34 - EPIDEMIOLOGICAL PROFILE OF TUBERCULOSIS PATIENTS IN DIRECTLY OBSERVED TREATMENT IN THE YEAR OF 2012

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INTRODUCTION

According to Furlan (2012) tuberculosis (TB), a disease of world-wide proportions, can be prevented and is treatable with highly efficient and affordable medicines supplied by the Brazilian Health Care System. Nevertheless, there is no prospect of obtaining, in the near future, its eradication as public health issue in Brazil, since 80% of the worldwide cases, which correspond to 50 million persons, are concentrated in our country and 23 other developing countries.

According to Marquieviz (2011) despite the advances in the control of TB, Brazil is still one of the 22 priority countries for the World Health Organization (WHO), being part of the group that covers 80% of the global burden of TB. The factors that hinder its effective control in the world are associated with problems involving diagnosis, treatment, quality of health services and the peculiarities of clients with TB (AVELAR, 2010).

The mortality rate of TB in Brazil decreased by 16.7% between the years 2002 and 2008, from three to 2.5 cases per 100,000 people. It is nonetheless still causing approximately 4,700 deaths annually, a staggering number for a disease that is curable and treatable (MARQUIEVIZ et al, 2011).

In 2009 more than 73,000 new cases were reported in the country, with 41,000 positive bacilli, which corresponds to an incidence coefficient of 38.4 / 100,000 inhabitants. These data place Brazil in 19th place for the numbers of new cases and 104th in relation to the incidence coefficient (CECILIO, FERNADES, MATHIAS, et al, 2013).

According to the Ministry of Health in Brazil (2010), the treatment of TB is conducted by Brazil´s public health system and is steered by the guidelines of the National Plan for Control of Tuberculosis. The Government provides free treatment, following a therapeutic regimen that combines various drugs; these drugs are administered through a Directly Observed Treatment (DOT).

The Directly Observed Treatment is one of the building blocks of the DOTS (Directly Observed Treatment Short Course) strategy, which is an important tool to increase the cure rate and lessen the resistance to the medicine as well as to encourage TB patients to adhere to the therapeutic regimen. The Directly Observed Treatment (DOT) is a change in the way of administering the drug, but without changing the therapeutic regimen: trained professionals observe their patients taking the medication from the beginning of treatment until the cure. In every case of TB (new or repeat) the DOT methodology is applied, for it is not possible to predict the cases that will not adhere to the treatment (MINISTÉRIODASAÚDE,2011).

Considering the relevance of DOT as a strategy of the National Plan for Control of Tuberculosis to achieve the goal of curing at least 85% of cases, it is crucial that the profile of patients who underwent the DOT program and the status of the closed cases be verified. Thus, the study aimed to analyze the epidemiological profile of patients who underwent the DOT program in 2012 in Foz do Iguaçu – PR.

METHODOLOGY

This is an epidemiological study with a quantitative approach. Data were collected from the DATASUS Tabnet-tuberculosis database from the Brazilian Ministry of Health. The criteria for the search were the number of cases reported, and those that carried out DOT protocol per municipal report, in the year of 2012, in Foz do Iguaçu – PR.

The variables used were: gender, age, race/color, education, place of residence, clinical type of the disease, completion of the DOT program (yes or no), presence of other related diseases and type of discharge.

For data analysis, techniques of exploratory data analysis of variables were conducted by using absolute and relative frequency distribution. The study was developed in line with guidelines established by Resolution 196/96 of the National Health Council. The research project was approved by the Standing Committee on Ethics in Research of the State University of West Parana – UNIOESTE Foz do Iguaçu campus.

RESULTS

The majority of Tuberculosis (TB) cases were 70.5% men, 69.8% whites and 19.2% brown. Schooling was often terminated between 5th and 8th grades of incomplete elementary school – 25.6%. Of the total number, 97.4% resided in urban areas. Most of the subjects were 20 to 29 years of age 44%, and it was found that 3.2% were younger than 15 years.

Table 1 – Distribution of sociodemographic variables of the Directly Observed Treatment (DOT) of 2012.

