International Journal of Innovation and Scientific Research
ISSN 2351-8014 Vol. 50 No. 1 Aug. 2020, pp. 93-98

http://www.ijisr.issr-journals.org/

Profile study of hospitalized patients for bipolar disorders at the Dalal Xel mental health center in Fatick (Senegal) from 2004 to 2013

Tine Jean Augustin Diegane[1], SY Abou[2], Balde Seny[3], Ndiaye Khouredia[4], and Faye François Ngor[5]

[1]Psychiatrist, Epidemiologist, Head of the Mental Health Division, MSAS, Senegal, Researcher at the Faculty of Medicine of UCAD, Institute of Health and Development (ISED, UCAD) , Senegal

[2]Psychiatrist Addictologist, Researcher at the Faculty of Medicine of UCAD, Focal Point at the Office of Forensic Psychiatry and Addictions in the Division of Mental Health, MSAS, Senegal

[3]Communities Mental Health Specialist in Mental Health Division, MSAS, Senegal

[4]Psychiatrist, Focal Point at School and Professional Mental Health Office within Mental Health Division, MSAS, Senegal

[5]Director, Dalal Xel Mental Health Center, Senegal

ABSTRACT: *Background:* Bipolar disorder, originally called manic depressive illness, is one of the most challenging psychiatric disorders to manage. *Purpose:* The objectives of this study are to research the socio-demographic and professional profile of patients hospitalized for bipolar disorder in the Dalal Xel mental health center of Fatick and to understand the factors associated with the evolution of the prevalence of bipolar disorder in the Senegalese context. *Methods:* It was a cross-sectional, retrospective, descriptive and analytical study. It was conducted in the hospitalization department of Dalal Xel Mental Health and included all patients hospitalized in this service between 2004 and 2013 and whose medical file was found. *Results:* The processing of the hospital service records made it possible to collect 6,896 patient files. Among these hospitalized patients, 731 were diagnosed with bipolar disorder (11.4%). The majority of patients were female (52.7%), lived in rural areas (53.4%), educated (66.2%). The majority had an occupation (74.1%) and were married (51.7%). The average age was 36.52 years with a standard deviation of 13.3 years. Between 2004 and 2013, the profile of the patient with bipolar disorder did not change for sex, age, professional activity, marriage. Religion and nationality remained influenced by the demographic context of Senegal. *Conclusion:* Bipolar disorder is influenced by biological (age, sex), social (married) and professional factors. The medical prescriptions must consider the patient's procreation and her professional activity. It is also important to involve the family in psychological support and to reinforce professional reintegration.

KEYWORDS: Profile, bipolar disorders, *Dalal Xel*, Senegal.

1 INTRODUCTION

Psychiatric pathologies have the characteristic to be chronic and expensive [1]. The countries in the process of development particularly those of Africa, are not in rest. These, already tested by their health care systems unsuited and having a small budget, do not have the means of coping more and more with the health problems mental growing [2]. Senegal is a country with a long tradition of mental health. Since 1956, Senegal obtained psychiatric structures making it possible to offer a medical framework to the mentally ills with the creation of the service of neuropsychiatry of the hospital of Fann. After test having tested a traditionally clinical approach a long time, the first psychiatrists of Senegal felt the need for opening with the other models of traditional therapy by the reading of the therapeutic route their patients. Thus, the management of the mental illness was seen shared between medical psychiatry and the traditional therapies. Examples of association of traditional psychotherapy such as *Ndoëp* at *Lébou* were reported in the assumption of responsibility of certain patients to Fann Hospital [3, 4, 5]. In 1994, the first private psychiatric structure with no lucrative goal was created under the name of Thiès's health center mental *Dalal Xel* (located at 80 km from Dakar, the capital of Senegal). Then in 2003, it was open a second health center

Corresponding Author: Tine Jean Augustin Diegane

mental Dalal Xel in the area of Fatick (located at 250 km of the capital). Solid partnerships between the sectors public and private increase the cover, the use and the quality of the services, and result in a better satisfaction for the users. The people receiving benefits of private health care offer to the populations a whole range of preventive and curative services [6].

Mood is a fundamental emotional provision, rich person of all the emotional and instinctive authorities who gives to each one of our states of heart a pleasant or unpleasant, oscillating tonality between the two extreme poles of the pleasure and the pain. Disturbances of mood are characterised by an instability of not containable mood [7]. These diseases reverberate on behaviour, personality and perception. These diseases are reflected on the behaviour, the personality and perceptions. The person reached can be depressive, inflamed or both. These people suffer from a deep emotional distress or handicap in their social activities, professional and educational. The principal disorders of mood are the depression, the mania and the bipolar disease [8, 9]. Bipolar disorder is characterised by recurrent episodes of elevated mood and depression, together with changes in activity levels. Elevated mood is severe and sustained (mania) in bipolar I disorder and less severe (hypomania) in bipolar II disorder. Depression is usually more common and longer lasting than elevated mood, and together with inter-episode milder symptoms contributes most to overall morbidity. Other psychiatric disorders, such as anxiety disorder and alcohol and drug misuse, are common associated to bipolar disorder. The risk of death from suicide and from cardiovascular disease, is increased. The treatment is with drugs and psychotherapies [10].

