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The Epidemiological Profile of Night-Time Psychiatric Emergencies at the Dalal Xel Mental Health Center in Thies, Senegal.

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Abstract:- This study aimed to draw up an epidemiological, clinical, and therapeutic profile of patients received in night consultations at the Dalal Xel mental health center in Thies, Senegal. The study was retrospective and descriptive, conducted over one year from 1 January to 31 December 2020. The information was collected from the patients' paper consultation register and medical records. All incomplete records were excluded from the study. Our study population consisted of 1140 patients, 59.6% male, and 40.4% female. The average age was 31.6 years. Wolofs were the dominant ethnic group with 38.3% of cases and most patients were from the Thies region (82.4%). More than half of the patients were single (59.7%). The level of education was secondary in 37.1% of cases. Most consultants were not professionally active (62.6%). The 5 to 11 p.m. time slot was the most frequented with 76.9% of consultations. 91.1% of emergency room consultations were requested by a family member or friend. Agitation was the most important reason for emergency room visits (25.7%), followed by insomnia (22.1%). 53.3% of patients had a personal psychiatric history. The main diagnostic categories were brief psychotic disorders (32.3%), schizophrenic disorders (18%), and bipolar affective disorders (15.9%). Injectable drug treatment was the most used therapeutic method (67%) and the nature of the treatment used during psychiatric care at the Dalal Xel mental health center in Thies was neuroleptics and anxiolytics in 71.3% and 65.4% respectively. This descriptive study shows that the population seen in psychiatric emergencies at the Dalal Xel mental health center in Thies is young, mostly male, single, with a low level of education and no profession, and most often arrive at the emergency room between 5 and 11 pm. A similar profile has been identified in the national and international literature on the same subject.

Keywords:- *Impact, COVID-19, Mental health, Dalal Xel, Senegal.*

I. INTRODUCTION

Defined as a request for which the response cannot be postponed, psychiatric emergencies include a group of heterogeneous disorders of sudden appearance, whatever their psychosocial, somato-psychic, or purely psychological nature. Divided between "emergency psychiatry" and "crises", psychiatric emergencies involve an unpleasant situation that affects the patient's family, professional and social life [**1**]. The brutal character and the feeling of the dangerousness of the psychiatric emergency require the intervener to act immediately and to possess knowledge, know-how, and interpersonal skills to control the situation [**2**]. For a long time, psychiatric emergencies were only represented by the forced hospitalization of the patient in a psychiatric hospital, which was reduced to a medico-legal aspect of the history of the patient's illness [**3**]. However, with the emergence of neuroleptics in the second half of the 20th century, which radically changed the therapeutic approach to psychiatric disorders **[4]**, psychiatric care has evolved both in terms of chemotherapy and in terms of management systems. In the same vein, the demand for emergency psychiatric care has only increased, as shown by an increase of 4 to 40% per year in requests for psychiatric advice in general hospitals [**5**]. The organization of psychiatric emergencies is based on the implementation of different reception facilities and specific care [**3**]. The night shift, set up by several psychiatric structures, is one of the responses to psychiatric emergencies; its objectives are to assess and limit the crisis by receiving the patient and his or her family. It also enables a therapeutic alliance to be established with the patient, the severity of purely psychiatric disorders to be assessed and acute symptoms to be treated.

In Senegal, to ensure continuity of psychiatric care, the creation of night shifts in psychiatry is a recent development. It is within this framework that we began this work, the objective of which was to describe the sociodemographic, clinical, and therapeutic characteristics of psychopathological disorders found in patients received in night consultations at the Dalal Xel Mental Health Centre in Thies, Senegal.

II. MATERIALS AND METHODS

A. Setting of the study

The study took place at the Dalal Xel mental health center in Thies. Located 70 kilometers from Dakar, the Dalal Xel mental health center in Thies is a private, non-profit health establishment specializing in the treatment of mental disorders. It occupies a special position in the organization of psychiatry in Senegal because of its history and its active patient file (around 20,000 patients per year). This structure is an extension of the humanitarian action of a brother of St. John of God, who took in wandering mental patients and provided them with care. His project was later medicalized and institutionalized with the integration of the IADMI project (Itinerant Assistance Device for the Mentally Ill) [**6**] set up by the social psychiatry department of the Fann Hospital in Dakar. When this project was abandoned, Fann continued its support by sending doctors every six months as part of the training of interns from the psychiatric hospitals in Dakar. The center was approved by the State in 2002, and a permanent psychiatrist was recruited and supported by psychiatrists in training. The Dalal Xel center offers outpatient consultations and has four inpatient units, one of which is reserved for women. Occupational therapies (occupational therapy, music therapy, etc.) are offered to patients. A night shift was created in 2010 to ensure continuity of care. Developing a decentralized community approach to get closer to the population, periodic consultations are carried out in other localities of the country (Bambey, Mbacke, Louga, and Richard Toll), home visits with awareness-raising and family mediation sessions are also set up. It should also be remembered that mental health provision in Senegal is very unevenly distributed across the country [**7**], and despite recent efforts to ensure that each region has at least one psychiatrist, the Dakar region still accounts for 80% of resources in this sector [**8**]. In this context, the Dalal Xel center, because of its capacity and reputation, receives patients from a large part of the center and northeast of the country.

