# Substance use among psychiatric patients hospitalized in a psychiatric unit in Southern Italy: an observational study

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## SUMMARY

### Aim
*The primary aim of the study was to observe the prevalence of drug use in psychiatric patients admitted to a psychiatric unit. The secondary aim was to observe any correlation between substance use and the sociodemographic and clinical characteristics of the sample group.*

### Methods
*Retrospective descriptive study with proactive sampling. Based on the election criteria, the survey was conducted on subjects admitted to a Psychiatric unit of a hospital in Southern Italy between January 2021 and December 2021. The data was obtained through toxicological examination of urine, collected in January 2022 and subsequently analysed using SPSS software.*

### Results
*The sample consists of 68 persons. Most of the participants tested positive for at least one substance. The substances most used were benzodiazepines, followed by cannabis and, to a lesser extent, cocaine and methadone. A fair percentage proved simultaneously positive for two substances. Individuals with bipolar and psychotic disorders appeared to be the major users.*

### Conclusions
*Substance use among psychiatric patients is a phenomenon also present in Southern Italy. Substance use can have a negative impact on the well-being of patients with psychopathologies, on their clinical course and on the functionality of health care organizations. This phenomenon is particularly challenging for the National Health System and the Mental Health Network in Italy. Enhancing integration between psychiatric services and addiction services, introducing innovative dedicated operating units and offering specific training courses addressed to health professionals could be useful strategies for improving the well-being of these patients and their clinical-care management.*

**Key words:** dual diagnosis, substance-related disorders, mental disorders, substance abuse detection, mental health

## Introduction

Dual diagnosis (DD) is defined by the World Health Organization (WHO) as "the concurrence in the same individual of a psychoactive substance use disorder and another psychiatric disorder" [1]. This phenomenon appears to be widespread on the international panorama [2] and in the European framework [3], as shown by studies on large populations that attest to the concomitant presence of substance use disorder (SUD) and mental disorder in almost 8 million people [4]. The risk of incurring DD is increased by various factors, including genetic vulnerabilities [5], environmental factors such as stress [6] or trauma [7], and socio-demographic characteristics

such as sex, age, occupational status and cultural level, social class and familiarity with substance abuse [8-10]. Moreover, mental disorders themselves can also represent a risk factor for the development of a SUD [11], given that individuals with a mental disorder could use the substances as self-medication [12]. Among the mental disorders commonly found to coexist with a SUD we see: depressive disorders [13], bipolar disorders [14], anxiety disorders [15], personality disorders [16] and psychotic disorders [17].

It is therefore clear that DD is a significant problem in the world health panorama, both because the two disorders can influence each other – with the mental disorder that can lead to an SUD [11] and an SUD that can cause the mental disorder to develop or worsen [18,19] –, and because the dual diagnosis brings with it a series of complications, such as reduced compliance and self-care, increased risk of suicide, risky and violent behaviour [20-22] and hospitalizations [23], leading to difficulties in clinical-care management and critical issues in both medical treatment and nursing care [24,25]. Furthermore, in Italy, unlike other countries, the diagnostic-therapeutic-assistance course of patients with DD is usually split between addiction services and psychiatric services, with shared but separate interventions [26], and this in itself leads to further complications.

Various studies of the phenomenon have been conducted so far in Italy, but none have been carried out on a population of acute psychiatric patients hospitalized in a unit in Southern Italy. We postulate that substance use is widespread in this context as well, with a greater prevalence of the abuse of substances used as medication, such as benzodiazepines, or that are easily available, such as cannabis [27].

## Materials and methods

### Aim
1. to observe the prevalence of drug use in psychiatric patients hospitalized in a psychiatry unit in Southern Italy;
2. to observe any correlation between substance use and the socio-demographic and clinical characteristics of the sample group.

### Study design
The study design employed was retrospective descriptive.

### Research tools
The data was obtained through documentary sources: clinical reports obtained from the toxicological examination of urine the patients' urine (drug-tests). The tests, carried out on a urine sample, analyses patient positivity or negativity to the following substances: benzodiaz-epines (BZD), cannabis (CBD), cocaine (COC), methadone (MTD), opiates (OPI), amphetamines (AMP) and methamphetamines (MDMA).

### Data collection
The data was collected in January 2022. During this period, the necessary documentation was obtained through the hospital's computer system, including the set of reports of the drug tests conducted on patients admitted to the psychiatric unit over a period of one year, from January 2021 to December 2021.

### Data analysis
The data was organized in a database and analysed using version 27.0 of the SPSS statistical software. Mean and standard deviation were calculated for the continuous variables, whereas absolute and relative frequencies were calculated for the ordinal variables and expressed as percentages. The groups were identified using socio-demographic and clinical characteristics (gender, age, marital status, level of education and discharge diagnosis), and statistical significance tests (Chi-squared) were conducted to compare the responses obtained. The significance level was set at 5% ($p \leq 0.05$).

