Evolution of the Cure Rate of Pulmonary Tuberculosis in Mbujimayi Case of the General Reference Hospital (HGR) Franciscan Sisters of Lukelenge, Democratic Republic of the Congo

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Abstract

A retrospective and descriptive cross-sectional study of tuberculosis patients treated at the General Reference Hospital (HGR) Franciscan Sisters of Lukelenge was carried out for the evolution of the healing rate of pulmonary tuberculosis over a period from 2010 to 2014. The cure rate varied from year to year; overall, this rate was 80.2%. It was 73.9% in 2010, 80% in 2011, 84.2% in 2012, 82.8% in 2013 and 80% in 2014. The male sex was the most affected with 58.5%. 72.6% of cases were secondary level, 84.5% of cases had received treatment for 6 months.

Subject Areas

Public Health

Keywords

Evolution, Tuberculosis, Spleen

1. Introduction

Health is a right for everyone everywhere, it is defined by the World Health Or-

ganization as a state of complete physical, mental and social [1]. Unfortunately, however, it is threatened by many factors among which is the tuberculosis which is one of the deadliest diseases caused by an infectious agent in the world; it is in the second position just after HIV/AIDS [2].

According to the global report of the World Health Organization [3], 9 million people developed tuberculosis and 1.5 million died from it. More than 95% of deaths by tuberculosis occur in low- and middle-income countries, and the disease is one of the five leading causes of death among women aged 15 to 44 [3]. The problem of tuberculosis is not due to a lack of means to detect cases and cure the sick. In 1995, the WHO proposed "the strategy DOTS" (Directly Observed Treatment Short Course) which aims to detect more than 70% of subjects bacteria and cure up to 85%. This strategy should result in reducing the incidence (prevalence) of the disease worldwide [4].

The tuberculosis mortality rate fell by 45% between 1990 and 2013. Nearly 37 million lives were saved between 2000 and 2013 thanks to the diagnosis and treatment of tuberculosis [3]. This study carried out at the General Reference Hospital of the Franciscan Sisters of Lukelenge (City of Mbujimayi) aims to describe the evolution of the cure rate of pulmonary tuberculosis over a period from 2010 to 2014.

2. Materials and Methods

The data for this study were collected from March 1 to June 30, 2015 in a large hospital at the General Reference Hospital (HGR) Franciscan Sisters of Lukelenge Health structure in the city of Mbujimayi (Democratic Republic of the Congo).

A recording grid was used for the collection of related data and we used the technique of documentary analysis.

Patients with pulmonary tuberculosis diagnosed and cared for at the tuberculosis screening health center of the Franciscan Sisters General Reference Hospital of Lukelenge were included. Cases of HIV-Tuberculosis co-infection were not taken into account. A total of 328 tuberculosis patients were retained. The variables analyzed were: age, sex, level of education, duration of treatment and laboratory control number.

3. Results

Evolution of the healing rate Figure 1 illustrates that the Tuberculosis cure rate curve is increasing from 2010 to 2012 and decreased after 2012.

Evolution of the healing rate Figure 1 illustrates that the Tuberculosis cure rate curve is increasing from 2010 to 2012 and decreased after 2012.

The average age was 43 years, the majority of tuberculosis patients were aged between 40 and older (35.1%) and 20 - 29 years old (30.2%) (Table 1).

We recorded 192 men (58.5%) and 136 women (41.5%), the sex ratio and 1.41 in favor of the male sex (Table 2).

With regard to the level of education, we retained that 72.6% of cases were of the level secondary (Table 3).

Table 4 shows that 84.5% of cases had followed the treatment for 6 months.

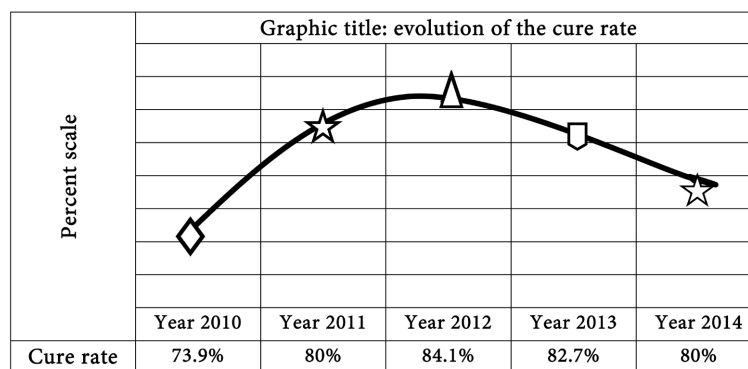Table 5 shows that 90.2% of cases carried out the check three times.