B. Type and period of study

It was a retrospective, monocentric, and purely descriptive study covering one year from 1 January 2020 to 31 December 2020 inclusive.

C. Study population and eligibility criteria

The study concerns all patients, of both sexes, whose age is greater than or equal to 15 years, received during the night shift in psychiatry at the Dalal Xel mental health center in Thies, Senegal. We included in the study patients who consulted for one year (January 1 to December 31, 2020). After reviewing the medical records, we excluded patients whose medical records were incomplete or where the records were not available.

D. Data collection

Data were identified from the paper register of consultations of patients received during the night shift. Information such as patient demographics (age, gender, marital status, residence, etc.) and the diagnosis on admission for each patient admitted are captured in this register. Thus, a list of patients was compiled using the information obtained from the patient register. Once the medical files meeting the inclusion criteria had been identified from the list in the register of patients admitted to the night watch, we entered the socio-demographic (age, sex, marital status, ethnicity, level of education, profession, place of residence, and time of arrival at the watch), clinical (personal psychiatric history and reasons for consultation), diagnostic and therapeutic (care methods, medication used and outcomes) variables using a standardized data collection form. For the diagnoses, Chapter F (mental and behavioral disorders) of the 10th revision of the International Classification of Diseases (ICD-10) [**9**] of the World Health Organization was used as our diagnostic reference.

E. Statistical analysis

For each variable, the data collected were coded to preserve the anonymity of the patients by ethical rules. They were then entered and processed using the Sphinx2+ processing software. Figures and tables were produced using Excel software. The results of the study are expressed as frequencies and means.

F. Ethical considerations

Authorization to use the documents (register and medical records) of the patients of the Dalal Xel mental health center in Thies was obtained from the Director of the center. The data extracted for this study were treated confidentially and no identifying information was entered on the datasheet.

III. RESULTS

Of the 1940 patients received on night duty at the Dalal Xel mental health center in Thies for the year 2020, only 1140 records contained sufficient information and were included in the study, i.e., completeness of 58.8%. The remaining 800 files could not be used because of incomplete information.

The age of the consultants ranged from 15 to 87 years with an average age of 31.6 years. The 21-30 age group was the most represented (43.6%). Table 1 shows the socio-demographic characteristics of our patients seen at night in psychiatric emergencies. Males predominated (59.6%) with a sex ratio (M/F) of 1.5 (679 men to 461 women). Wolofs were the dominant ethnic group with 38.3% of patients. Most of our study population came from the Thies region (82.4%). More than half of the patients were single (59.7%). The level of education was secondary in 37.1% of cases. Most consultants were not professionally active (62.6%). The 5 to 11 p.m. time slot was the most frequented with 76.9% of consultations. 91.1% of emergency room consultations were requested by a family member or friend.

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Table 1: Sociodemographic characteristics of patients received from January 1 to December 31, 2020, in night consultation at the psychiatric emergency room of the Dalal Xel Mental Health Center in Thies (n=1140).

Variables	Workforce (n)	Percentage (%)
Sex		
Male	679	59.6
Feminine	461	40.4
Age groups		
15-20 years old	182	16
21-30 years old	497	43.6
31-40 years old	252	22.1
41-50 years old	109	9.6
51-60 years old	61	5.3
61 and over	39	3.4
Ethnicities		
Wolofs	437	38.3
Serers	263	23.1
Pulhars	202	17.7
Others	238	20.9
Marital status		
Singles	368	59.7
Married	189	30.7
Divorced	16	2.6
Widowers	43	7.1
Educational level		
Unschooled	232	20.4
Primary	322	28.2
Secondary	423	37.1
Superior	163	14.3
Occupation		
Unemployed	714	62.6
Teachers	168	14.7
Tradespeople	90	7.9
Liberal functions	138	12.1
Retired	18	1.6
Other sectors	12	1.1
Place of residence		
Thies	939	82.4
Dakar	74	6.5
Other regions of Senegal	111	9.7
Other countries	16	1.4
Hours of arrival at night duty		
17.00 – 23.00	877	76.9
00.00 – 07.00	263	23.1
Consultation request		
Families/ Surroundings	1038	91.1
Health professionals	65	5.7
Fire/Police	37	3.2

