DIFFERENTIAL GENDER SEVERITY EXPRESSION OF SYMPTOMS IN PATIENTS WITH DUAL DIAGNOSIS: AN IN-PATIENT OBSERVATIONAL STUDY

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SUMMARY

Background: The present retrospective study is aimed at exploring the impact of gender differences in a sample of inpatients with dual diagnosis.

Subjects and methods: The study was carried out at the Psychiatric Service of the General Hospital/University of Perugia (Italy). Patients were recruited from January 2015 until December 2018. The sample consists of patients with dual diagnosis, divided into two subgroups based on gender; descriptive and bivariate statistics were performed (p<0.05). Male and females were compared according to socio-demographic, clinical and psychopathological features, measured by Clinical Global Impressions (CGI) and factor models of the Positive and Negative Syndrome Scale (PANSS) and the Brief Psychiatric Rating Scale (BPRS).

Results: In our sample (n=157), no significant differences in socio-demographic features were found between male (n=108, 68.8%) and female subjects (n=49, 31.2%). Women displayed a higher frequency of involuntary hospitalizations (53.1% vs 32.4%, p=0.022) and a higher score on the general psychopathology scale of the Positive and Negative Syndrome Scale (PANSS) (41.86±8.96 vs 36.54±10.38, p=0.041).

Conclusions: Our study confirms the prevalence of dual diagnosis in the male gender. Female sex appears more frequently connected to some indices of clinical severity. We expect to enlarge our sample to confirm these results and further clarify the knowledge on the subject.

Key words: dual diagnosis - gender difference - psychiatric inpatients

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INTRODUCTION

A large part of the general population diagnosed with a psychiatric illness has a history of other concurrent disease (Kessler et al. 1997b, 1994) and more than half of the patients under psychiatric treatment meet the criteria for over than one diagnosis (Wolf et al. 1988).

The problem of comorbidity refers extensively to multiple psychiatric disorders found in the same individual, but the association between mental illness and substance abuse received significant attention over the last two decades (Gouzoulis-Mayfrank 2004).

The term "Dual Diagnosis" describes individuals who fall under diagnostic criteria for one or more mental illnesses along with one or more substance use disorders (SUD).

The diagnosis and treatment of these conditions underpins the integration of major concerns about drug dependence and psychopathology in a unitary, patient-centered multidimensional approach.

In the coexistence of substance-related and psychiatric disorders the two conditions affect each other negatively with relevant clinical, social and health costs (Lieb 2015, Torrens et al. 2011, Whiteford et al. 2013). Comorbidity complicates treatment outcomes and prognosis, delays symptom remission and increases the risk of suicide attempts (Hasin et al. 2007, Hasin & Grant 2015).

Several studies underline the importance of systematic screening for the detection of psychiatric comorbidity in patients with substance use disorders, as well as the use of validated and homogeneous tools for the diagnosis of both diseases. Appropriate training of the healthcare professional becomes crucial, since lack of awareness about screening and integrated assessment can affect an adverse outcome (Antai-Otong et al. 2016. Torrens et al. 2017).

In Italy, the Services for Drug Addiction (SerD) organization has, over the years, referred to an autonomous regulatory system. The phenomenon of co-morbidity has an impact both in DSM (Department of Mental Health) and in SerD which are called to respond to new users with therapeutic needs not considered before.

At the same time some difficulties in the therapeutic communities (CT) emerged in working with complex types of patients. Sometimes this led to renewal and conversion processes within the same structures in order to improve reception capacity. Faced with this framework and the need for integrated and multidimensional interventions, there is a need to promote as well defined and standardised collaboration between the different Services involved in the problem: DSM, Serd, CT, Agencies of the private social, Services for alcoholism, etc. (Clerics et al. 2005).

Given the high prevalence and the overall severity of the problem, the identification and appropriate treatment of patients with dual diagnosis is one of the major challenges for all health professionals working in the field of addiction (Torrens et al. 2017).

Regarding gender differences and dual diagnosis, existing studies are rare and segmental. In our opinion,

and in other studies is confirmed, gender is a very important factor that can influence the expression of mental illnesses, both for clinical characteristics and for severity and prevalence (Carmassi et al. 2014).

Subsequently, the aims of the present retrospective study are: (i) to estimate the prevalence of dual diagnosis in a sample of hospitalized inpatients; (ii) to assess clinical and psychopathological characteristics more related to dual diagnosis; (iii) to investigate gender differences in our sample.

SUBJECTS AND METHODS

Subjects

The present retrospective study was conducted in the Psychiatric Inpatient Unit of University/General Hospital of Perugia, Umbria, Italy, between January 1st 2015 and December 31st 2018. The selected sample included inpatients over 18 years old, admitted to the Unit both using involuntary treatment procedures and voluntary hospitalization. Only patients with dual diagnosis (other psychiatric disorder and substance abuse) were recruited for the present analysis. Patients with severe neurocognitive disorders were excluded.

The investigators carried out a careful review of the patient records in order to extrapolate the socio-demographic, anamnestic and clinical data, with a subsequent evaluation of the scores obtained with the PANSS, BPRS, CGI scales. The diagnoses were formulated following the guidelines of the DSM5 (APA 2013).

All selected patients signed their informed consent prior to inclusion in the study. We conducted the study according to Good Clinical Practice and the Declaration of Helsinky (DoH).