The aims of this research are to study the socio-demographic and professional profile of patients hospitalized for bipolar disorder in the Dalal Xel mental health center in Fatick and to understand the factors associated with the evolution of the prevalence of bipolar disorder in the Senegalese context.

2 METHODOLOGY

2.1 TYPE AND PERIOD OF STUDY

It was a transversal, retrospective, descriptive and analytical study on the files of patients hospitalized during the period from January 2004 to December 2013 at the Dalal Xel mental health center in Fatick in Senegal.

2.2 POPULATION OF STUDY AND SAMPLING

This study was exhaustive, based on hospital records. It included all the files for which the diagnosis of bipolar disorder was recorded by the centre's treating psychiatrists between January 2004 and December 2013. The classification used by psychiatrists was the French Classification of Mental Disorders (FCMD) or the International Classification of Diseases (ICD).

2.3 PROCEDURE OF DATA COLLECTION AND ACQUISITION

In each hospital unit, there is a register at the nurses 'office and a file at the doctors' office.

All bipolar patient records for the study period were compiled in a data entry form on Microsoft Access. The data entry was carried out by two data entry operators trained and supported by the structure.

After processing the files, a lot of missing data was observed. Finally, the variables chosen were:

- socio-demographic characteristics: sex, age, marital status, geographic origin, nationality, country of residence, having a child
- academic and professional characteristics: schooling, profession
- diagnosis of bipolar disorder which was the main variable

2.4 DATA ANALYSIS

Data analysis was done with statistical software R. Qualitative variables have been described with absolute and relative frequencies. For the quantitative variables we used the mean and the standard deviation.

Homogeneity tests made it possible to analyse trends in frequencies (Chisq2) and means (ANOVA) between years to compare the profile of patients hospitalized for bipolar disorder between 2004 and 2013. The significance threshold of the statistical tests was set 5%.

2.5 ETHICAL ASPECTS

This study was initiated as part of a mental evaluation of the activities of the Dalal Xel mental health center in collaboration with the management of the health center. The data has been collected with respect for confidentiality and anonymity. No remuneration, no financial or material compensation was offered to patients. Likewise, no subjective value judgment that could defile the legal entity of individuals or the institution is published in this study

3 RESULTS

3.1 CHARACTERISTICS OF PATIENTS

Between 2004 and 2013, 731 patients were diagnosed with bipolar disorder, or 11.4% of hospitalized patients. The majority of patients were Muslim (90.8%), lived in rural areas (53.4%), of Senegalese nationality (97.1%).

The majority of patients had a profession (74.1%). The majority of women were 52.7%. The patients were 51.7% married.

The average age was 36.52 years with a standard deviation of 13.3 years. Table 1 shows the distribution of bipolar patients according to socio-demographic and professional characteristics.

Table 1. Distribution of patients with bipolar disorder according to their socio-demographic and professional characteristics (N = 731)

Characteristics	Absolute frequencies (N=731)	Relative frequencies (%)
Gender		
Male	346	47.3
Female	385	52.7
Religion		
Muslim	664	90.8
Christian	67	9.2
Married		
Yes	378	51.7
No	353	48.3
Getting children		
Yes	624	85.4
No	107	14.6
School instruction		
Yes	484	66.2
No	247	33.8
Profession		
Yes	542	74.1
No	189	25.9
Geographic situation		
Urban	341	46.6
Rural	390	53.4
Country of residence		
Senegal	710	97.1
Other country	21	2.9
Nationality		
Senegalese	714	97.7
Other nationality	17	2.3
	Mean	**Standard deviation**
Age of diagnostic of disease (years)	36.5	13.3

3.2 EVOLUTION OF THE FREQUENCIES OF BIPOLAR DISORDERS ACCORDING TO THE CHARACTERISTICS OF THE PATIENTS BETWEEN 2004 AND 2013

From 2004 to 2013, the profile of patients diagnosed with bipolar disorder at the Dalal Xel mental health center changed. The factors that have statistically changed are religion, education, location and having children.

The frequencies of bipolar disorder by sex, age of diagnosis, profession, marital status, nationality and country of residence have not changed statistically over the years.

Table II gives the distribution of bipolar patients by year according to socio-demographic and professional characteristics.

