hospital in Butembo, D. R. of the Congo. Furthermore the survey will enable health workers to be aware of signs of HIV infection including these diseases early enough and timely intervention to improve survival rates of HIV infected patients in a Middle Eastern Environment of the Democratic Republic of the Congo

2. Methods

This was a retrospective study conducted over a period of one year either from 1st January 2017 to 31st December 2017 at FEPSI Hospital which is one of the main referral hospitals managing HIV infected patients in Butembo, Eastern DRC.

FEPSI hospital is located in Butembo health Zone which is one of two health zones in Butembo health district in Eastern part of the Democratic Republic of the Congo.

It was an exhaustive sample including all HIV infected patients who had presented Ear Nose and Throat diseases on consultation and whose health files were found and well filled. Thus, twenty five patients of all age groups and both sexes, who consulted for Ear Nose and Throat diseases with HIV infection declared or determined positive based on the positivity from serum testing and declared positive on three rapid tests (Determine, Double check and Unigold). Patients with immunosuppressive disorders like diabetes, malignancy and immunosuppressive treatment were excluded from our study.

The following data were analyzed: socio-demographics (sex; age; profession; civilian state); clinical (duration of HIV infection; ENT manifestations; others associated manifestations) and different Ear Nose and Throat diseases.

The findings obtained were processed and analyzed using Epi-Info software, version 3.5.4, Microsoft word 2007 and Excel 2007.

Respect for anonymity in collecting information about patients made our survey exempt from any ethical issue.

The research protocol was approved by the administrative officers of FEPSI Hospital.

3. Results

During our survey about Ear Nose and Throat Diseases among HIV Infected Patients carried out from 1st January 2017 to 31st December 2017 at FEPSI Hospital, we found among 288 HIV infected patients who are currently followed up at FEPSI Hospital, 25patients presented Ear Nose and Throat diseases, which is 8.7%.

3.1. Socio-demographics Characteristics of ENT Diseases from HIV Infected Patients

Female were more affected than males with a ratio of 1.08; The age range 21- 40and 41-60 were the most affected with 36.0% each; Housewife was the most concerned with 44.0%; married were more affected with 16 patients(64.0%)(table 2).

3.2. Clinical Characteristics of ENT Diseases from HIV Infected Patients

Duration of HIV infection less than 5 years had presented Ear Nose and Throat diseases at a high frequency of 72.0%.

Rhinorrhea was the most ENT manifestation in our survey with 60% of cases (table 3). Acute Rhinitis was the most Ear Nose and Throat disease in our survey with 60% followed by Otitis Media with effusion and Oro-Pharyngeal Candidiasis with 16.0% each and Otitis external with 8.0% (table 1).

Table 1. *Distribution of ENT diseases from HIV infected Patients.*

ENT Conditions	Effective	Percent
Acute Rhinitis	15	60.0
Otitis Media with effusion	4	16.0
Oro-Pharyngeal Candidiasis	4	16.0
External Otitis	2	8.0

Table 2. *Socio-demographics Characteristics among HIV infected Patients with ENT diseases.*

Variables	Effective	Percent
Sex		
Female	13	52.0
Male	12	48.0
Age range (in year)		
≤20	4	16.0
21 - 40	9	36.0
41 - 60	9	36.0
61 - 80	3	12.0
Profession		
Housewife	11	44.0
Farmer	9	36.0
Students	2	8.0
Engineer	2	8.0
Trader/shopkeeper	1	4.0
Marital state		
Married	16	64.0
Single/Unmarried	9	36.0

Table 3. *Clinical characteristics of ENT diseases from HIV infected Patients.*

Clinical characteristics	Effective	Percent
Duration of HIV infection(year)		
Less than 5	18	72.0
6 - 10	5	20.0
11 - 15	2	8.0
ENT manifestations		
Rhinorrhea	15	60.0
Dysphagia	4	16.0
Otorrhea	4	16.0
Otalgia	2	8.0

4. Discussion

During our survey about Ear Nose and Throat Diseases among HIV Infected Patients carried out from 1st January 2017 to 31st December 2017 at FEPSI Hospital, among 288 HIV infected patients, 25 patients had presented Ear Nose and Throat diseases i.e. an incidence of 8.7%. Our result is higher than the one found by MOHAMED AG *et al*. in Mali with an incidence of 2.7% during a survey of three months [14]. The difference in these results can be explained by the period of survey which was different one another. Our survey was done during one year but for MOHAMES et al. was done in a period of three months which can explain the difference between the incidences found during the studies. Our result was less than various incidences in many studies such as the one of MARUSANN and SOY [15], in their study of 399 HIV infected patients who found that 165 (41%) had diseases related to Ear Nose and Throat region. WILLIAMS [16], in his study of 50 HIV infected patients in pediatric clinic, reported Ear Nose and Throat Diseases to occur in more than 80% of patients. CHANDRA PRASAD et al presented an incidence of 79% among 968 HIV infected patients [17]. The result found by NDJOLO A *et al.* in their survey with an incidence of 11.5 % [18]. These studies were done during a long period of survey which can explain the difference between these results.