Variables	Nº	%
Sociodemographic variables		
Gender	110	70,5
Male	46	29,5
Female		
Schooling		
Unknown/Blank	12	7,7
Illterate	4	2.6
From 1st to 4th grade of Elementary school incomplete	27	17,3
4th grade completed	17	10,9
5th to 8th grade of incomplete Middle School	40	25,6
Middle School completed	14	9,0
High School incomplete	21	13.5
High School completed	13	8,3
Higher education incomplete	7	4,5
Higher education completed	-	-
Not applicable	1	0.6

Race		
White	109	69.9
Black	13	8.3
Asian	2	1.3
Brown	30	19.2
Indigenous	1	0.6
Unknown		1
Geographic location		
Unkown/blank	2	0.6
Urban	152	97.4
Rural	2	1.3
Suburban	-	-
Age group		
< 1 year	1	0.6
1- 4 year	-	-
10 -14 year	4	2.6
15 – 19 year	18	11.5
20 – 29 year	69	44.2
40 – 49 year	48	30.8
60 - 64 year	8	5.1
65 – 69 year	3	1.9
70 – 79 year	5	3.2
80 above	-	-

Source: Tabnet-TB - Datasus.2013

Regardingclinical type,lung TB was the most found with83.4% andin72.4%there was noassociate/AIDSdiseaseand 16.7% of cases were unknown or blank. All caseswere submittedto thedirectly observed treatment and regarding completion status,57% were cured, 12.9% abandoned treatmentand 5.1% died.

Table 2 – Distribution of clinical and operational variables of the Directly Observed Treatment of 2012

Variables	No	%
Clinical variables		
Pulmonary	130	83.4
Extrapulmonary	23	14.7
Pulmonary/Extrapulmay	3	1.9
Associate Diseases		
Confirmed cases of Aids		
Unknown/Blank	26	16.7
Yes	17	10.9
No	113	72.4
Operational Variables		
Completed TDO	156	100
Unknown/blank		
Completion status	156	100
Unknown/blank		
Completion status		
Unknown/blank	13	8.3
Cured	89	57.0
Quit	20	12.9
Death by Tuberculosis	8	5.1
Death by other causes	5	3.2
Transfer	1	1.2
Multi-drug resistant tuberculosis	2	1.3

Source: Tabnet-TB - Datasus.

DISCUSSION

The majority of cases of Tuberculosis (TB) occurred in white 69.8% men 70.5%. Education level found: between first and fourth grades of elementary school incomplete at 17.3%, fourth grade completed at 10.8%, fifth to eight grade of middle school incomplete at 25.6%, and only 4.5% had their higher education, but incomplete.

According to Furlan (2012), working class white males with little schooling where the most affected. This demonstrates correlations between the uncovered data, possibly revealing that these are the characteristics of an important group for the prevention of Tuberculosis.

Furlan (2012) also found that currently, indications show the fight against TB requires further efforts invested not only in diagnosis and drug treatment, but also in effective measures against the social determinants of the disease. In this sense, it is worth remembering that knowledge about the socio-demographic profile of patients may provide insights for the development of a more effective control plan to fight TB.

Residing in urban areas is 97.4%. This shows that the massive urbanization that took its first steps in the industrial revolution between 1820 and 1840 and continues today at an extreme rate, is a crucial factor in determining public policies for the education against and prevention of TB.

Aged fifteen to nineteen years 11.5%, twenty to twenty-nine years 44.2% and 40 to 49 years 30.8%. According to Furlan (2012) it was noteworthy that the age group with the highest number of TB cases was 15-39 years. And only 3.6% of cases were of individuals below fifteen years of age.

The fact that the more impacted age group was from fifteen to forty-nine years of age demonstrates that individuals of working age were the most affected. This epidemiological pattern differs from the one found in European countries where the disease has been better controlled and reaches a different segment of the population: the elderly (PAIXAO, 2007).

The most common clinical type of TB was found to be the pulmonary type, at 83.4%. This being the same type that is transmissible, according to Furlan (2012), and afflicts most of the patients, which strongly points to the urgency of implementing effective actions to break the chain of transmission of this disease in the state of Paraná.

In 72.4% there was no associate/AIDS disease and 16.7% of cases were unknown or blank. According to Lemos (2008), the emergence of HIV in the early 80´s brought a change in the clinical and epidemiological profile of tuberculosis.

