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Epidemiological, Clinical, and Therapeutic Aspects of Chronic Hallucinatory Psychoses in Senegal

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Abstract: A purely French entity, chronic hallucinatory psychosis (CHP) is characterized by chronic, systematized, non-dissociative delirium with no course-of-thought disorders or deficits. The study describes the prevalence and sociodemographic, clinical, and therapeutic characteristics of patients with chronic hallucinatory psychosis treated as outpatients in the psychiatry department of the Fann National University Hospital Center. Methods: The retrospective, cross-sectional, descriptive study was conducted over five years, from January 2010 to December 31, 2014, in the outpatient unit of the psychiatry and medical psychology department of the Fann National University Hospital in Dakar. Our study population consisted of 86 cases of CPH out of 6502 patients, i.e. 1.32%. The mean age was 50.2 years, and women were the most common (74.4%). More than a quarter of patients (36%) were married. Almost all patients (72.1%) were referred by family or friends. Insomnia was the most common reason for consultation (69.8%), followed by incoherent speech (46.5%) and auditory-verbal hallucinations (37.2%). The signs found on examination were very varied; the most important were auditory-verbal hallucinations (80%), followed by ideas of persecution (62.8%), mental automatism (45.3%), and insomnia (38.4%). All patients were treated with neuroleptics (100%), often in combination with other psychotropic drugs, notably anxiolytics (52.3%), hypnotics (18.6%), and antidepressants (10.5%). Conclusion: The results of our study show a similarity with the data in the literature on the same subject. Despite its absence from the Diagnostic and Statistical Manual of Mental Disorders, 5th edition (DSM V), and the International Classification of Diseases, 10th edition (ICD 10), chronic hallucinatory psychosis is a psychiatric condition that continues to attract the attention of French-speaking psychiatrists. The latter recognize this pathology as an entity for diagnosis and treatment and continue using it daily. Hence, there is a need for a more precise definition and more in-depth studies to ensure that it is considered in international classifications of mental illnesses.

Keywords: *Chronic Hallucinatory Psychosis, Psychiatry, Epidemiology, Senegal.*

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I. INTRODUCTION

Chronic hallucinatory psychosis (CHP) is a psychiatric condition characterized by chronic delirium, occurring in old age (40-50 years) and sustained by mono- or multi-sensory hallucinations [1]. The concept of CHP itself is an entity in French nosography [2]. Anglo-Saxon authors classify CHP as a persistent delusional disorder or late-onset schizophrenia [3]. However, there is no dissociative syndrome in chronic hallucinatory psychosis, unlike in schizophrenia [1]. Chronic hallucinatory psychosis, proposed by Ballet in 1911 [2], is characterized by a chronic, non-dissociative delusion lasting more than six months, with multiple themes but predominantly persecution, and a hallucinatory mechanism involving all five senses [1]. Mental automatism may also be diagnosed, where the person has the impression that people are imposing their thoughts on them or can read their minds [1]. It occurs mainly in the elderly, predominately women, who are usually isolated [1]. The pre-morbid personality is often marked by high sensitivity and exaggerated reactivity to interpersonal conflicts [4].

Despite the constant problem of the legitimacy of the nosologically framework, especially as French semiology is the only one to adopt this entity, CHP benefits from a precise clinical description that should enable a diagnosis to be made with good reliability. As a result, this psychiatric diagnosis is frequently made in many countries, particularly in Africa, as mentioned in several studies [5, 6].

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Few studies have been devoted to this subject in Senegal. A few hospital-based studies have reported prevalences ranging from 1.8% to 3.6% for the number of patients with a diagnosis of CHP [7,8]. We undertook this study to determine the prevalence of this condition in psychiatric consultations and to identify the clinical and therapeutic aspects commonly encountered.

II. MATERIALS AND METHODS

➢ *Setting of the Study:-*

The study was conducted at the External Psychiatry Consultation Unit (EPCU) of the Fann National University Hospital in Dakar (NUHD). The EPCU is part of the Department of Psychiatry and Medical Psychology. This department is dedicated to teaching, care, and research. In addition to the EPCU, it comprises a hospitalization unit with six divisions and a capacity of 45 beds, a child psychiatry unit that operates on an outpatient and day hospital basis, and an addiction care unit known as the Dakar Integrated Addiction Care Center (DIACC), which also operates on an outpatient basis. The EPCU is designed to receive patients over 16 for their first consultation and provides outpatient care. In addition to the unit's head doctor, four psychiatric interns are assigned every six months: a nurse, two orderlies, a social worker, and a secretary.

