Profile of respiratory diseases of hospitalized patients at the pneumology unit of Jamot Hospital, Yaounde.

Bitchong Ekono Claire Francoise [1*], Azoumbou Méfant Thérèse [1], Ze Jean Jacques [2], Mballa Amougou Jean Claude [1], Massongo Massongo [3], Awana Armel Philippe[3], Whegang Titnkheu Solange [4] Kembou Fankam Danièle Flore [1], Nga Komo Marie Elisabeth [3], Olinga Medjo Ubald [3], Idrissou Bouba [3], Afane Ze Emmanuel [2].

1 *Faculty of Medecine and Pharmaceutical Sciences, University of Douala, Douala, Cameroon.*
2 *Faculty of Medecine and Biomedical Sciences, University of Yaounde, Yaoundé, Cameroon.*
3 *Jamot Hospital of Yaounde, Yaounde, Cameroon*
4 *University of Yaounde I, Yaoundé, Cameroon.*

Abstract

Background: Respiratory diseases include very diverse conditions, acute or chronic changes, difficult to classify and evaluate. The impact of respiratory disease on global health is important. With smoking, continued exposure to high levels of air pollution and the burden of infectious respiratory diseases, the number of people affected by respiratory diseases will continue to increase. **Aim and objectives**: The purpose of this work was to establish the profile of respiratory conditions of hospitalized patients at Jamot Hospital in Yaoundé. **Materials and methods**: We carried out a cross sectional study from February 1st, 2018 to May 31st, 2018 (4 months), concerning patients hospitalized for respiratory conditions confirmed or treated as such in the pneumology departments of the Jamot Hospital of Yaounde. This was a consecutive, non-probability sample that included patients of both sexes, at least 18 years of age. Non-consenting patients were excluded. The data were recorded on a survey sheet containing sociodemographic data, patient history, selected diagnosis, and outcome of patients in hospital. **Results**: The study population consisted of 209 patients, 57.42% were men; given us a sex ratio of 120:89. The average age was 48.59 ± 18.46 years and the extremes were 18 and 91 years old. The most represented age group was 35-44 years old. The most common antecedents were alcohol consumption (65.55%), HIV infection (45.87%), smoking (36.36%) and tuberculosis (13.40%). Infectious respiratory diseases (86.60%), tuberculosis (47.36%) and acute community-acquired pneumonia (28.23%) were most found. Neoplasias (7.17%) accounted for the largest proportion of non-infectious conditions. The evolution was favorable at 66.98%, with a mortality rate of 19.61%. **Conclusion:** Alcohol use was the most common risk factors. Respiratory diseases were dominated by infectious diseases (tuberculosis)

Keywords: Respiratory conditions, hospitalized patients, HJY.

INTRODUCTION

Respiratory diseases affect the upper and lower airways. These are acute, sub-acute or chronic conditions [1]. The impact of respiratory disease on global health is important [2]. The number of people affected by respiratory illness will continue to increase [3]. With smoking, continue exposure to high levels of air pollution and the burden of infectious respiratory diseases. Chronic respiratory diseases affect more than one billion people worldwide [4]. Overall estimations of asthma suggest that 334 million people have asthma [5]. A prevalence of 251 million cases of Chronic Obstructive Pulmonary Disease (COPD) is reported worldwide [1]. In 2016, 10.4 million people developed tuberculosis (TB) [1]. In Africa, community acquired pneumonia (CAP) is one of the most common reasons for adults admission to hospital; one in ten people die from this infection [6]. Respiratory infections cause more than 4 million deaths each year, particularly in developing countries [7]. Lung cancer is at the top of cancer mortality statistics in many countries [8]. In Cameroon, very few studies have focused on the profile of respiratory diseases. The purpose of this work was to establish the profile of respiratory conditions of hospitalized patients at Jamot Hospital in Yaoundé.

PATIENTS AND METHODS

It was a prospective cross-sectional and descriptive study conducted at Jamot Hospital in Yaoundé (HJY) from February 1st, 2018 to May 31st, 2018 (4 months).

*Corresponding author:
Bitchong Ekono Claire Francoise
Faculty of Medecine and Pharmaceutical Sciences, University of Douala, Douala, Cameroon.
Email: ekonoclaire@yahoo.fr

Study Population

The study was conducted in patients of both sexes, at least 18 years old, hospitalized in the pulmonology department for a confirmed or treated respiratory condition. Non-consenting patients were excluded.

Procedure

This was a consecutive and non-probability sampling. The data was recorded on a survey sheet and included the sociodemographic data of the patients (sex, age, occupation, marital status); and medical history of patients (high blood pressure, diabetes, heart disease, respiratory disease, alcohol and tobacco consumption, HIV serology). The clinical approach (the consultation time, the diagnosis retained and the outcome of patients during hospitalization).

Statistical Analysis

The data was captured and analyzed using Epi Info version 7.0 and Excel version 2016. Quantitative variables were expressed as means and standard or median deviation and interquartile range. Qualitative variables were expressed in numbers and percentage.