The Brazilian Ministry of Health recommends that all patients with tuberculosis are subjected to serological testing for

HIV (BRASIL, 2009). This procedure makes possible an early diagnosis of HIV infection, which allows for early implementation of antiretroviral therapy. Consequently this generates a reduction in its morbidity and mortality, thus becoming an important tool for the development and implementation of public policies (SILVA, GONCALVES, 2012). This shows the importance of the 16.7% of cases that were unknown or blank, for they could be cases of TB associated with AIDS.

Between the reported and treated in the DOT program, there were results in 100% of the cases. Due to this result and the contrast to having a completion status in which cure, death, and quitting rates do not correspond to the Brazilian Ministry of Health recommendations, there remains discrepancies not yet reconciled. The percentage of the failure to notify observed may be due to a flaw in the quality of the information system. Cases may not have been entered in the Sinan data base, but would nevertheless be receiving treatment in health facilities. Although these were not a high percentage of the total number of cases, these were patients that had serious symptoms of which the features were not reported in the main database used for monitoring. (SOUZA, PINHEIRO, 2011).

The cases closed in the study time frame showed that 57% of the clients were cured, and 12.9% quit the treatment. The Global Health Organization establishes international objectives, in partnership with the Brazilian government, one of which is to capture the estimate 70% of tuberculosis cases, as well as the objectives of a cure rate of 85% and 5% quitting rate (SOUZA, PINHEIRO, 2011).

5.1% died from tuberculosis, thus exceeding the national average (2.5%). (BRAZIL, 2011) The number of deaths from this cause in Paraná is relatively low compared with the country as a whole. It is significant, however, because they are deaths from a diagnosed disease with available treatment in primary care (CECILIO, FERNANDES, MATHIAS, et al, 2013).

In order to have effective actions of tuberculosis control, PNCT indicates these actions be decentralized and the control of tuberculosis and primary care be integrated to ensure increased access to diagnosis and treatment. Such integration must include the model program of Community Health Workers and the Family Health Program (SOUZA, PINHEIRO, 2011).

CONCLUSION

This study allowed for the outline TB cases profile in Foz do Iguaçu - PR registered in SINAN (Information System for Notifiable Diseases). Knowledge about these aspects constitutes important information for health care professionals so that they may undertake efforts against noncompliance with treatment and deaths from TB by implementing the DOT initiative, especially for those individuals who have the characteristics identified in this study.

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EPIDEMIOLOGICAL PROFILE OF TUBERCULOSIS PATIENTS IN DIRECTLY OBSERVED TREATMENT IN THE YEAR OF 2012

SUMMARY

Tuberculosis (TB) is a disease of world-wide proportions that can be prevented and treated with highly efficient and affordable medicines supplied by the Brazilian Health Care System. Nevertheless, there is no prospect of obtaining its eradication in the near future as a public health issue in Brazil, since 80% of the worldwide cases, which correspond to 50 million people, are concentrated in our country and 23 other developing countries. Despite the advances in the control of TB, Brazil is still one of the 22 priority countries for the World Health Organization (WHO), being part of the group that covers 80% of the global burden of TB. The objective of this research is to assess the profile of cases that underwent a Directly Observed Treatment in the year of 2012 in Foz do Iguaçu – PR. An epidemiological study with a quantitative approach was conducted. The epidemiological profile of the sick that underwent the Directly Observed Treatment in the year of 2012 was identified as follows: white male individuals with little schooling were the most affected. It concludes that the knowledge about these aspects constitutes important information for health care professionals so they can mobilize their efforts in ensuring the sick do complete their treatment, thus avoiding abandonment and death, events that impede the effective control of the disease.

KEYWORDS: Tuberculosis, Epidemiology, Public Health

PROFIL EPIDEMIOLOGIQUE DES PATIENTS DE TUBERCULOSEQUI SUIVENT UN TRAITEMENT DIRECTEMENT OBSERVEDANS L'ANNEE DE 2012

RÉSUMÉ

La tuberculose, une maladie d'ampleur mondiale, est évitable et traitable avec des médicamentsà faible coût et à haut rendement qui sont fournis par le Système Brésilien de Santé Public. Pourtant, il n'y a aucune perspective d'obtenir, dans un proche avenir, sa élimination en tant que problème de santé public au Brésil, étant donné que 80% des cas mondiaux de la maladie, ce qui correspond à 50 millions de personnes, se concentre dans notre pays et dans 23 autres pays en développement.

