



ISSN: 2230-9926

Available online at <http://www.journalijdr.com>

# IJDR

*International Journal of Development Research*  
Vol. 07, Issue, 10, pp.15805-15808, October, 2017



ORIGINAL RESEARCH ARTICLE

OPEN ACCESS

## DIRECT MEDICAL COST OF PATIENTS HOSPITALIZED AND SUFFERING OF ACUTE PSYCHOTIC DISORDERS AT LOMÉ

<sup>1,\*</sup>Tchamdja Toyi, <sup>2</sup>Balaka Abago, <sup>2</sup>Djagadou K. Agbéko, <sup>3</sup>Salifou Saliou, <sup>3</sup>Awoumé Kodjo, <sup>1</sup>Djibril M. Awalou and <sup>3</sup>Dassah S. Kolou

<sup>1</sup>Internal Medicine Unit, Sylvanus Olympio Teaching hospital of Lomé, Faculty of Health Sciences, University of Kara

<sup>2</sup>Internal Medicine Unit, Sylvanus Olympio Teaching hospital of Lomé, Faculty of Health Sciences, University of Lomé

<sup>3</sup>Psychiatry Clinic and medical psychology of Campus Teaching hospital of Lomé, Faculty of Health Sciences, University of Lomé

### ARTICLE INFO

#### Article History:

Received 06<sup>th</sup> July, 2017

Received in revised form

15<sup>th</sup> August, 2017

Accepted 07<sup>th</sup> September, 2017

Published online 10<sup>th</sup> October, 2017

#### Keywords:

Costing,  
Direct Cost,  
Acute Psychotic Disorders,  
Hospital, Lomé,  
Togo.

#### \*Corresponding author

### ABSTRACT

**Objectives:** Evaluate the direct medical cost of hospital admission grant of patients with acute psychotic disorders at Campus Teaching hospital of Lomé.

**Materials and method:** This was a retrospective study of the clinical records of patients admitted in the psychiatry unit of the Campus Teaching hospital of Lomé from 1 March 2012 to 28 February 2014.

**Results:** The hospital frequency of acute psychotic disorders was 63.3%. The average age of the patients was 31.89 +/- 9.30. We noted male predominance with a sex ratio of 1.1. In 68.4% of cases the most found diagnosis was acute psychotic disorders without schizophrenic symptoms. The average cost of admission expenses was FCFA 20,200. The paraclinical examinations on average costed FCFA 23,413 and the medicines on average costed FCFA 31978. A day of admission costed 9717.45 FCFA. The average overall cost was F CFA 82901 +/- 48418 FCFA. Acute psychotic disorder of schizophrenic appearance had costed more expensive than other clinical forms (120025, 29 FCFA).

**Conclusion:** The direct medical cost of acute psychotic disorders is high in hospitals. It is therefore necessary to subsidize expenses related to admissions.

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Citation: Tchamdja Toyi, Balaka Abago, Djagadou K. Agbéko, Salifou Saliou, Awoumé Kodjo, Djibril M. Awalou and Dassah S. Kolou. 2017. "Direct medical cost of patients hospitalized and suffering of acute psychotic disorders at Lomé.", *International Journal of Development Research*, 7, (10), 15805-15808.

### INTRODUCTION

Acute psychotic disorders embody a heterogeneous set of disorders characterized by acute psychotic symptoms cases such as delirious ideas, hallucinations, perception perturbances and massive disorganization of behavior (Who, 2014). The direct medical cost represents the set of consumed resources for medical care. These costs rely on the treatment and are very heterogeneous according to the methods of granting of benefits, the duration of stay in hospital, reception facilities. The care of people suffering from these psychiatric illnesses is a crescent concern not only at the salary level but also on the

economica one. In France, psychiatric pathologies each year cost about 110 billion Euros. Of this total expenditure, medical care costs 13.4 billion euros, or 8% of national health expenditures (Unecpsy, 2014). But the spread of mental disorders in developing countries (especially in Africa) remains largely underestimated as well as their socio-economic impacts. However, one believes that they constitute a weight on the whole population. In Togo, studies and reports have enabled to describe epidemiological, clinical, evolutionary and social aspects of some mental illnesses (Batitabasso, 2009; Dassa et al., 2005; Toko, 2012; Tama,

2005) , but few studies addressed economic aspects of their care (Salifou, 2006). In order to estimate the direct medical cost of acute psychotic disorders that represent a psychiatric emergency, this current study was conducted in the Clinical Psychiatry and Medical Psychology at the Campus Teaching Hospital (CPMP).