Table 2 shows the reasons for consulting our patients. Several reasons were reported, the most frequent of which were agitation and insomnia with respective rates of 25.7% and 22.1%. Suicide attempts represented only 0.1% of patients. It should be noted that 53.3% of patients had a personal psychiatric history. Of the mental pathologies selected, brief psychotic disorders predominated with 23.3% of cases. They were followed by schizophrenic disorders and bipolar affective disorders with respective rates of 18% and 15.9% (Table 3).

Table 2: Distribution of the reasons for consultation of patients received from January 1 to December 31, 2020, in night consultation in the psychiatric emergency room of the Dalal Xel Mental Health Center in Thies.

Reason for consultation	Workforce (n)	Percentage (%)
states of agitation	817	25.7
Insomnia	704	22.1
Auto and hetero physical aggression	232	7.3
Delusions	202	6.4
Hallucinations	96	3
Incoherent remarks	91	2.9
Verbal aggression	80	2.5
Somatic complaints	336	10.6
Taking toxic	111	3.5
Behavioral Oddities	73	2.3
Refusal to eat	58	1.8
Runaways or attempted runaways	45	1.4
Seizures	40	1.2
Anxiety	70	2.2
Irritability	48	1.5
Mutism	38	1.1
Acute dyskinesia	28	0.9
Therapeutic break	23	0.7
Tears	31	1
Memory disorders	25	0.8
suicide attempts	4	0.1
Other reasons	28	0.9

Table 3: Distribution of patients received from January 1 to December 31, 2020, in night consultation at the psychiatric emergencies of the Dalal Xel Mental Health Center in Thies by diagnostic category selected.

Diagnostic categories	Workforce (n)	Percentage (%)
CIM 10		
Brief psychotic disorders	266	23.3
Schizophrenic disorders	205	18
Persistent delusional disorders	35	3.1
Depressive disorders	67	5.9
Bipolar affective disorder	181	15.9
Neurotic and somatoform disorders	122	10.7
Mental disorders associated with the puerperium	24	2.1
Mental disorders related to the use of psychoactive substances	130	11.4
Dementia	19	1.7
OTHER PATHOLOGIES		
Epilepsies	41	3.6
Medication side effects	28	2.4
Infectious diseases	22	1.9

As for management, injectable drug treatment was the most used therapeutic method (67%), followed by a relational approach in 31% of cases. In addition, the type of treatment used in the psychiatric ward at the Dalal Xel mental health center in Thies was neuroleptics and anxiolytics in 71.3% and 65.4% respectively (Table 4). Neuroleptics were used in 25.3% as monotherapy and in 74.7% in combination with other drugs. In addition, outpatient follow-up (68%) was the most common decision made after the emergency consultation.

Table 4: Distribution of patients received from January 1 to December 31, 2020, in night consultation at the psychiatric emergencies of the Dalal Xel Mental Health Center in Thies according to the drugs prescribed.

Medications	Workforce (n)	Percentage (%)
Neuroleptics	847	74.3
Anxiolytics	726	63.7
Antidepressants	76	6.7
Mood stabilizers	141	12.4
Hypnotics	59	5.2
Synthetic antiparkinsonians	296	25.9

IV. DISCUSSION

The results presented in our work were obtained from the data available in the patients' medical records. The latter was not always perfect in an accurate way. Moreover, the diagnosis of patients was not always made collectively, which has a disadvantage in terms of the quality of data collection, given the multiple rotations of most medical staff. However, despite these limitations, the contribution of such a study is of capital interest for the knowledge of the profile of patients received on night duty in psychiatric services in Senegal.