Table 2. Distribution of bipolar patients by year according to socio-demographic and professional characteristics

Characteristics	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Pvalue
	N=20	N=46	N=44	N=96	N=85	N=136	N=85	N=73	N=100	N=46	
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	
Religion (Muslim vs Christian)	12 (60.0)	39 (84.8)	40 (90.9)	84 (87.5)	77 (90.6)	125 (91.9)	83 (97.6)	67 (91.8)	94 (94.0)	43 (93.5)	< 0.001**
Profession (Yes vs No)	15 (75.0)	35 (76.1)	30 (68.2)	67 (69.8)	67 (78.8)	100 (73.5)	64 (75.3)	55 (75.3)	79 (79.0)	30 (65.2)	0.728
Geographic situation (Urban vs Rural)	6 (30.0)	16 (34.8)	17 (38.6)	30 (31.2)	42 (49.4)	73 (53.7)	48 (56.5)	37 (50.7)	51 (51.0)	21 (45.7)	0.007**
Country of residence (Senegal vs Other country)	20 (100.0)	46 (100.0)	44 (100.0)	92 (95.8)	82 (96.5)	129 (94.9)	81 (95.3)	73 (100.0)	97 (97.0)	46 (100.0)	0.274
Nationality (Senegalese vs Other nationality)	20 (100.0)	46 (100.0)	43 (97.7)	92 (95.8)	82 (96.5)	133 (97.8)	83 (97.6)	72 (98.6)	97 (97.0)	46 (100.0)	0.822
Gender (Male vs female)	9 (45.0)	21 (45.7)	19 (43.2)	42 (43.8)	37 (43.5)	71 (52.2)	45 (52.9)	34 (46.6)	42 (42.0)	26 (56.5)	0.692
Married (Yes vs No)	9 (45.0)	20 (43.5)	17 (38.6)	54 (56.2)	43 (50.6)	82 (60.3)	43 (50.6)	41 (56.2)	50 (50.0)	19 (41.3)	0.202
School instruction (Yes vs No)	13 (65.0)	21 (45.7)	24 (54.5)	70 (72.9)	57 (67.1)	93 (68.4)	69 (81.2)	50 (68.5)	57 (57.0)	30 (65.2)	0.002**
Getting children (Yes vs No)	20 (100.0)	46 (100.0)	44 (100.0)	91 (94.8)	59 (69.4)	94 (69.1)	68 (80.0)	56 (76.7)	100 (100.0)	46 (100.0)	< 0.001**
	Mean (±sd)	Mean (±sd)	Mean (±sd)	Mean (±sd)	Mean (±sd)	Mean (±sd)	Mean (±sd)	Mean (±sd)	Mean (±sd)	Mean (±sd)	
Age of diagnostic of disease (years)	37.70 (±9.24)	34.91 (±13.64)	36.95 (±14.20)	34.19 (±11.62)	36.98 (±14.52)	37.96 (±14.77)	37.16 (±13.15)	36.04 (±13.64)	35.60 (±12.22)	37.71 (±13.26)	0.682

4 DISCUSSION

This retrospective study was made by exploring hospital records. Several medical and psychological information on the symptomatology was not found in the files. The data from the consultation register was not used because there was a lot of missing data in the socio-demographic and clinical information. The clinical diagnosis of bipolar disorder was made by psychiatrists from the Dalal Xel Mental Health Center in Fatick. The clinical type of unipolar or bipolar disorder has not been defined for most medical records.

We used 6,896 hospital patient files in the Dalal Xel center between 2004 and 2013 and we found 731 cases of bipolar disorder. The average age of diagnosis of bipolar disorder was 36.5 years with a standard deviation of 13.3 years. According to Ben Abla, the average age of first signs for patients diagnosed with bipolar disorder was 26.9 ± 9 years [11].

The profile of the bipolar patient, over 10 years, did not change according to age (p = 0.682).

The majority of women were 52.7%. But this female profile was not statistically different over the 10 years (pvalue = 0.69). In 2009 and 2010, men were in the majority at 52.2% and 52.9% respectively. Evidence from the literature supports gender equality in bipolar disorder [8, 12, 13].

According to marital status, 51.7% of bipolar patients were married. For several years, the profile was married but in 2004 and in 2005, he was mainly single with 56.5% and 61.4% respectively. However, this profile did not change statistically between 2004 and 2013. According to some studies, the patients were predominantly single [11, 14, 15, 16]. The majority of bipolar patients had children with a pvalue of less than 0.001.

