

HOSPITALIZATIONS DUE TO THE USE OF PSYCHOACTIVE SUBSTANCES: STUDY IN A PSYCHIATRIC HOSPITAL

Internações decorrentes do uso de substâncias psicoativas: estudo em um hospital psiquiátrico

Internaciones derivadas del uso de sustancias psicoactivas: estudio en un hospital psiquiátrico

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ABSTRACT

Objective: To analyze the occurrence of hospitalization for psychiatric disorders resulting from the use of psychoactive substances in a referral psychiatric hospital. **Method:** A census, retrospective, analytical and quantitative approach, based on 123 records of hospitalizations. **Results:** The mean age of hospitalized patients in 2015 was 40.7, the majority were male (66.7%), from the urban area (78%) and had a history of readmissions (52, 8%). Multiple drugs and other psychoactive substances (39.8%) were the main substances of abuse by patients. In addition, it was found that among hospitalized patients, there were psychiatric comorbidities. **Conclusion:** In view of this, it is evident the need for strategies aimed at prevention and appropriate treatment of disorders caused by the use of alcohol and other drugs.

Descriptors: Mental health; Substance use disorders; Drug users.

RESUMO

Objetivo: Analisar a ocorrência de internação por transtornos psiquiátricos decorrentes do uso de substâncias psicoativas em um hospital psiquiátrico de referência. **Método:** Estudo censitário, retrospectivo, analítico e de abordagem quantitativa, realizado a partir de 123 registros de internações. **Resultados:** Obteve-se que a média de idade dos pacientes internados em 2015 foi de 40,7, a maioria era do sexo masculino (66,7%), provenientes da zona urbana (78%) e com histórico de reinternações (52,8%). As múltiplas drogas e outras substâncias psicoativas (39,8%) constituíram-se como as principais substâncias de abuso pelos pacientes. Além disso, verificou-se que, entre os pacientes internados, houve presença de comorbidades psiquiátricas. **Conclusão:** Diante disso, evidencia-se a necessidade de

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estratégias voltadas para a prevenção e o tratamento adequado aos distúrbios ocasionados pelo uso de álcool e outras drogas.

Descritores: Saúde mental; Transtornos relacionados ao uso de substâncias; Usuários de drogas.

RESUMEN

Objetivo: Analizar la ocurrencia de internación por trastornos psiquiátricos derivados del uso de sustancias psicoactivas en un hospital psiquiátrico de referencia. **Método:** Estudio censitario, retrospectivo, analítico y de abordaje cuantitativo, realizado a partir de 123 registros de internaciones. **Resultados:** Se obtuvo que la media de edad de los pacientes internados en 2015 fue de 40,7, la mayoría era del sexo masculino (66,7%), provenientes de la zona urbana (78%) y con histórico de reinternaciones (52, 8%). Las múltiples drogas y otras sustancias psicoactivas (39,8%) se constituyeron como las principales sustancias de abuso por los pacientes. Además, se verificó que, entre los pacientes internados, hubo presencia de comorbilidades psiquiátricas. **Conclusión:** Ante ello, se evidencia la necesidad de estrategias dirigidas a la prevención y el tratamiento adecuado a los disturbios ocasionados por el uso de alcohol y otras drogas.

Descriptores: Salud mental; Trastornos relacionados con el uso de sustancias; Usuarios de drogas.

INTRODUCTION

The abusive use of alcohol and other drugs is a relevant public health issue. This circumstance is due to the fact that, in recent decades, the use of psychoactive substances has increased significantly worldwide. Data from the World Health Organization (WHO) indicate that more than half of the world population has consumed licit and illicit drugs at some point in their lives.¹ Among the most used drugs are alcohol, followed by tobacco and the group of drugs illicit drugs, which include marijuana, crack, and cocaine.²

The use of psychoactive substances is a complex problem linked to multiple factors, such as low social tolerance, reduced capacity to comply with rules and laws, as well as the ease of availability of drugs, crime, and social violence. Such aspects contribute to the deterioration of social and family ties and social deprivation.³

In Brazil, the use of alcohol and other drugs has been widely debated due to the growing concern with the consumption habits of these substances, as well as their social, economic impacts and their implications for the health of the population.⁴