A. Sociodemographic profile of patients

The age of the patients received in night consultations at the psychiatric emergencies of the Dalal Xel Mental Health Centre in Thies ranged from 15 to 87 years with an average age of 31.6 years. This result is like that of Hajji et al [10]. In this study carried out at Mahdia hospital in Tunisia, the authors noted an average age of 33.7 years. The same average age was found in Senegal in studies carried out in the psychiatry department of the Fann National University Hospital in Dakar, where the average age of patients ranged from 30 to 31.7 years [11, 12]. Our patient population was composed of young adults. This youthfulness could be explained in part by the characteristics of the Senegalese population whose median age in 2020 was 19 years [13]. Several studies [14, 15] suggest that most mental illnesses appear during adolescence or early adulthood. According to Meggle et al [15], the extremely shifting status of young people has made this population very vulnerable. Young people are confronted with problems of schooling, unemployment, sexuality, drugs, but also early marriages, especially among girls [15]. Young people also experience rapid changes in their socio-economic status while questioning their ability to carry out their life plans [16]. This sensitivity can be reflected in exposure to stress, anxiety disorders, mood disorders, depression, substance use disorders [17], and risky behavior [18]. The elderly are poorly represented in our series, as they seem to be protected from mental illness by their social status. Indeed, in African society, the elderly are a symbol of maturity and wisdom, so when they present a behavioral disorder, it is very often attributed to their advanced age and rarely perceived as a mental illness [19].

Males predominated (59.6%) with a sex ratio (M/F) of 1.5 (679 males to 461 females). Our results are like those found in previous studies on the same subject by Porquet [11] and Hajji et al [10]. However, our results differ from those of Ba [12], where women represented the most dominant proportion with a rate of 51%. But it should be remembered that in terms of mental health, it is common to attribute greater psychological fragility to women [20]. In sociological surveys, this difference disappears. The rates of mental disorders appear slightly higher for men in our study. This could be explained by the fact that women tend to suffer from "internalized disorders" and consult early [21], while men are affected by "externalized disorders" and consult more in emergencies [22].

The Wolof ethnic group dominated at 38.3%, followed by the Serer (23.1%) and the Pulhar (17.7%). This finding could be explained by the fact that Wolof is the majority ethnic group in Senegal with a national rate of 45% [23]. The Wolof language is the most widely spoken, although the official language is French. As a result, although the ethnic group is not Wolof, many patients are influenced by Wolof culture, as they are concerned with social integration and good quality communication with most of the population.

More than half of the patients in psychiatric emergencies were single, with a rate of 59.7%. The overrepresentation of single people is thought to be related to the young age of the patients in our study. In addition, the single status is considered by several authors as a risk factor for psychological decompensation, as shown by Meggle et al [15], who argue that marriage is an excellent sign of integration of the subject. This remark is justified by the fact that the psychotic's relations with his entourage are generally chaotic, marked either by a tendency to isolation or by aggressiveness. This large number of single people seems to be part of the person's difficult relational problem.

All socio-occupational categories are represented in our study. The disadvantaged social strata are the most affected with 62.6% of the consultants unemployed. Our relations are superposable with the study by Porquet on the same subject [11]. Another study carried out in 2000 on patients received for a psychiatric emergency at the psychiatric department of the Fann University Hospital in Senegal showed that half of the patients were unemployed [12]. This preponderance of mental disorders at the bottom of the social ladder would be linked to difficulties with school or with learning a trade, leading these patients to a lower social position than at the start. This was found in our study where the level of education was secondary in 37.1% of cases. This causal hypothesis emphasizes the lack of resources to counteract stress, suffering, and clashes [22]. Moreover, the mental illness itself constitutes an obstacle to the socio-professional integration of patients. Diagne et al [24] postulated that the lack of employment for young psychiatric patients implies the absence of financial resources and therefore of social recognition, which places them in difficulty with their family and their community.

Concerning the place of residence, the Thies region is largely represented (82.4%). This would be linked to the position of the Dalal Xel mental health center in Thies. It should be remembered that from a spatial point of view, the

Dalal Xel center is located about 70 kilometers from Dakar in the regional capital of the region, Thies. The rapidly expanding locality is a central node in the motorway and road communication axes, being directly connected to the axes of intense Dakar, Touba-Mbacké, Saint-Louis, Fatick-Kaolack traffic. Its proximity to Blaise Diagne international airport and traditional emigration regions, and the religious cities of the great brotherhoods, also places it in a space of migration and mobility [25]. However, we also observed that patients came from other regions of the country, even though they were provided with psychiatric care structures such as Dakar, Kaolack, Fatick, Tambacounda, Louga, and Saint Louis. This could be due to a lack of information from the population, but also to the fact that the Dalal Xel mental health center occupies a strategic and transitional place between the regions and the capital Dakar.