➢ *Type and Period of Study:-*

It was a retrospective, monocentric, descriptive study of patients followed for chronic hallucinatory psychosis between January 1, 2010, and December 31, 2014, a period of five years.

➢ *Study Population and Eligibility Criteria:-*

The study concerned all patients of both sexes and all ages who were seen at the EPCU of the psychiatry department of the Fann NUHD for a CHP during the study period. The sampling was exhaustive. After reviewing the medical records, it was decided to exclude from this study patients whose medical records were incomplete or when the records were not available in the unit's archives.

➢ *Type and Period of Study:-*

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➢ *Data Collection and Variables:-*

The data collected were identified from the paper record of patient consultations. Patient demographic information and the diagnosis for each patient received were recorded in this register. After consulting the register, we examined all the records of patients between January 1, 2010, and December 31, 2014, at the outpatient department of the Fann NUHD. A list of patients diagnosed with CHP was compiled using information obtained from the patient registry. Once the complete medical records had been selected, a psychiatric intern trained for this purpose carried out the computer entry using a standardized data collection form. It included demographic variables (sex, age at onset of the disease, marital status, profession, level of education), variables linked to the context of onset, in particular life events, conjugately (divorce, separation), and situations of solitude (widowed, single), clinical variables (origin of the request for care, onset mode, onset period, reasons for consultations, symptoms of the psychiatric examination, evolutionary modalities) and therapeutic data (drug classes used, therapeutic itinerary and therapeutic compliance).

➢ *Statistical Analysis:-*

The data collected for each variable was coded to preserve patient anonymity in accordance with ethical rules. It was then entered and processed using Sphinx2+ software. Using this software, we produced a simple description of the different variables studied. Figures and tables were produced using Excel version 2013. The study's results are expressed as frequencies and averages.

➢ *Ethical Considerations:-*

The EPCU head gave permission to use patient documents (registry and medical records). The data extracted for this study were treated confidentially, and no identifying information was entered on the datasheet.

III. RESULTS

During the study period, 6,502 people were seen at the outpatient psychiatry unit of the Fann NUHD. Of these, 143 were diagnosed as having chronic hallucinatory psychosis according to French nosography, representing a prevalence of 2.2% of all patients seen by the unit. However, only 86 files were retained because the 57 other files were either unusable or could not be found during data collection. Table 1 gives an overview of the sociodemographic characteristics of patients followed up at the psychiatric outpatient clinic of the Fann NUHD for CHP.

Table 1. Sociodemographic Characteristics of Patients Followed in Outpatient Psychiatry at the Fann NUHD between 1 January 2010 and 31 December 2014 (N = 86).

Socio-demographic variables	Frequency (n)	Percentage (%)
Gender		
Male	22	25.6
Female	64	74.4
Age group		
18-25 years old	1	1.2
25-35 years old	9	10.5
35-45 years old	23	26,7
45-55 years old	24	27.9

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55-65 years old	16	18.6
65 years and over	13	15.1
Marital status		
Single	16	18.6
Married	31	36.0
Divorced	9	10.5
Widowed	6	7.0
Not specified	24	27.9
Profession		
No	13	15.1
Formal sector	12	13.9
Informal sector	14	16.3
Not specified	47	54.7
Area of origin		
Urban	49	57.0
Suburban	16	18.6
Rural	20	23.3
Outside Senegal	1	1.2

During the study period, 6,502 people were seen at the outpatient psychiatry unit of the Fann NUHD. Of these, 143 were diagnosed Within the scope of the study, there were 64 women (74.4%) and 22 men (25.6%). The female/male ratio was 2.91. Patients ranged in age from 18 to 86. The average age was 50.2. More than half the patients (54.6%) were aged between 35 and 64. Marital status was found in 62 patients for a completeness rate of 72.1%. Married patients were the most represented, with a rate of 50%. The patient's occupation could only be specified in 39 cases, giving a completeness rate of 45.3%. Occupational categories were grouped into primary (two cases, 5.1%), secondary (10 cases, 25.6%), and tertiary (16 cases, 41.1%) sectors. People with no occupation accounted for 28.2% or 11 cases. Most of the patients in our study population came from urban areas (49 - 56.9%). Twenty patients, or 23.3%, lived in rural areas, and 16 patients, or 18.6%, lived in rural areas. Only one patient (1.2%) came from outside Senegal during the study period.