The health and social problems resulting from the use of psychoactive drugs are mainly characterized by situations of violence, traffic accidents, unprotected sex, intoxication and worsening of clinical and psychological diseases.⁵

Accordingly, the implications of the abuse of psychoactive drugs are also present in the context of mental health. There is a high risk of psychiatric illnesses among people who abuse drugs. And this association significantly affects not only the quality of life of these people, but also creates special difficulties, particularly concerning the treatment.⁶

Another factor that negatively influences the treatment is the way professionals, working in specialized services in the care and treatment of drug addicts, consider the users, who are characterized as individuals without limits and manipulators, responsible for their disease. Thus, the representation of professionals, who are important therapeutic agents, ends up having an impact on the quality of their care. The use, consequences, and treatment of people experiencing substance abuse must be discussed both in the treatment spaces and in the institutions that train human health resources.⁷

Given this framework, where the use of alcohol and other drugs has taken on worldwide proportions and, through the reading of studies that address this subject, the objective was to analyze the occurrence of hospital admissions due to psychiatric disorders resulting from the use of psychoactive substances in a Psychiatric Referral Hospital.

METHODS

Study Design and Location

This is a census, retrospective and analytical study with a quantitative approach, which was carried out from May to June 2016 at a Psychiatric Referral Hospital located in *Teresina city, Piauí State*.

Study Participants

The study population comprised all patients bearing psychiatric disorders resulting from the use of psychoactive substances, who were admitted from January to December 2015. As inclusion criteria, data from patients with diseases of the International Classification of Diseases (ICD-10) that varied from F10.0 to F19.9. The exclusion criterion is the absence of information relevant to the study.

Data Collection

Data were collected from the hospital admission records, using an instrument built by the researchers for this purpose. In the instrument, the following variables of interest were considered: age, gender, origin, number of hospital admissions, the diagnostic classification according to the ICD-10 to identify the drugs used and comorbidities.

Statistical Analysis

After data collection, these were entered twice and validated in the Microsoft Excel 2010 program and then imported into the Statistical Package for Social Science (SPSS) version 18.0 for descriptive and inferential statistical analysis of the data. Variables such as psychiatric disorders were categorized by group of association with a particular substance. Categorical variables are presented in absolute

and relative frequencies. Furthermore, an association test (Pearson's chi-square) and a comparison test (Kruskall Wallis) were performed, with a 95% confidence interval and a 5% significance level.

Ethical and Legal Considerations

The study followed the ethical principles guiding research involving human beings, as addressed in the Resolution No. 466/12 from the National Health Council.⁸ The research project was authorized by the Institution where the data were collected and, soon after, it was submitted to the Research Ethics Committee from the *Sociedade de Ensino Superior e Tecnológico do Piauí LTDA* and approved under the Legal Opinion No. 966.036. The Data Usage Commitment Term was used in order to guarantee confidentiality for the purpose of using the information.

RESULTS

The sample included 123 hospital admission records of patients admitted in 2015 to a referral psychiatric hospital. As shown in **Table 1**, the age ranged from 21 to 84 years old, with an average of 40.7 years old, and a standard deviation of ±13.6 years old. Considering the gender, 82 (66.7%) patients were male and 41 (33.3%) female. Seeing this total, 96 (78%) came from the urban area and 27 (22%) from the rural area.

Considering the number of hospital admissions, it was found that 65 (52.8%) patients were admitted to the hospital two times or more, and 57 (46.3%) patients were hospitalized only one time.

Table 1 - Characterization of the sociodemographic profile and readmissions of hospitalized patients.

Variables	Min-Max	Avg.	SD	N	%
Group age (years old)	21 - 84	40,7	±13.6		
18-34				49	39.8
35-52				50	40.7
53-84				24	19.5
Gender					
Male				82	66.7
Female				41	33.3
Origin					
Urban area				96	78
Rural area				27	22
Number of hospital admissions					
One time				57	46.3
Two times or more				65	52.8
Not informed				1	0.8
Total				123	100

Note: Min = Minimum; Max = Maximum SD = Standard Deviation.

The substances related to the most frequent mental and behavioral disorders are shown in **Table 2**. Of which it was identified that 49 (39.8%) of the research participants used multiple drugs and other psychoactive substances, 39 (31.7%) ingested alcohol and 28 (22.8%) had the solvent as their consumption substance.