From the table 1, Acute Rhinitis was the most disease in our survey with an incidence of 60% followed by otitis Media with effusion and Oro-Pharyngeal Candidiasis with16.0% each. This result is similar to the one found by Rubin JS and R. Honigsberg in their study where by Rhino-sinusitis was common in HIV-infected patients with prevalence reported between 20% and 68%[19]. Our result is different from the one found in a survey done in Cameroon in which pharyngeal and oral candidiasis were the most observed diseases for HIV infected patients with 30.6% followed by peripheral facial paralysis with 11.13% and rhino sinusitis with 10.58% [18]. For Mpessa E. M. *et al.* in their survey about ENT manifestations in patients living with HIV / AIDS in Douala City, Buccopharyngeal manifestations were most common (20%). Otological impairment accounted for 29% of ENT events while cervical lymphadenopathy accounted for 7.5% of events. [20].

From the table 2, it's noticed that there is a small difference about sex between female (13=52%) and male (12=48.0) sex ratio of 1.08. This result is similar to the one found by TSHIFULARO M *et al.* [12]in their survey Otolaryngological and head and neck manifestations in HIV-infected patients seen at Steve Biko Academic Hospital in Pretoria (South Africa) whereby the female were more affected with ENT diseases associate to HIV either male (41.18%;n=63) to female (58.82%;n=90) ratio of 1.43. Our result is also similar to the one found by Mpessa E. M. *et al*. in their survey about ENT manifestations in patients living with HIV / AIDS in Douala City whereby female patients were 72.5% affected than male with an sex ration of 2,6 [20]. That predominance is due to the fragility of their anatomy and this predominance can be explain by the fact that in Africa women are highly interesting in taking care of their health bodies than men and they can be detected or diagnosis HIV positive during their checkup they do when they are pregnant.

The age ranges of 21- 40 and 41-60 were more affected with 36.0% each. This result is not different to the one found by KAZEEM SA *et al*. in their survey with an average of age range 21-40 years (59.6%) [12], it is also similar to the result of Mpessa E. M. *et al*. in their survey about ENT manifestations in patients living with HIV / AIDS in Douala City whereby the age groups from 17 to 57 represented 83.5%

of the population [20]. Housewives were more affected with 44.0%followed by farmer with 36.0%. Our result is different to the one done by Kazeem *et al.[*12]and Vodouhe *et al.*[21]who shown in their studies that majority of the patients were self employed involved in trading. In our survey is shown that married were the mostly affected with 16 patients to 26 infected either 64.0% which is similar to the result found by Kazeem SA *et al.[*12] who showed that married were more affected among respondents in their survey. Married can get a high prevalence in the fact that they usually do the check up of their bodies when they want to get married and when women are pregnant and doctors do the tests of HIV in the same case but unmarried are afraid of the HIV test which can explain the reduction of their prevalence in our survey especially in under developing countries where we are living.

According to the table 3, the patients with history of HIV infection for less than five years had presented Ear Nose and Throat diseases at a high frequency of 72.0%. Our result is similar to the one found by Kazeem SA. *et al.* who found the duration ranged from 1week to 13 years with the average duration of less than 2 years for them 68 patients either a frequency of 76.4% of the respondents have commenced on antiretroviral drugs[12]. This frequency can be explain in our study by the fact that recently patients diagnosed HIV positive present the co-infections higher than the ones who were diagnosed HIV positive a long time ago and who could be on ARVs and septrin with an improvement of their status.

In the same table, Rhinorrhea was the most common Ear Nose and Throat manifestation in our survey with a frequency of 60%. This result is similar to the one found by Kazeem SA. *et al.* with nasal symptoms in 58 (65.2%) who had recurrent nasal discharge (catarrh) [12]. Our result is different from the one found by Mpessa E. M. et al in their survey about ENT manifestations in patients living with HIV / AIDS in Douala City, for them Rhinological involvement accounted for only 1% of ENT in their series [20].

Although the Ear Nose and Throat diseases from HIV infected patients are certainly higher than in none HIV infected patients, not all of them could be completely attributed to the HIV seropositiveness. It is known that HIV infections are generally symptomless and once co-infection is established this figure changes dramatically.

5. Conclusion

Ear Nose and Throat diseases remain a big problem for HIV infected patient in Butembo city in eastern of Democratic Republic of the Congo regardless of age, sex, marital state and profession. To keep tracking those Ear Nose and Throat diseases by physicians is important for all HIV infected patient who consult at a hospital to reduce their incidence around to zero in our area. The presence of a specialist in Ear Nose and Throat or an otolaryngologist in under developing countries and especially in a middle eastern environment of the Democratic Republic of the Congo might be a resolution in diagnosis of these diseases and their good management on purpose to better improve the life of HIV infected patients in our area.

Conflicts of Interest

Authors have declared that there is no conflict of interest.

Acknowledgements

Authors would like to thank FEPSI hospital for the acceptance of collecting data at their Hospital.

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