Information on the consultation request was recorded for 77 patients, giving a completeness rate of 89.5%. Sixty-two (80.5%) of the requests for consultation came from a family member or close friend. The remaining 15 patients were referred by themselves (10 cases, 13%), by a health facility (three cases, 3.9%), or by the courts (two cases, 2.6%). The most frequent reasons for consultation were insomnia, incomprehensible speech, and auditory-verbal hallucinations, with rates of 69.8%, 46.5%, and 37.2%, respectively (Table 2).

Table 2 Clinical Characteristics of Patients Followed in Outpatient Psychiatry at the Fann NUHD between 1 January 2010 and 31 December 2014 (N = 86).

Clinical variables	Frequency (n)	Percentage (%)
Origin of the consultation request		
Himself	10	11.6
Family/relatives	62	72.1
Health facilities	03	3.5
Justice	02	2.3
Not specified	9	10.5
Reasons for patient consultations		
Behavioral problems	04	4.7
Psychomotor agitation/ Running away	18	20.9
Irritability/ Quarrels	09	10.5
Aggression	07	8.1
Insomnia	60	69.8
Incomprehensible speech/ Logorrhea	40	46.5
Isolation/ Sadness	09	10.5
Headaches	09	10.5
Acoustic/verbal hallucinations	32	37.2
Visual hallucinations	11	12.8
Intrapsychic hallucinations	11	12.8
Other	15	15.1

The most frequent symptoms on psychiatric examination were acoustic-verbal hallucinations (80% - 74 patients), followed by ideas of persecution in 54 patients (62.8%), mental automatism (45.3% - 39 patients), and insomnia (33 cases -

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38.4%) (Fig.). The mode of onset was not specified in 70.9% of cases. Eighteen cases, or 20.9% of patients, reported a gradual onset of the disorders. More than half the patients (51.1%) consulted a doctor between 6 months and 2 years after the onset of the disease.

None of the files mentioned psychotherapeutic treatment; all the patients were on neuroleptics (100%). Antiparkinsonian drugs (65.1%) were not instituted spontaneously. More than ¾ of patients (72.1%) took their medication regularly. 31.4% of patients progressed well on treatment (Table 3).