Ethical Considerations

Our results were confidential and used for a strictly scientific purpose.

RESULTS

Sociodemographic Characteristics.

The study population consisted of 209 patients, including 120 men (57.42%) and 89 women (42.58%), with a sex ratio of 120:89; the proportion test allowed us to determine that the difference between the sexes was not statistically significant (p = 0.05). The average age was 48.59 ± 18.46 years and the extremes were 18 and 91 years old. The most represented age group was 35-44 years, the distribution of patients by age group is shown in Figure 1. The majority of patients were in couples (44.50%). Non-wage earners engaged in small jobs (36.36%), patients in school, housewives and the unemployed (31.57%). Other socio-demographic data are shown in Table 1.

Clinic

The most prevalent antecedents were alcohol consumption (65.55%), HIV infection (45.87%), tobacco use (36.36%), history of TB (13.40%), and HTA (9.57%) (Table 2)

The mean duration of disease progression before consultation was 7.29 ± 8.46 weeks, with the extremes of 2 days and 56 weeks.

The infectious respiratory pathologies were majority (86,60%), first of which tuberculosis (47,37%), the CAP (28,23%). As for non-infectious diseases, neoplasias (7.18%) were dominated by bronchopulmonary cancer (2.39%), Kaposi's disease (1.91%) and lymphoma (1.43%). Other conditions were exacerbations of asthma (2.87%), exacerbations of chronic obstructive pulmonary disease (1.91%), bronchial dilatation (0.96%) and pulmonary embolism (0.47%). (Table 3)

The average hospitalization time for pathology ranged from 10 days in pulmonary embolism to 49 days in bronchopulmonary cancer.

Evolution

The evolution was favorable for 66.98% of the population. We have a mortality rate of 19.62% (Table 4).

DISCUSSION

Sociodemographic Characteristics

Our inclusion criteria allowed us to enroll 209 patients for 4 months. The male sex was more represented with a sex ratio of 120:89. But the statistical tests did not show any difference in the gender. This male predominance is also apparent in many studies of respiratory diseases in Africa [9, 10,]. The average age was 48.59 and the extremes of 18 and 91, the age group 35-44 was the most common.

Clinic

Alcohol consumption was the most common antecedent (manufactured or traditionally manufactured alcoholic beverages). Although the effects of alcohol on the lungs are not clearly understood, its chronic consumption leads to an alteration of the immune response (decrease in macrophage response and phagocytosis) and the development of an inflammatory reaction (cytokines pro-inflammatory). Alcohol is a risk factor independent of PAC and a factor of poor prognosis [11]. According to Chouaid there is no difference in etiologies between alcoholic patients and the general population [12]

In our series of patients with respiratory pathology, HIV co-infection was found in 45.87% of them; while the prevalence of HIV in Cameroon in the general population in 2016, was estimated at 3.9% by WHO [13]. This result confirms that the involvement of the respiratory system is one of the most frequent in the course of HIV. Smoking is a risk factor for respiratory diseases and according to Crothers, smoking in HIV is associated with an increase in respiratory symptoms, bacterial pneumonia and mortality, and a lower quality of life [14]. Smoking was found in 36.36% of our patients.

The average duration of disease progression was 7.29 ± 8.46 weeks, with the extremes of 2 days and 56 weeks. This relatively long delay is due to beliefs and taboos that explain the importance of traditional medicine, the first resort for patients in Africa [15]. Due to the inaccessibility of specialized health facilities and the impoverishment of our patients, Jamot Hospital Yaounde is the only specialized center for respiratory diseases for the city of Yaounde and its surroundings.

The diagnosis was based on the clinical presentation and the paraclinical assessment.

In our study, the most frequently encountered respiratory diseases were infectious diseases 86.60% of cases (tuberculous, and non-tuberculous). These results could be a consequence of the low socio-economic level and the unfavorable living conditions of our context that predispose to infections, but also to the high proportion of patients infected with HIV. Indeed, according to Pontier al. HIV-infected patients are more likely to have infections, including respiratory infections (25 times higher than the general population) [16]

Among the infectious diseases of our series, tuberculosis was more frequent. This can be explained by the high prevalence of HIV and the state of immunodepression that entails this status, which promotes the occurrence of this pathology. CAPs came second in infectious diseases; despite this high proportion of HIV subjects, opportunistic infections were poorly represented. The availability of antiretroviral therapy has reduced the number of opportunistic infections and increased the number of community-acquired pneumonia in HIV [16].

The listed tumor pathologies were dominated by PBC, disseminated Kaposi's disease and lymphoma. It is difficult to establish a link between lung cancer and HIV / AIDS infection, smoking intoxication is an important confounding factor; however, lung cancers are more common in HIV + patients [17].

The link between HIV and tumor pathologies is better identified, indeed, Frish has established a strong relationship for Hodgkin's disease, testicular cancer, and lip cancer [18].