Opiates, cannabinoids, and cocaine were presented with two records each, corresponding to a percentage of 1.6%. Smoking was identified as the substance used by 1 (0.8%) single patient.

Psychiatric comorbidities were identified along with the diagnoses, among them, 3 (2.4%) records each, for F20.0 (Paranoid schizophrenia) and F31.2 (Bipolar disorder, with manic episode); 2 (1.6%) for F20.1 (Hebephrenic schizophrenia) and only 1 (0.8%) record for F32.2 (Severe depressive episode, without psychotic symptoms), F33.2 (Recurrent depressive episode) and F40.0 (Agoraphobia). Therefore, taking into consideration the 123 hospitalized patients, 11 presented comorbidities.

Table 2 - Characterization of the types of psychoactive substances and comorbidities.

Variables	N	%
Substance-related diseases		
Alcohol	39	31.7
Volatile solvents	28	22.8
Opiates	2	1.6
Cannabinoids	2	1.6
Cocaine	2	1.6
Tobacco	1	0.8
Multiple drugs and other substances	49	39.8
Associated comorbidities		
No comorbidities	112	91.1
F 20.0	3	2.4
F 20.1	2	1.6
F31.2	3	2.4
F32.2	1	0.8
F33.2	1	0.8
F 40.0	1	0.8
Total	123	100

Note: F = Group code (F) disease ICD-10.

Table 3 describes the associations between the use of psychoactive substances and the characteristics of patients in terms of sociodemographic and hospitalization aspects. Hence, psychoactive substances were categorized as alcohol, volatile solvents and multiple drugs and other substances, since opiates, cannabinoids, cocaine, and tobacco were present in a very small proportion that did not allow a conclusion concerning the event in question. study.

It was found that male patients correspond to those who use more alcohol and multiple drugs. However, there was no significant difference between genders regarding substance use. Observing the origin, it was found that most patients live in the urban area, with a higher proportion being observed for those who use multiple drugs and other substances.

When considering the number of hospital admissions, it was found that for alcohol consumption, rehospitalization presents itself in a lower proportion, since the number of patients who have been admitted only one time is larger than those with two times or more. For those who use volatile solvents and multiple drugs and other substances, there is a marked percentage of readmissions.

It was found when considering the small number of patients who had other psychiatric disorders that, for those who use volatile solvents, the proportion of comorbidities was greater compared to those who use the other substances.

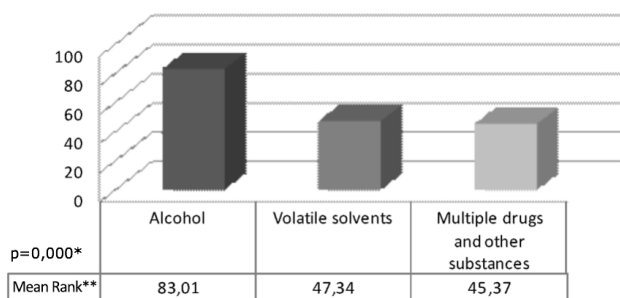
Table 3 - Association between the use of psychoactive substances and both sociodemographic characteristics and hospitalizations.

Variables	Drug abuse			Total n (%)	p-value (CI 95%)**
	Alcohol n (%)	Volatile solvents n (%)	Multiple drugs and other substances n (%)		
Gender					0.112
Male	26(66.7)	14 (50.0)	36 (73.5)	76(65.5)	
Female	13(33.3)	14 (50.0)	13 (26.5)	40(34.5)	
Origin					0.780
Urban area	32(82.1)	21 (75.0)	39 (79.6)	92(79.3)	
Rural area	7 (17.9)	7 (25.0)	10 (20.4)	24(20.7)	
Number of hospital admissions*					0.668
One time	21(53.8)	12 (42.9)	23 (47.9)	56(48.7)	
Two times or more	18(46.2)	16 (57.1)	25 (52.1)	59(51.3)	
Comorbidities					-
With comorbidities	2 (5.1)	6 (21.4)	1 (2.0)	9 (7.8)	
Without comorbidities	37(94.9)	22 (78.6)	48 (98.0)	107(92.2)	

Note: * Total of 15 **Pearson's chi-square test.