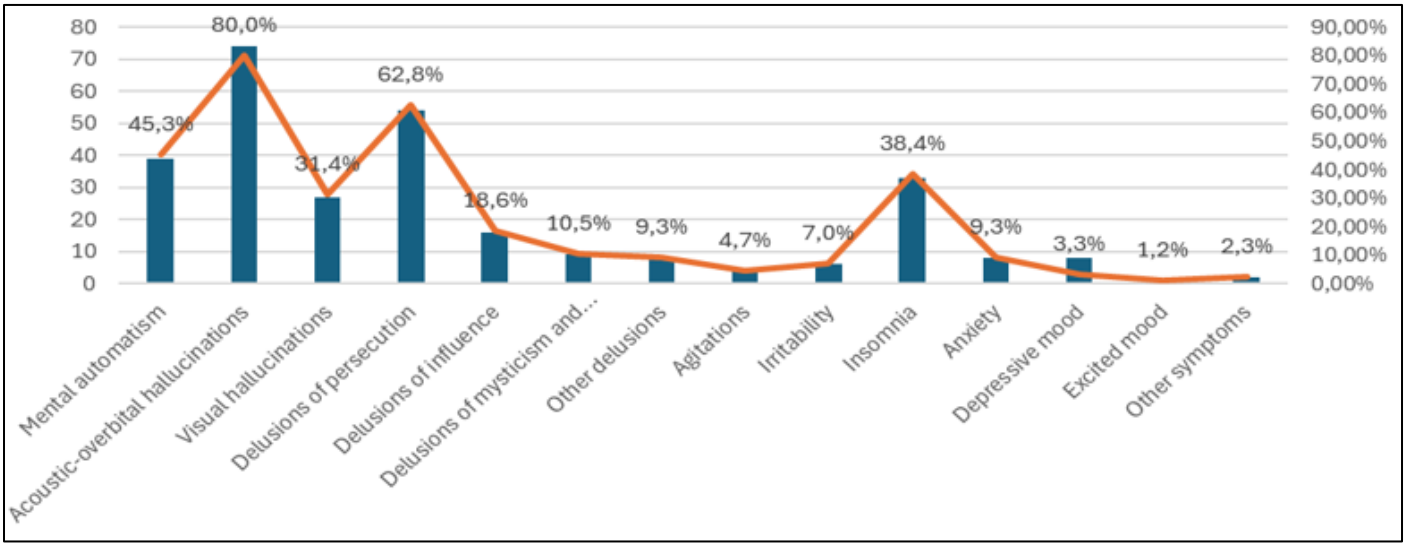

Fig 1 Distribution of Patients According to Symptoms on Examination

Table 3 Distribution of patients according to therapeutic data

Therapeutic data	Frequency (n)	Percentage (%)
Drugs		
Neuroleptics	86	100
Anxiolytics	45	52.3
Antidepressants	9	10.5
Thymoregulators	4	4.7
Hypnotics	16	18.6
Antiparkinsonian	56	65.1
Other drugs	7	8.1
Treatment compliance		
Good	62	72.1
Poor	19	22.1
Not specified	5	5.8
Progress with treatment		
Favourable	27	31.4
Unfavourable	32	37.2
Lost contact	27	31.4

IV. DISCUSSION

The results of our study were obtained from information collected retrospectively from the medical records of new outpatients, which in some cases were only sometimes complete, implying a potential bias due to missing data. This limitation is compounded by our results being preliminary and monocentric and, therefore, cannot be generalized to other regions or mental health facilities. Thus, it would be interesting to broaden the scope of this study by including other psychiatric services in the landscape. Despite its limitations, such a study is a valuable contribution to our knowledge of the profile of patients suffering from persistent delusional disorders in general and chronic hallucinatory psychosis in particular, who turn to the healthcare system, especially in a context where psychiatric consultations are not recorded in the Ministry of Health's health information system.

➢ *Socio-Demographic Characteristics:-*

The study involved 86 subjects, 74.4% female, with a sex ratio 2.9. The predominance of women is an epidemiological constant found in studies of chronic hallucinatory psychosis throughout the world [9, 10, 11]. Could this female predominance be linked to the loneliness these women face? We have noted in this work that most women live in polygamous households. Even if the social stabilizing role of marriage makes sense in the psychopathology of mental illness, women in polygamous households often find themselves alone when their spouse is with their co-wives. Loneliness may also be linked to the husband's departure for professional reasons.

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He may leave the family home and sometimes emigrate for a shorter or longer period.

Considering the age groups of the study population, a predominance of patients aged between 45 and 55 years and between 35 and 45 years was observed in the proportions of 27.9% and 26.7%, respectively. These results are like those of Ndiaye [9], who found that 78% of patients were over 30. The age distribution shows a relatively old population. These results show the late onset of this disease, as confirmed by authors such as Robert et al [10] and Albernhe and Maricay [12]. The late onset of chronic hallucinatory psychosis is an essential element in distinguishing it from schizophrenia, which has an early onset. However, some authors, such as Forrest and Dworkin, describe late-onset forms of schizophrenia [11]. It should be emphasized that the absence of clinical and epidemiological studies comparing late-onset schizophrenia and CHP makes it challenging to draw any formal conclusions about the identity or possible singularity of these two clinical entities. In our series, ten patients were under 35 years of age. This group of patients, with a diagnosis of chronic hallucinatory psychosis, poses a nosography problem. The question that arises here is: Do these patients not belong to the class of late-onset schizophrenia? To answer this question, it would have been necessary for this study to investigate the semiological variety of these two pathologies in greater depth to evaluate their possible influence on any conception; this is not one of the study's objectives, but it would be attractive for future studies.