This study showed that 66.2% of patients hospitalized for bipolar disorder had a school education and 74.1% had a profession. This explains why bipolar disorders are compatible with good professional reintegration. In Tunisia, 67.2% were without profession [11]. Bipolar disorder is not as dissociative as schizophrenic disorder. They can be compatible with adequate professional training. [15, 17, 18]

The rural area is more represented than the urban area. Over the 10 years, this distribution is statistically different with a pvalue equal to 0.007. The Muslim religion is more represented but one could explain it by the fact that Senegal is a country mainly 95% Muslim.

This study shows a profile of the bipolar patient in Senegal remains constant between 2004 and 2013. We note that they are over 30 years old, female, married, educated, having a profession and at least one child. Thus, the care strategy should consider the maternity of the patients and their profession.

Religion, geographic situation, nationality and country of residence are contextual factors influenced by the demographic distribution of Senegal.

5 CONCLUSION

The exploration of patient records revealed many gaps in the quality of care data. It is therefore important to improve the quality of the data by harmonizing the patient's file in mental health centers in Senegal.

This study made it possible to know the typical profile of the bipolar patient in Senegal. These patients are adults, of reproductive age and make up the workforce. Prescribed drugs must consider the maternity and professional activity of patients.

REFERENCES

[1] World Economic Forum, the Harvard School of Public Health. The global economic burden of non-communicable diseases. Genève, Forum Economique Mondial, 2011.
[2] Cohidon C. Prévalence des troubles de santé mentale et conséquences sur l'activité professionnelle en France dans l'enquête "Santé mentale en population générale: images et réalités". Institut de veille sanitaire. France, Aout 2007.
[3] Collomb H. Assistance psychiatrique en Afrique: expérience sénégalaise. Psychopath. Afric. 1965; I, 1: p11-84.
[4] René C. Vingt ans de travaux à la clinique psychiatrique de Fann-Dakar. Psychopathologie africaine, 1978, XIV, (2-3): 133-324.
[5] Diop B, Colignon R, Gueye M. « Présentation de l'étude concertée de l'O.M.S. sur les stratégies pour l'extension des soins de santé mentale ». Psychopath. Afr: 1976, XII, 2, 173-188.
[6] Seck I, Tine JAD, SY A, BA M, Niang K, Faye FN, Tal-Dia A. Study of risk factors in patients hospitalized for psychotic disorders in the Dalal Xel mental health center in Fatick (Senegal). Edorium J Public Health 2017; 4: 20–26.
[7] Preston S D, De Waal F B. Empathy: It's ultimate and proximate bases. Behavioral and Brain Sciences (2002) 25,1–72.
[8] Benazzi F. Unipolar depression with bipolar family history: link with bipolar spectrum. Psychiatr Clin Neurosci 2003; 57: 497-503.
[9] Post RM, Denicoff KD, Leverich GS et al. Morbidity in 258 bipolar outpatients followed for 1 year with daily prospective rating on the NIMH life chart method. J Clin Psychiatry 2003: 680-90.
[10] Anderson I M, Haddad P M, Scott J. Bipolar disorder. BMJ 2012; 345: e8508. doi: https://doi.org/10.1136/bmj.e8508.
[11] Ben Abla T, Ellouze F, Amri H, Krid G, Zouari A, M'rad MF. Dépression unipolaire versus dépression bipolaire: facteurs prédictifs d'une évolution bipolaire. L'Encéphale, 2006; 32: 962-5, cahier 1.

[12] Baldessarini RJ, Salvatore P, Khalsa HM, et al. Morbidity in 303 frst-episode bipolar I disorder patients. Bipolar Disord. 2010a; 12 (3): 264–70.
[13] Almeida OP, Hankey GJ, Yeap BB, Golledge J, Flicker L. Older men with bipolar disorder: clinical associations with early and late illness. Int J Geriatr Psychiatry. 2018; 33 (12): 1613–9.
[14] Benazzi F. Clinical differences between bipolar II depression and unipolar major depressive disorder lack of an effect of age. J Affect Disord 2003; 75: 191-5.
[15] Kessler RC, Berglund P, Demler O, et al. The epidemiology of major depressive disorder: results from the National Comorbidity Survey Repli- cation (NCS-R). JAMA. 2003; 289 (23): 3095-3105.
[16] SHI L, THIEBAUD P, McCOMBS JS. The impact of unrecognised bipolar disorders for patients treated for depression with antidepres- sants in the fee-for-services California Medicaid (Medi-Cal) program. J Affect Disord 2004; 1 (82): 373-83.
[17] Baldessarini RJ, Pérez J, Salvatore P, Trede K, Maggini C. Chapt 1: History of bipolar manic-depressive disorder. In: Yildiz A, Nemerof C, Ruiz P, editors. The bipolar book: history, neurobiology, and treatment. New York: Oxford University Press; 2015. p. 3–20.
[18] Kupfer DJ. The increasing medical burden in bipolar disorder. JAMA. 2005; 293 (20): 2528-2530.