Graphic title: evolution of the cure rate				
Year 2010	Year 2011	Year 2012	Year 2013	Year 2014
Cure rate 73.9%	80%	84.1%	82.7%	80%

Figure 1. Evolution of the cure rate.

Table 1. Distribution of cases by age.

Age range in years	Frequency	%
10 - 19	30	9.1
20 - 29	99	30.2
30 - 39	84	25.6
40 et plus	115	35.1
Total	**328**	**100**

Table 2. Distribution of cases by sex.

Sex	Frequency	%
Male	192	58.5
Féminine	136	41.5
Total	328	100

Table 3. Distribution of cases according to level of education.

Educational level	Frequency	%
Without level	31	9.5
Primary	49	14.9
Secondary	238	72.6
University	10	3
Total	328	100

Table 4. Distribution of cases according to Duration of treatment.

Duration of treatment in months	Frequency	%
6	277	84.5
8	51	15.5
Total	328	100

Table 5. Distribution of cases according to the number of laboratory checks.

Laboratory checks	Frequency	%
2 times	1	0.3
3 times	296	90.2
4 times	31	9.5
Total	328	100

4. Discussion

Presented in the form of a curve, the rate increased between 2010 and 2012, it rose from 73.9% to 84.1%, an increase of 10.2% due to 6.1% in 2011 and 4.1% in 2012, representing an average annual growth of 5.1% for the two years.

But between 2012 and 2014, the cure rate fell from 84.1% to 80% or a loss of 4.1%. This regression was 1.4% in 2013 and 2.7% in 2014; the average annual regression is 2% for both years.

The general consideration of the evolution of the cure rate shows that from 2010 to 2014 the rate increased from 73.9% to 80.1% (five-year average rate) 6.2% increase on the initial rate of 2010.

Compared to the objective of the DOTS strategy (Directly Observed Treatment Sort-course) initiated by the World Health Organization fixing the cure rate 85% [5], we find that the diagnostic and treatment health center (CSDT) had no never achieved this goal in the past five years. The efforts made have enabled the CSDT to approach the target in 2012 (84.1%), unfortunately the said rate is in the process of deviating gradually towards this objective since 2013.

Reading Table 2 reveals that the age group of 40 and more represents 35% followed by that of 20 - 29 years 30%. The results are different from those of Okenge Ngongo, L [6], who in his study had found that the age group most represented was that of 30 - 39 years with 25%.

The results of this study do not agree with those of Lee, J. [7], who in his study indicated that the median age was 61.5 years. The proportions of men and women were 62.5% and 37.5% respectively.

Taking the gender variable into account, Table 3 tells us that the male sex dominates with 58.7%. These results are similar to those of Ntumba Mpiana [8], who in his study had found that the male sex accounted for 57.5%. However for Okanurak, K., Kitayaporn, D. *et al.* [9], the female sex dominated with 67%.

Table 4 tells us that 84.5% of cases had followed the treatment for 6 months. This is in line with the new DOTS policy which sets the duration to 6 month [5].

In the light of Table 5, 90.2% of cases carried out the control three times as required by the standards of the DOTS [5] strategy.

5. Conclusions

Our study aimed to describe the evolution of the healing rate of pulmonary tuberculosis over a period from 2010 to 2014.

Tuberculosis cure rate was increasing from 2010 to 2012 and decreasing after 2012, overall it was 80.2% for the last five years. Both sexes were concerned with a male predominance of 58.7% and 84.6% of cases had followed the treatment for 6 months. So we call on decision-makers at all levels to continue to double efforts to decrease further increase the cure rate.

Conflicts of Interest

The authors declare no conflicts of interest.

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