In terms of patients' marital status, married patients were the most represented, with a rate of 36% for both men and women. Our results are like those of Doukoure et al. [13], who reported that marriage was the most frequent status, with a rate of 45.6%. Ndiaye [9] also found a predominance of married people (60%) in his study. This predominance of married people can only be explained by the fact that in Africa, particularly in Senegal, the marriage rate is both early and high [14]. Is marriage a predisposing factor in African culture? Most married women experience loneliness in their households. Many of their husbands have emigrated and only return to see their wives once a year or even once every five or ten years.

The patients' occupation was not specified in 54.7% of cases. 15.1% of patients had no occupation, and 16.3% worked in the informal sector. Our results are comparable to those of Ndiaye [9], who found that much of his series had a low socioeconomic level, with 52% being homemakers, but also to those of Doukoure et al. [13], who found that homemakers constituted the most affected socio-professional category with 39.1%. These two categories occupy the two extremes of the occupation scale. It could be explained by the fact that people working in the informal sector are preoccupied with their work. This preoccupation leads to social and emotional isolation. Those without a profession are preoccupied with finding a job, and the financial precariousness of their lives also leads to loneliness in these patients.

Of the 86 patients in our study, more than half (57%) lived in urban areas, 18.6% lived in suburban areas, 23.3% lived in rural areas, and only one patient in the sample lived outside the country. It can be explained by the fact that the service is receiving more patients from Dakar. It should also be noted that patients living in other regions of Senegal temporarily stay in Dakar with a family member. They only come for a consultation and then quickly leave for their region. These patients generally give their Dakar address instead of their actual address, which explains the high percentage of people living in urban areas. Psychiatric centers in the suburbs and other regions of Senegal treat patients who live there. Despite this relocation, some patients continued to come to the psychiatric department at Fann Hospital, which was the only one in the country for a certain period and, therefore, the best known by the local population.

- *Clinical Characteristics:-*

In our study population, almost all patients (72.1%) are referred to psychiatric consultations by their family/carers. The members of the patient's family are the first to notice the change in the patient, but they are also the ones who will accompany the patient throughout the therapeutic process. Family members accompany the patient to medical appointments and ensure compliance with treatment.

Insomnia was the most frequent reason, with a rate of 69.8%, followed by incomprehensible speech, Logorrhea (46.5%), and acoustic/verbal hallucinations (37.2%). We note here the predominance of productive symptoms in this chronic non-dissociative psychosis. Unlike schizophrenia, where dissociative syndrome is often found with a preponderance of deficit symptoms. De Pradiere et al. [15] have shown in a study that patients with CHP present more positive symptoms and have significantly fewer deficit symptoms or disorders of the train of thought.

70.9% of cases did not specify the mode of onset. In 18 cases (20.9% of patients), the onset was progressive. We agree with Ndiaye [9], Boucharlat and Maitre [16], and Albernhe & Maricay [12] that the onset of the disease is progressive. Half of the patients (51.1%) consulted a doctor between six months and two years after the onset of the disease.

The psychiatric symptoms found in our series are very varied. Acoustic-verbal hallucinations were found in 80% of patients. Our results are like those of Darves-Bornoz et al. [11], Ndiaye [9], and Doukoure et al. [13], who found rates of 81%, 84.6%, and 89.9%, respectively, in their series. Acoustic-verbal hallucinations taken in isolation are almost commonplace and can be found in all other chronic psychoses such as schizophrenia. These types of hallucinations alone do not seem to be characteristic of chronic hallucinatory psychosis. Ideas of persecution were found in 62.8% of the study population. Our results are comparable to those of Ndiaye [9], who found delusions of persecution in many patients in his study (66%). Darves-Bornoz et al. [11] found in their study that 88% of patients with persecutory delusions, and Doukoure et al. [13] 89.1%. Most patients are convinced that they are the prey of an outside force. Moreover, these ideas of persecution are based

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on a certain logic, unlike the paranoid delusions of people with schizophrenia. In contrast to schizophrenia, which begins in young people, delirium occurs in a restricted space, often centered on the immediate environment or neighborhood. In other words, it is more structured and less vague. Delusions in CHP are more structured and better organized than in schizophrenia [17]. However, authors such as Leroux [18] believe that the degree of systematization is variable. Mental automatism is found in 45.3% of patients. Our results are like those of Doukoure et al. [13] and Darves-Bornoz et al. [11], who found respective results of 30.4% and 31%, but differ from those of Ndiaye [9], who found that mental automatism was present in all the patients in his study. According to De Clerambault's definition in 1911, CHP is a chronic psychosis in which mental automatism constitutes the fundamental core, and the delusional superstructure constitutes an added ideation [17]. So, to make a diagnosis of CHP, must mental automatism always be present?