Figure 1 shows the relationship between age variance according to the type of psychoactive substance used. Hence, in the group of patients who consume alcohol, the average age (50.8 years old) was much higher than the use of volatile solvents (35.7 years old) and multiple drugs and other substances (35.0 years old).

Figure 1 - Comparison between the group variances considering both groups the psychoactive substances and the users' age. *Kruskall Wallis test **n=116.



DISCUSSION

The consumption of psychoactive substances might trigger mental and behavioral disorders. Its occurrence is

marked by heterogeneity, since it affects people for different modes, reasons, and circumstances. Worldwide estimates indicate that approximately 230 million people within the age group from 15 to 64 years old use legal and illegal drugs, being able to develop risky behaviors that involve from the weakening of family relationships to the development of psychosomatic signs and symptoms.⁹

In this perspective, the present study provides relevant information on hospitalizations due to the abuse of psychoactive substances. It was observed that in the group of patients analyzed there was a high number of male individuals. Similar results were evidenced in a study carried out in the *Paraná* State, where for males the main inpatient diagnoses were mental and behavioral disorders due to the use of psychoactive substances. Although the literature points to an increase in consumption in general, a larger drug use and its more significant consequences are still common in the male population.¹⁰

Considering the age variable, it was found that the average in hospitalized patients was 40.7 years old. This data differs from an international research performed in psychiatric hospitals in Asia, where the average age was 30 years old.¹¹ Thus, it is observed that in these countries the profile of users hospitalized due to disorders resulting from

the use of psychoactive substances is comprised of younger people when compared to participants of this investigation.

In regard to people origin, most patients came from the urban area, which corroborates with the data from the World Health Organization that about 10% of the populations living in urban centers abuse some type of psychoactive substance.²

Regarding the periodicity of hospitalizations, it was found that there is a recurrence due to the high percentage of patients hospitalized two times or more. In this sense, the data obtained may indicate that some cases, due to their complexity and severity, require recurrent hospital care in addition to the usual monitoring of the Family Health Strategy.¹² In a survey carried out in the *Minas Gerais* State, hospital admissions due to disorders caused by substance abuse were identified, of which, as observed in the present study, there were episodes of readmission. In New York city, a study revealed a predominance of hospitalizations for depressive episodes for those patients with a history of abuse of psychoactive substances.^{13,14}

Another point to be discussed, concerns some cannabinoids, such as those present in marijuana, which produce psychotic symptoms, in addition to memory deficit. So, marijuana intoxication can lead to transient and recurrent psychotic experiences, which would be, for consumers of this substance, a justification for repeated hospitalizations.¹⁵

Among the diseases present in the International Classification of Diseases (ICD-10), specifically those categorized between F10 and F19, they deal with mental and behavioral disorders caused by the use of psychoactive substances, of which they express numerous disorders that differ from each other by varying severity and by diverse symptomatology, but they have in common the fact that they are all attributed to the use of one or more psychoactive substances, prescribed or not by a physician.¹⁶

Thus, through these diagnostic categories, it is possible to assign the type of substance in use by the patient. Considering these drugs, the most used in the world, according to the literature, corresponding to *Cannabis* and amphetamine stimulants. With regard to legal substances, in the world adult population, the prevalence of tobacco use is 25% and that of alcohol consumption is 42%, being, respectively, 5 and 8 times higher than the use of illicit drugs.¹⁷

Herein, it was also possible to identify the main substances used by patients in a hospital situation. Among them, the use of multiple drugs related to the withdrawal syndrome, followed by the consumption of volatile solvents and alcohol abuse were more prevalent among the analyzed group.

Given these results, the number of users who use multiple drugs points to the problem of polydrug use, making it increasingly evident, since those dependent on just one psychoactive substance become dependent on others in order to mitigate, intensify or modify the characteristic of its intoxication, or even with the intention of relieving the symptoms of the withdrawal syndrome.¹⁸

Using these drugs, in addition to causing disorders due to the use of psychoactive substances, can trigger the occurrence of a new disorder associated with the initial diagnosis. This new disease emerges with the possibility of potentiation of signs and symptoms, being characterized as comorbidity. Such characteristics were observed among the participants of this research, in which it was found that, associated with the primary diagnosis, there were patients with schizophrenia, bipolarity and recurrent depressive episodes.