Exacerbations of COPD were infrequent although smokers in our series accounted for about one-third of the study population. Partial data estimate the prevalence of COPD in Cameroon at 2.4% and that of smoking between 5.4% and 8.4% [19]

Evolution

The favorable clinical course consisted of an improvement of the general state and a regression or even a disappearance of the clinical and paraclinical signs present at the admission of the patients.

The evolution was mostly favorable 66.98%. We referred 2.39% to specialized units, mainly for neoplasias. We registered 11% of patients that left against medical advise for various reasons (lack of financial means, desire to go back home…) The number of deaths was 41 (19.62%). It would be difficult to attribute this high death rate to the high proportion of HIV + patients, indeed Feldman showed that during CAPs HIV patients had a death rate comparable to non-HIV [20]

CONCLUSION

- Alcohol use, HIV infection, and smoking were the most common risk factors

- Respiratory diseases were dominated by infectious diseases (tuberculosis, CAP),

- Diseases related to tobacoo smoking were less frequent.

Conflicts of Interests

The authors declare no conflict of interest.

What Is Known About This Subject?

- Tabagism is the principal risk factor of respiratory diseases, especially chronic

- Tuberculosis is more frequent in sub Saharan Africa

What New Thing Does Your Study Bring About?

- The most prevalent antecedents was alcohol consumption (65.55%).

- Patients with antecedent of tuberculosis were few in number (13.40%).

Authors Contributions

Design of the Study: Bitchong Ekono, Azoumbou Méfant, Jean Jacques Ze, Mballa Amougou, Massongo Massongo, Nga Komo, Awana Armel Philippe, Olinga Medjo, Idrissou Bouba, Afane Ze. **Data Collection and Analysis:** Bitchong Ekono, Whegang Titnkheu, Kembou Fankam. **Writing of the Manuscript:** Bitchong Ekono, Azoumbou Méfant, Ze, Mballa Amougou, Massongo Massongo, Nga Komo, Olinga Medjo, Awana Armel Philippe, Idrissou Bouba**. Revision of the manuscript:** Afane Ze.

Funding

There was no funding received by the authors to carry out this study.

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Tables and Figures
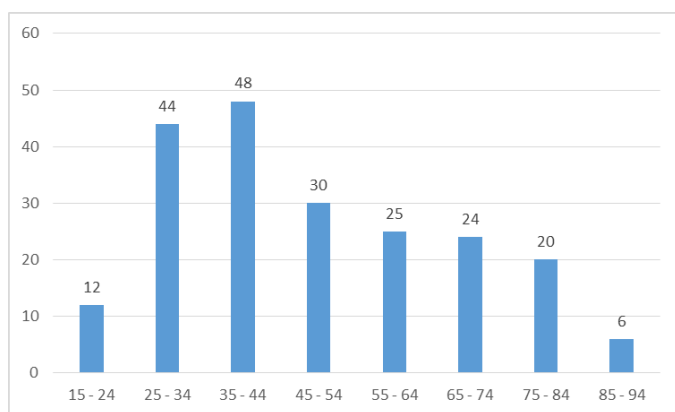
Figure 1. Distribution of patients by age group.

Table 1. Sociodemographic characteristics

	Number n=209	Percentage (%)
Sex		
Female	89	42,58
Male	120	57,42
Sex- ratio	1,34	
Age (years)		
Mean age ± DS	48,59 ±18,46	
Extreme age	18 et 91	
Marital status		
Single	89	42,58
In Relationship	93	44,50
Divorced	1	0,05
widower/widow	26	12,44

Table 2. Distribution of patients according to their antecedents.

	Nmber N= 209	Percentage (%)
Alcohol consumption	137	65,55
HIV infection	89	42,58
Tobacco	76	36,36
History of tuberculosis	33	15,78
Hypertension	20	9,57
Asthma	11	5,26

Diabetis	10	4,78
Heart disease	4	1,91
COPD	4	1,91

Table 3. Distribution of respiratory diseases according to etiologies.

	Number n= 209	Percentage (%)
Infectious diseases	181	86,60
Tuberculous diseases	99	47,37
CAP	59	28,23
Pleural pathology	15	7,18
Superinfection of TB sequelae	6	2,87
Nosocomial pneumonia	2	0,96
Neoplasia	15	7,18
Primary bronchial cancer	5	2,39
Disseminated kaposi sarcoma	4	1,91
Lymphoma	3	1,43
Pulmonary metastasis of a Pre-existing tumor	2	0,96h
Pleural metastasis of a PBC	1	0,47
Other's pathology		6,22
Exacerbation of asthma	6	2,87
Exacerbation of COPD	4	1,91
Bronchiectasis	2	0,96
Pulmonary embolism	1	0,47

Table 4. Become of patients.

Characteristics	Number n=209	Percentage (%)
Good	140	66,98
Referred	5	2,39
exit against medical opinion	23	11,00
Deceased	41	19,62