## MATERIALS AND METHODS

This was a retrospective study of clinical records and patients admitted at the Campus Teaching Hospital (CPPM) from March 1, 2012 to February 28, 2014, or a period of 2 years. International Classification of Diseases in its 10th revision (ICD-10) of WHO concerning mental disorders served as a diagnostic reference. Thus, all cases files of our study of both genders patients admitted and responding to the diagnostic criteria of codes corresponding to the acute psychotic disorder and transient of the ICD-10 (That is F23.0, F23. 1, F23.2, F23.3, F23.8 or F23.9) and who have complied with all medical and paramedical requirements were included. Not only the records of patients who left without the authorization, or who have not complied with medical prescriptions are not included, but also those of patients with associated comorbid diseases. The cost of paraclinical examinations was taken at the biochemistry laboratories, hematology, parasitology and imaging at Campus Teaching Hospital. (CHU Campus). The cost of drugs was taken in the pharmacy. The costs of checkups outside campus Hospital were considered from the patients's receipts. A survey form was elaborated enable data collection. Studied parameters were:

- Sociodemographic data (age,gender,occupation, marital status, from..)
- Clinical variables; Para-clinical and therapeutics related to admission: clinical signs, complementary examinations, duration of admission, drugs.
- Economic variables: consultation fees, admission stay expenses, supplementary exam fees and drugs cost. The analysis of our data was done using the statistical software type Epi info3 .5.3 and the Excel spreadsheet allowed us draw the graphs.

## RESULTS

*Description of the sample* During the study period, 417 sick people were admitted at the Clinical Psychiatry and Medical Psychology CPMP-CHU-campus.

	Number	Percentage
severe psychotic disorders without symptom	173	68,4
schizophrenic		
severe psychotic disorders schizophrenic aspect	37	14,6
severe psychotic disorders With schizophrenic symptom	31	12,3
Others	12	04,7
Total	253	100

Among THEM 266 were suffering from severe psychotic disorders, or 63.3% of admission. Our analyses were led on 253 cases that met our inclusion criteria. The average age of our patients was 31.89 +/- 9.30 years with extremes of 12 and 59 years. The age group 20-29 was the most represented, with 38.7% followed by the 30-39 age group with 37.2%.

**Table 2. Average medical cost**

	Average cost (FCFA)	Percentage
Medicine cost	31978	38,57
Paraclinic examination charges	24413	29,45
Admission fees	20200	24,37
Consumable charges	3310	04
Consultation fees	3000	03,61
Total	82901	100

There was a slight male predominance with 134 men against 119 women, or a sex ratio of 1.1. Married persons accounted for 53.8% and singles 40.3% of cases. Only 15.42% of admitted cases had health insurance.

### Clinical aspects

In our sample deliriums were the consultation reason found in all the patients, followed by logorrhea (75.1%) and agitations (66.4%). The most common diagnosis found in our study was severe psychotic disorders without schizophrenic symptoms in 68.4% of cases (Table 1) . The average admission stay in our study was 8.6 +/- 2.27 days. After admission, most of the patients ere discharged between 8 and 10 days from the hospital. The duration of admission was 3 days and 27 days.

### Cost of treatment

The cost of consultation was 3000 FCFA day and night as well as on holidays for all patients. The average cost of prescribed medicines was CFAF 31,978 +/- 14,481.69 CFAF with a minimum of 5790 and a maximum of CFAF 98,600. Consumables in our study were composed of gloves, syringes, perfusers, catheter, urinary catheter, and thermometer. The average cost was estimated at 3310 +/- 1774, 24 FCFA with extremes of 1600 FCFA and 18000 FCFA. In average, the para clinical examinations costed of 23413 FCFA +/- 15940,21 FCFA with extremes of 5900 and 139090 FCFA. Hospital stays during our survey in average had costed CFAF 20,200 +/- 10,686.17 FCFA with a minimum of CFAF 7,500 and a maximum of CFAF 39,800. The average cost of drugs followed by that of paraclinic examinations was the highest. The average overall medical cost was CFAF 82901 +/- 48 418.39 CFA with a minimum of CFAF 21 790 and a maximum of CFAF 298 490 (Table 2). The average cost of a day of admission was 9717.45 FCFA. According to the clinical diagnosis, the average cost of admission of patients suffering from severe psychotic disorders of schizophrenic aspect was highest (120025 FCFA) followed by that of those with psychotic disorders with schizophrenia symptoms (99419,72 FCFA).

## DISCUSSION

The primary objective of our study was to estimate the direct medical cost of admission for severe psychotic disorder in a psychiatric unit in Togo. The average duration of stay was approximately 8.6. Drug costs and that of paraclinic examinations were the highest. The cost of one day of admission was 9717.45 FCFA. The average overall cost was CFAF 82901 +/- 48418 FCFA. Acute psychotic disorder of Schizophrenic had cost more than other clinical forms.