The high prevalence of new psychiatric disorders in drug addicts has been confirmed in other investigations. And in regard to the drugs used, the chronic use of alcohol and crack/cocaine have generated serious consequences, which may act as triggering factors for psychiatric conditions, especially mood disorders and a greater presence of personality disorders.¹⁹

The development of these mental and behavioral disorders is also highly influenced by alcohol, amphetamines, and cannabinoids. This last type of substance is also associated with the appearance of schizophrenic symptoms, as well as with characteristics of delusional and hallucinatory psychoses.^{11,13}

Other studies still ask questions about the origin of these disorders in people who consume drugs, if they are truly the result of the use of stimulating drugs, since psychoactive substances have the possibility of triggering the development of psychopathy in already predisposed patients. It has to be said that stimulant-induced psychoses are very likely to cease within a few days until about a month of abstinence. Only 1 to 15% of patients with stimulant-induced psychosis maintain any psychotic symptoms after one month. These values could reflect the fact that 1% or less of the population, in any group, will develop schizophrenia.²⁰

However, large prospective epidemiological studies show a link between *Cannabis* use and the development of chronic psychotic diseases, such as schizophrenia, in addition to associating it with negative clinical and functional results: early onset of the disease; more positive symptoms; a higher relapse rate and a reduction in treatment response. Schizophrenic episode due to *Cannabis* use is associated with a cerebral reduction in gray matter volume in users, compared with non-users, over time.¹⁵ According to other reports, it should also be stated that 60% of schizophrenic patients being treated have a history of abuse or dependence on illicit drugs such as amphetamines and cocaine.²⁰ In any case, it is up to professionals to ensure proper diagnosis and assistance.

Comorbid patients, especially those with severe psychiatric disorders, show higher rates of aggression, detention for illegal acts, suicide, relapses, treatment expenses, homelessness, readmissions, longer periods of hospitalization and greater use of medical services. The social evolution of these patients tends to be worse, causing a larger financial impact on society.²¹

Clients with mental disorders, including those dependent on alcohol and other drugs, are social beings, still without political, legal and civil rights. Which makes the issue a challenge not only for psychiatric knowledge, but for psychosocial knowledge, from which do emanate the need for administrative, economic changes and the struggle for citizenship. In order to do so, it is necessary to organize actions that adequately operationalize the resources to achieve good preventive and therapeutic results.²²

Considering the dialogue between the results of this study and the literature on this topic, it is possible to observe the problem regarding the use of psychoactive substances. The drugs under discussion do reach from younger to elderly population, who have consumption patterns characterized by the prevalence of the use of multiple drugs and other substances. This is seen as a factor for criminality, aggressiveness and other anti-social behaviors, which has been drawing the attention of society and managers from the perspective of public security, social assistance and health. The latter is highlighted here due to the implications of substance abuse on the mental health of its consumers, which can lead to permanent disorders, as well as other comorbidities.

The number of records that comprised this study was 123, which is representative of patients bearing disorders resulting from the use of psychoactive substances, admitted to the psychiatric referral hospital during 2015. These patients were mostly male (66.7%), middle-aged adults, with an average of 40.7 years old, coming from the urban area (76%) and who had been hospitalized two times or more (52.8%).

Hospitalizations stand out for those patients making use of multiple drugs related to the withdrawal syndrome, followed by alcohol abuse and the consumption of volatile solvents. This high number of hospital admissions due to the use of multiple drugs may reflect the behavior and characteristics of psychoactive consumption in the urban area.

In addition to those diagnoses, some of the patients hospitalized over the study period have shown comorbidities related to the use of psychoactive substances. Studies addressing populations making use of substances are relevant due to the heterogeneity of the participants and the most diverse repercussions of this consumption.

FINAL CONSIDERATIONS

Bearing in mind the aforementioned, it is underlined the need for strategies aimed at the prevention and appropriate treatment of these disorders. It is also important to consider that added to the stigma of being a user of alcohol and other drugs, they additionally suffer the invisibility of having a mental disorder. Therefore, studies and actions targeting this population are extremely important.

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