### Sample group
The study sample group was selected by proactive sampling. The following election criteria were applied to the participants:
- inclusion criteria: adults with psychopathology, hospitalized in the psychiatry unit, susceptible to substance abuse conduct;
- exclusion criteria: none.

## Results
68 participants were included in the study based on the election criteria. The sample was largely made up of men (64.7%) and had an average age of almost 36 years. Most of the participants were single (77.9%), had a high school (42.6%) or middle school (41.2%) diploma and suffered from psychotic disorders (52.9%). Regarding the use of substances, almost all of the sample group tested positive for at least one substance (88.2%), but by excluding BZD the percentage was significantly reduced (20.6%). BZDs are indeed the most used (85.3%), followed by CBD (17.6%), COC and MTD (1.5%). No participant tested positive for OPI, AMP and MDMA. However, part of the sample (17.6%) was simultaneously positive for two substances, of which at least one was BZD. (Tab. I)

No statistically significant differences emerged from the comparative analysis between groups, but there was a higher level of positivity to the various substances among patients with bipolar and psychotic disorders. (Tab. II)

**TABLE I.** *Summary of the results.*

| | Answers | N/D | % | Mean ± SD (min – max) |
|---|---|---|---|---|
| Gender | Men | 44 | 64.7 | - |
| | Women | 24 | 35.3 | |
| Age | 19/-29; | 19 | 27.9 | 35.62 ± 10.65 (19-61) |
| | 30/-39; | 26 | 38.2 | |
| | 40/-49; | 17 | 25.0 | |
| | ≥ 50 | 6 | 8.8 | |
| Marital status | Single | 53 | 77.9 | - |
| | Married | 9 | 13.2 | |
| | Divorced or separated | 5 | 7.4 | |
| | Missing | 1 | 1.5 | |
| Instruction | Primary school diploma | 2 | 2.9 | - |
| | Middle School graduation | 28 | 41.2 | |
| | High school graduation | 29 | 42.6 | |
| | Degree or higher | 8 | 11.8 | |
| | Missing | 1 | 1.5 | |
| Pathology | Bipolar disorders | 20 | 29.4 | - |
| | Depressive disorders | 5 | 7.4 | |
| | Personality disorders | 3 | 4.4 | |
| | Psychotic disorders | 36 | 52.9 | |
| | Addiction disorders | 4 | 5.9 | |
| Benzodiazepines (BZD) | Positive | 58 | 85.3 | - |
| | Negatives | 2 | 2.9 | |
| | Missing | 8 | 11.8 | |
| Cannabis (CBD) | Positive | 12 | 17.6 | - |
| | Negatives | 49 | 72.1 | |
| | Missing | 7 | 10.3 | |
| Cocaine (COC) | Positive | 1 | 1.5 | - |
| | Negatives | 67 | 98.5 | |
| | Missing | 0 | 0 | |
| Methadone (MTD) | Positive | 1 | 1.5 | - |
| | Negatives | 55 | 80.9 | |
| | Missing | 12 | 17.6 | |
| Opiates (OPI) | Positive | 0 | 0 | - |
| | Negatives | 58 | 85.3 | |
| | Missing | 10 | 14.7 | |
| Amphetamines (AMP) | Positive | 0 | 0 | - |
| | Negatives | 66 | 97.1 | |
| | Missing | 2 | 2.9 | |

**TABLE I.**

|  | Answers | N/D | % | Mean ± SD (min – max) |
|---|---|---|---|---|
| Methamphetamine (MDMA) | Positive | 0 | 0 | - |
|  | Negatives | 62 | 91.2 |  |
|  | Missing | 6 | 8.8 |  |
| Use of at least one substance | Yes | 60 | 88.2 | - |
|  | No | 8 | 11.8 |  |
| Use of at least one substance (excluding BZD) | Yes | 14 | 20.6 | - |
|  | No | 54 | 79.4 |  |
| Use of two substances (BZD + other) | Yes | 12 | 17.6 | - |
|  | No | 56 | 82.4 |  |

**TABLE II.** *Diagnosis and substance positivity.*

| Disorders | BZD | | CBD | | COC | | MTD | | At least 1 substance | | At least 1 sub. (excl. BZD) | | 2 sub. (BZD + other) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  | N/D | % | N/D | % | N/D | % | N/D | % | N/D | % | N/D | % | N/D | % |
| Bipolar | 18 | 31.0 | 5 | 41.7 | 1 | 100 | 1 | 100 | 18 | 30.0 | 7 | 50.0 | 7 | 58.3 |
| Depressive | 4 | 6.9 | 0 | - | 0 | - | 0 | - | 4 | 6.7 | 0 | - | 0 | - |
| Personality | 3 | 5.2 | 0 | - | 0 | - | 0 | - | 3 | 5.0 | 0 | - | 0 | - |
| Psychotic | 30 | 51.7 | 6 | 50.0 | 0 | - | 0 | - | 32 | 53.3 | 6 | 42.9 | 4 | 33.3 |
| Addiction | 3 | 5.2 | 1 | 8.3 | 0 | - | 0 | - | 3 | 5.0 | 1 | 7.1 | 1 | 8.3 |

## Discussion

The primary aim of the study was to observe the prevalence of drug use in psychiatric subjects hospitalized in a psychiatry unit in Southern Italy.