- *Therapeutic characteristics:-*

All patients were on neuroleptics (100%), results like those of Doukoure et al. [13], who found in his series (97.8%). Antiparkinsonian drugs (65.1%) were not instituted spontaneously. At a fertile moment in the CHP, treatment was often started paternally. Other psychotropic drugs were sometimes combined: anxiolytics (52.3%) because of the anxiety associated with the disorders, hypnotics (18.6%) to treat associated insomnia, and antidepressants (10.5%). These results show that neuroleptics were the treatment of choice in the management of patients with CHP. These results align with the literature on the use of neuroleptics [19]. Chemotherapy doses were not specified. The submitted article should include the name(s) and the affiliation(s) of the author(s).

More than ¾ of patients (72.1%) took their medication regularly. Poor compliance with treatment (19%) appears to be linked to a few factors: personal (reluctance and forgetfulness on the part of patients) and family (absence of the person helping them to take their medication). Could it also be due, at times, to a poor patient environment or bad interpersonal relationships?

31.4% of patients have a favorable short-term outcome, 37.2% have an unfavorable outcome, and 31.4% are lost to follow-up. Doukoure et al. [13] obtained a 43.5% favorable short-term outcome. Our results differ from those of Ndiaye [9], who found that all patients had a favorable outcome in his series.

In contrast to schizophrenia, the course of CHP under treatment can be spectacular, with a complete disappearance of hallucinatory phenomena. However, the delusions may become entrenched, or the delusional syndrome may persist despite good compliance with treatment or even lead to complications such as the appearance of a depressive syndrome. Patients whose symptoms have progressed well do not always return to the hospital because of the cost of the proposed treatment. Other patients, faced with a poor evolution of their pathology, change their health establishment without warning. Unlike schizophrenia, the course of CHP under treatment can be spectacular, with the complete disappearance of hallucinatory phenomena. However, the delusions may become entrenched, or the delusional syndrome may persist despite good compliance with treatment or even lead to complications such as the onset of depressive syndrome. Patients whose symptoms have progressed well do not always return to the hospital because of the cost of the proposed treatment. Other patients, faced with a poor evolution of their pathology, change their health establishment without warning. These two patient categories account for the number of patients lost to follow-up. Are these 31.4% of patients lost to follow-up, not patients with approvable outcomes? The brutal nature of the fertile moment of CHP and its approvable short-term course may lead families to regard it as an acute disorder that has been cured. bodies.

V. CONCLUSION

This study showed that patients with chronic hallucinatory psychosis undergoing outpatient psychiatric treatment were of advanced age, primarily married and emotionally isolated. A similar profile has been identified in international literature on the same subject. Chronic hallucinatory psychosis is a psychiatric condition that continues to attract the attention of French-speaking psychiatrists, even though it has been banned from the Diagnostic and Statistical Manual of Mental Disorders, 5th edition (DSM V), and the International Classification of Diseases, 10th edition (ICD 10). These psychiatrists recognize this condition as a separate entity for diagnosis and treatment. Because of its epidemiological, clinical, and therapeutic characteristics, as mentioned in our study, chronic hallucinatory psychosis needs to be more precisely defined and deserves further study.

LIST OF ABBREVIATIONS

- *CHP: Chronic Hallucinating Psychosis*
- *DIACC: Dakar Integrated Addiction Care Center*
- *DSM V: Diagnostic and Statistical Manual of Mental Disorders, 5th edition*
- *EPCU: External Psychiatry Consultation Unit*
- *ICD 10: International Classification of Diseases, 10th edition*
- *NUHD: National University Hospital in Dakar*

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