The main limitations of this study are related to the link found in retrospective studies. Indeed, incomplete files were not included in the estimate of the cost. The fact that consumables, pharmaceuticals and certain additional examinations were not purchased and / or carried out in the same center resulted in variability of certain costs. However, the size of our sample, the large panel of elements involved in the cost calculation that were collected constitute a strength of the study thus allowing for a methodological validity comparability with other studies. Hospital frequency of acute psychotic disorders in our study was 63.3%. Salifou (2006) in his study in Togo have also noted a predominance of acute psychotic disorders (30.73%). This overrepresentation of acute psychotic disorders could be explained by its panoply of symptoms (aggressiveness, agitation, delirium ... ..) which motivated psychiatric consultations more. The average age of patients in our study was 31.89 +/- 9.30 with extremes of 12 years and 58 years. The most represented age group was 20 to 29 years, followed by 30 to 39 years. These results are similar to those found by other authors. Indeed, Banakinaou (2001) in Togo, who had found an average age of 33.5 years with a representation of young adults at 56%.

Salifou in Togo (2006) on his part also found a predominance of young adults (77.5%) of average age of 31.5 +/- 12.1 years with extremes of 6 and 74 years. Similarly, Chastang et al (1996) in France, had found an average age of 36.6 years. We noted in our investigation a male predominance with a sex ratio of 1.1. Our results are different from those of Yavo (2003) in Côte d'Ivoire, who found 55% of women in the study, compared with 45% of men. Salifou (2006) in Togo, Trevor et al (1993) in Canada, Chastang et al (1996) in France, had found a female predominance with respectively sex ratio 0.8; 0.68 and 0.75. All of them worked on psychiatric disorders. It should be noted that, according to some authors, psychotic disorders affect both sexes (Yavo, 2003; Guelfi, 1987; Samuel e, 1985). The most common diagnosis in our study was acute psychotic disorders without schizophrenic symptoms, in 68.4% of cases. In view of the literature, acute psychotic disorders without schizophrenic symptoms are considered to occupy a singular place in African psychopathology. Thus, Mbassa et al (2010) et al in Cameroon had found in their studies a frequency of Acute and Transient Psychotic Disorders, unspecified of 21.31%.

All patients submitted to our study were admitted in the common rooms which are supposed to be the less expensive. This confirms the extreme poverty of the Togolese people. The average cost of hospital stay was 20,200 +/- 10,686.17 FCFA. Values found would have been higher if our patients had stayed in more expensive cabins. Salifou in Togo (2006) in his study found a cost of 52,500.87 FCFA of hospital stay for an average duration of 8.2 days with 65.9% housed for the third category. This relatively low cost of stay in our study than that of Salifou is explained by the reduction of the rates of hospital accommodation rooms with the creation of the National Institute of Health Insurance (INAM). The paraclinical examinations costed an average of 23413 FCFA +/- 15940,21 FCFA. Salifou at Togo (2006) found in his study an average cost of paraclinic examinations of 29,837.15 CFA for acute psychotic disorders. This difference is due to the expensiveness of TDM cerebral which was only carried out in the private health centers before being studied and also to the reduction of some paraclinic costs by Institut National Maladie (INAM). Medicines used costed at an average of 31978 +/-

14481,69 FCFA with a minimum of 5790 and a maximum of 98,600. The average cost of drugs in our study would be high given the fact of SMIG in Togo (35,000). Salifou in Togo (2006) found 37160.92 FCFA for pharmacy fees. This cost found by Salifou in Togo grouped drugs and consumables cost, different from our case in study. According to our results patients during their admission spent an average of 83308 FCFA +/- 48418 FCFA. Salifou (2006) had found that the average cost related hospital admission grant of acute psychotic disorders was 126083,20 FCFA. This difference shows how the health insurance company INAM has reduced medical fees of the Togolese population. Maerlker et al (2013) had found that the average medical cost of psychotic pathology in Europe was 93,9 euro or 61556,14 FCFA. Our results cost two times higher than the SMIG in Togo which is 35000 FCFA (Republique Togolaise, 2013). The acute psychotic disorders of schizophrenic type had costed more expensive than other clinical forms (120025,29 FCFA). This rate is more than three times the Togolese SMIG. This high cost of acute psychotic disorders of schizophrenic type could be explained by the fact that patients of the theses forms respond less to the habitual neuroleptic treatment. Thus, their hospital admission grant requires a relatively long hospital stay and the use of new expensive molecules.

## Conclusion

Acute psychotic disorders are a psychiatric, disabling pathology with a major economic impact. At the end of our study, It appears that the most common clinical diagnosis was acute psychotic disorders without schizophrenic symptoms. The cost of a day of admission was 9717.45 FCFA. The acute psychotic disorder of schizophrenic appearance had costed more than the other clinical forms. This direct medical cost of acute psychotic disorders is quite high compared to the income of the populations. It would therefore be wise to carry out reflections in order to reduce this cost. A prospective study taking into account indirect costs and non-medical direct costs is needed to assess the financial impact caused by an acute psychosis in the society.

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