B. Clinical profile and diagnosis of patients

Psychiatric emergency interventions at the Dalal Xel mental health center in Thies took place in 76.9% of cases between 5 pm and 11 pm. Our findings are comparable to those of Porquet [11] in 2011 and Norroy et al [26] in 1993, with interventions in psychiatric emergencies taking place more between 18:00 and 2:00 in the morning, with a decrease in the curve until 6:00. This aspect corresponds well to the influence of the nychthemeral period on psychiatric symptoms with the appearance or aggravation of disorders in the evening and night periods [26]. The family or the entourage plays an important role in our psychiatric practice it was the main requestor of care with a rate of 91.1% of emergency consultations. Our results are like those found by Porquet [11] in Senegal and by Hajji et al [10] in Tunisia. However, our results differ from those of Norroy et al [26] who showed that 52.42% of the patients received in psychiatric emergencies at Nancy hospital in 1993 were brought in by the emergency services or the fire brigade, compared with 15.12% brought in by their relatives. In our context, these results show that the family is more present in the life of the individual. Families are full-fledged actors in the crisis they face [10]. Indeed, the African man lives in close connection with the social environment and the social organization constitutes the key element of African culture. The individual himself is only an inessential appearance if we consider him outside the social groups from which he necessarily proceeds [27]. In the African mental patient, there is a decentralization of interest from the individual to the community, leading to the extended family. Beyond the individual, the urgency felt is also that of the family and the group. This aspect is relatively specific to the psychiatric clinic [28, 29]. According to Collomb [30], the situation of the individual is much more eccentric than the Western representation. The individual is much more situated in the relationship with others, outside himself. Mental illness is experienced more as a social phenomenon that modifies the links that unite the patient in a very tight network with the whole group.

The main reasons for consultation were agitation (25.7%) and insomnia (22.1%). The same reasons were found in the studies carried out by Porquet [11] in Senegal and by Meggle et al in Bingerville [15], while at the general hospital in Nancy, according to the study by Norroy et al [26], the most frequent reasons were suicide attempts. In our study, suicide attempts in psychiatric emergencies represented only 0.1% of cases. This low representation of suicide attempts can be explained by socio-cultural factors. Nowadays, despite the emergence of increasingly individualistic behavior [31], family solidarity and mutual aid constitute protection for the individual.

More than half of the patients (53.3%) received in psychiatric emergencies at the Dalal Xel mental health center in Thies had a psychiatric history and came into the relapse phase. Our results agree with those previously published by Thiam et al [32] in 2002 concerning the frequency of relapses in psychiatric inpatients, whose prevalence was 40.8%.

From the point of view of the diagnostic profile, we note the predominance of brief psychotic disorders with a rate of 23.3% of cases followed by schizophrenic disorders (18%). The high prevalence of schizophrenic brief psychotic disorders among patients seen in psychiatric emergencies is also noted in several regions of the world [10-12]. Several factors explain this frequency, the most frequently cited of which is noisy, degrading, or aggression-ridden character [29, 31]. These acute pathologies are poorly tolerated by the family circle and are difficult to treat with traditional treatment, hence the need for specialized care during the disease. It should be noted that diagnoses are made summarily, urgently, and subjectively.

C. Therapeutic and evolutionary profile of patients

Emergency therapeutic management was dominated by injectable drug treatment (67%) followed by using a relational approach in 31% of cases. This differs from the study by Hajji et al [**10**] who found that the relational approach was the most used therapeutic method (67%) followed by injectable treatment in 31% of cases. This difference is partly due to the noisy and uncontrollable nature of the psychotic pathologies that predominate in emergency departments. As for the nature of the treatment used during the on-call psychiatric shift at the Dalal Xel mental health center in Thies, neuroleptics (71.3%) and anxiolytics (65.4%) were the most used drugs. Our results are like those found by Porquet [**11**] and Ba [**12**].

About the decision to follow up the consultation at the psychiatric emergency department, 32% of the patients were hospitalized compared to 68% followed up as outpatients. The decision to follow up as an outpatient may be explained by the fact that the presenting disorders can be managed at home by the family. It may also be due to the desire not to isolate the patient from his or her family or to preserve his or her last points of reference.

V. CONCLUSION

A psychiatric emergency can apply to any psychiatric pathology. The suddenness, the acute evolution, and the gravity of the emergency imposed on the doctor a diagnosis and a fast therapeutic intervention. In this work, the importance of psychiatric emergencies emerges both from their number and their nature. Early-onset of disorders was noted with a male predominance. All socio-professional categories were represented, as well as the different ethnic groups of Senegal. Our study shows that psychiatric emergencies are becoming more and more important in specialized psychiatric structures, whose practitioners are confronted not only with acute psychiatric decompensation but also with multiple crises. A precise evaluation and a specific intervention based on both relational and medicinal approaches thus make it possible to accompany the crisis from its flowering to its resolution.

- **Conflicts of interest:** The authors declare that they have no conflicts of interest.

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