Malgré les progrès réalisés dans la lutte contre la tuberculose, le Brésil est toujours l'un des 22 pays prioritaires de l'Organisation Mondiale de la Santé (OMS) dans le cadre du groupe qui englobe 80% de la charge mondiale de la tuberculose. La recherche visait à étudier le profil de cas qui ont subi le Traitement Directement Observé dans l'année de 2012 à Foz do Iguaçu – PR. Une étude épidémiologique avec une approche quantitative a été menée. Le profil épidémiologique des patients qui ont suivi le Traitement Directement Observé en 2012 a ainsi été identifié : les individus blancs du sexe masculin, avec un faible niveau d'éducation, ont été les plus touchés. L'étude conclut que la connaissance de ces aspects est une information importante et qui aide les professionnels de la santé à faire des efforts pour que les patients aient un traitement complet et puissent, par conséquent, éviter l'abandon et la mort, c'est-à-dire, les événements qui empêchent le contrôle efficace de la maladie.

MOTS-CLÉS : Tuberculose, Épidémiologie, Santé Publique.

PERFIL EPIDEMIOLOGICO DE LOS ENFERMOS DE TUBERCULOSIS EM TRATAMIENTO DIRECTAMENTE OBSERVADOS DURANTE EL AÑO 2012

RESUMEN

La tuberculosis (TB), enfermedad de amplitud mundial, puede ser prevenida y tiene tratamiento con medicamentos, de bajo costo y alta eficacia, provistos por el Sistema Único de Salud. A pesar de ello, no hay perspectiva de conseguirse, en un futuro próximo, su eliminación como problema de salud pública en el Brasil, pues el 80% de los casos mundiales de esta enfermedad, correspondiente a 50 millones de seres humanos, se concentra en nuestro País y en otros 23 países en desarrollo. A pesar de los avances en el control de la TB, Brasil todavía es una de los 22 países priorizados por la Organización Mundial de Salud (OMS), haciendo parte del grupo que abarca el 80% de la carga mundial de TB. Esta pesquisa tiene por objetivo levantar el perfil de los casos que realizaron el Tratamiento Directamente Observado en el año de 2012 en Foz do Iguaçu - PR. Se realizó una pesquisa epidemiológica con abordaje cualitativo. El perfil epidemiológico de los enfermos que realizaron el Tratamiento Directamente Observado en el 2012 fue identificado de esta forma: individuos del género masculino, blancos, con bajo nivel de escolaridad fueron los más contagiados. Se concluye que el conocimiento de estos aspectos constituye informaciones importantes para que los profesionales de salud puedan realizar esfuerzos para que los enfermos completen el tratamiento evitando abandono y óbito, eventos que impiden el control efectivo de esta enfermedad.

PALABRAS-LLAVE: Tuberculosis; Epidemiologia; Salud Pública.

PERFIL EPIDEMIOLÓGICODOS DOENTES DE TUBERCULOSEEM TRATAMENTO DIRETAMENTE OBSERVADO NO ANO DE 2012

RESUMO

A tuberculose (TB), doença de amplitude mundial, pode ser prevenida e é tratável com medicamentos, de baixo custo e alta eficácia, fornecidos pelo Sistema Único de Saúde. Apesar disso, não há perspectiva de obter-se, em futuro próximo, sua eliminação como problema de saúde pública no Brasil, pois 80% dos casos mundiais da doença, correspondentes a 50 milhões de pessoas, concentram-se em nosso País e em outros 23 países em desenvolvimento. Apesar dos avanços no controle da TB, o Brasil ainda é um dos 22 países priorizados pela Organização Mundial de Saúde (OMS), fazendo parte do grupo que abrange 80% da carga mundial de TB..A pesquisateve por objetivo levantaro perfil doscasosquerealizaramo Tratamento Diretamente Observado no ano de 2012 em Foz do Iguaçu – PR. Realizou-se umapesquisaepidemiológicacomabordagemquantitativa. O perfil epidemiológico dos doentes que realizaram o TratamentoDiretamenteObservado no ano de 2012 foi assim identificado: indivíduos do gênero masculino, brancos, com baixa escolaridade foram os mais acometidos. Conclui-se que o conhecimento desses aspectos constitui informações importantes para que os profissionais de saúde possam realizar esforços para que os doentes completem o tratamento evitando abandono e óbito, eventos que impedem o controle efetivo da doença.

PALAVRAS-CHAVE: Tuberculose, Epidemiologia, Saúde