The results of the study confirmed the initial hypothesis, showing that almost all of the sample group tested positive for at least one substance of those analysed (88.2%), but it is significant that by excluding BZD, the percentage was significantly reduced (20.6%). BZDs appear to be, as supposed, the substance most used by the sample group (85.3%), and this data was in line with literature, which observes that BZDs are becoming the most frequent forms of SUD in DD [4], probably due to the tendency of subjects to self-medicate through the substance use [12,20,27]. The second most used substance in the sample was CBD (17.6%), although at lower rates than observed in other studies [28,29]. On the other hand, the percentages of COC and MTD use appeared negligible (1.5%).

The secondary aim of the study was to observe any correlation between substance use and the sociodemographic and clinical characteristics of the sample group. Although no statistically significant differences emerged in the comparative analysis between groups, and although bipolar and psychotic subjects represented the majority of the sample (29.4 and 52.9%, respectively), it is interesting to observe that these participants were, among all, the most positive to substance use. Respectively, the bipolar group was on the whole positive for BZD, CBD, COC and MTD, while the psychotic group was positive for BZD and CBD. It is important to note that these two types of patient showed the highest simultaneous positivity to two substances emerges, i.e. BDZ or other (bipolar disorders 58.3%, psychotic disorders 33.3%).

In summary, the substances most used in the sample were BZD and CBD, and the major users appeared to be bipolar and psychotic patients. This trend appears to be generally in line with literature, both – as has been said – for BZD and CBD.

Going into more detail, the problematic consumption of CBD in effect appears much higher among subjects suffering from psychopathologies, including psychotic and personality disorders, compared to the general population [30-32], to the point of affecting about one in four individuals, who will therefore live with a DD due to the coexist-

ence of a cannabis use disorder (CUD) and a psychiatric pathology [33]. It is important to emphasise that the use of CBD in this population can involve various complications such as: decreased clinical and functional recovery, relapses, longer hospitalizations and impaired daily life activities, in addition to an increased risk of suicide and the development of bipolar disorders [34-39].

Clinical experience also demonstrates that substance abusers with psychiatric comorbidity have more frequent access to Emergency Care Unit, higher rates of hospitalization and a more significant prevalence of suicide when compared to substance abusers without psychiatric disorders. They also show high-risk behaviours that lead to medical complications, such as HIV or HCV infections, social implications, like being unemployed or homeless, and violent and criminal behaviours. Clinical practice demonstrates that the two conditions are mutually connected, leading to a poor prognosis for both, if not simultaneously treated [40].

### Limitations of the study

A purposive sampling method was applied, which may have introduced selection biases. Moreover, the study sample was of limited size, which could impede the generalizability of the results. Lastly, addiction to substances such as alcohol and nicotine was not assessed.

### Conclusions

The results of this study, albeit with the above limitations, showed that the use of substances among patients with a psychiatric disorder is a phenomenon also present in Southern Italy.

Psychiatric subjects who use substances are likely to run into a series of complications capable of negatively affecting their well-being and the clinical-care course. Furthermore, in the case of hospitalized patients, the impact that their management could have on healthcare personnel and on the functioning of healthcare organizations, in terms of service efficiency and effectiveness, well-being of operators and costs, cannot be overlooked.

In light of this, it is clear that double diagnosis represents a criticality for the National Health System and for the Mental Health Network in Italy. However, this complexity could be interpreted as a challenge for improving the performance and service delivered to this particular population.

These patients, defined in the literature as multi-problematic [41], indeed require a different clinical and care approach to the kind usually addressed to subjects only suffering a single psychopathology. To this end, intensifying integration between psychiatric services and addiction services could be useful or, again, to consider the introduction, at national level, of innovative operating units specifically dedicated to the treatment of dual diagnosis patients, by virtue of their peculiarity. It could also be convenient to offer specific training courses, such as ongoing medical training addressed to the health professionals most involved in managing these patients (doctors and nurses), to provide them with skills, knowledge and abilities that can be used in the care and treatment of dual diagnosis patients, improving the outcomes and the well-being of the operators.

Further studies could be conducted in the future on the diffusion of the phenomenon among hospitalized psychiatric patients in Italy, also investigating the use of more common substances such as alcohol and nicotine, in order to increase the knowledge available on the subject.

### Conflict of interest statement
The Authors declare no conflict of interest.

### Authors' contributions
All Authors contributed to the manuscript, read and approved the final version of it.

### Ethical consideration
The research was conducted ethically, with all study procedures being performed in accordance with the requirements of the World Medical Association's Declaration of Helsinki.

The data was collected and processed in respect of privacy and anonymously. The data will remain confidential.

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