Methods

A retrospective analysis of standardized clinical charts routinely used in the Unit was performed. Socio-demographic (gender, age, nationality, marital status) and clinical (type of hospitalization, previous inpatient admissions, reason for admission, length of stay, psychiatric diagnosis, additional medical diagnosis) data were collected. Variables related to the mode of discharge (sheltered discharge or transferred patient) and to the therapies (at the time of entry into the department and discharge) were also considered.

Data extracted from the careful review of patients clinical records was interted into an electronic dataset.

Psychopathological characteristics of selected patients were assessed by means of the Positive and Negative Syndrome Scale (PANSS) (Kay et al. 1987) and the 24-item Brief Psychiatric Reporting Scale (BPRS) (Lukoff et al. 1986). Symptom severity was evaluated using the Clinical Global Impression (CGI) (Guy 1976). Assessment was performed by conveniently trained residents in psychiatry with the supervision of an expert senior psychiatrist.

Statistical analyses

Descriptive analysis and examination of the distributional properties of sociodemographic, clinical and psychopathological variables were carried out. Dividing the sample by gender, the two subgroups were compared through bivariate analyses. We used Chi Pearson square test for cathegorical variables. As for continuous variables, t-test and Mann-Whitney U were used depending on the normality of variables distribution. Statistical significance was set at $p<0.05$.

All analyses were performed using the Statistical Package for Social Sciences (SPSS), 20.0 version for Windows Inc.

RESULTS

The sample of the present study consisted of 157 patients. Among these, 108 (68.8%) were men and 49 (31.2%) were women.
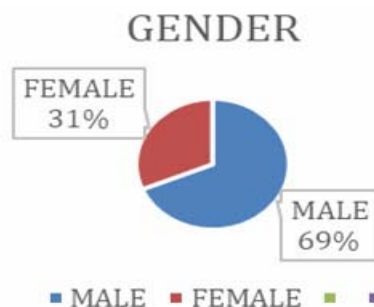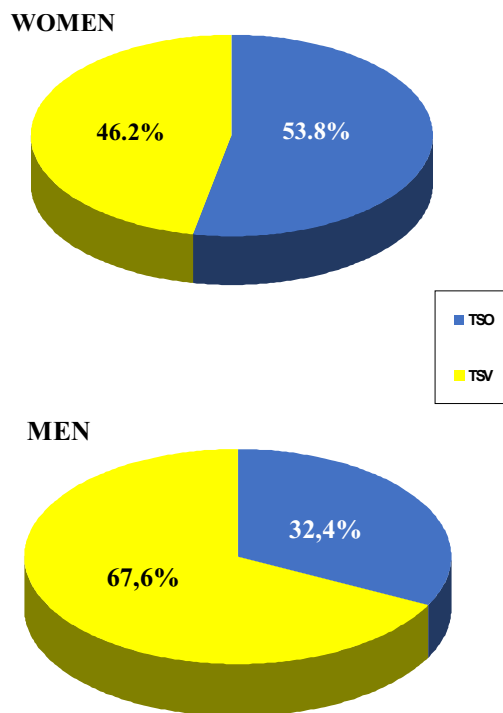

Figure 1. Gender Distribution in our sample

Figure 2. Involuntary Hospitalization: men Vs women frequency

Table 1. Comparison Between Male and Female. Psychopathological characteristics in patients with dual diagnosis.

	PANSS Gen.	PANSS 8	PANSS 16	PANSS 29
Male	36.54 ± 10.38	2,4 ± 1	2.80 ± 1.57	2.46 ± 1.34
Female	41.86 ± 8.96	1,64 ± 0,95	3.72 ±1.45	3,50 ±1.57
P	0.041	0.010	0.022	0.05

PANSS=Positive and Negative Syndrome Scale; PANSS-positive= delusions, grandiosity, hallucinatory behavior, suspiciousness/persecution, unusual thought content; PANSS-negative= active social avoidance, blunted affect, emotional withdrawal, lack of spontaneity and flow of conversation, motor retardation, passive/apathetic social withdrawal; PANSS General= PANSS-depressed/anxiety: anxiety, depression, guilt feelings; PANSS-disorganized = conceptual disorganization, difficulty in abstract thinking, mannerism and posturing, poor attention; PANSS-excited: excitement, hostility, poor impulse control, uncooperativeness

No differences in socio-demographic characteristics were found between the two subgroups. As for clinical characteristics, female patients more frequently underwent involuntary hospitalization (53.1% versus (vs) 32.4%, p=0.022).

When psychopathological characteristics were considered, women presented a higher score at the general psychopathology scale of the Positive and Negative Syndrome Scale (PANSS) (41.86±8.96 vs 36.54±10.38, p=0.041).

As for the analysis of single items of the PANSS scale, an overview of the average scores is given in Table 1. There was a significant difference in items 8, 16 and 29.

Item 8 refers to "Blunted Effect" (Negative Symptom) and we found greater scores for men (2.42±1, vs 1.64±0.95; p=0.010). Both items 16 and 29 belong to General Symptoms. In particular we found higher score of "Anxiety" and "Preoccupation" in female patients (3.72±1.45 vs 2.80±1.57; p=0.022; 3.50±1.57 vs 2.46±1.34; p=0.005).

DISCUSSION

In the present sample none of the socio-demographic variables evaluated showed a significant difference between males and females. Among the clinical variables, however, some statistically significant features emerged. In the women group, composed of a lower number of subjects, aspects connected to a greater severity of disease were found. In fact, there is a significantly higher frequency of involuntary hospitalizations than men and higher average scores in the PANSS General Psychopathology subscale.

In addition, women in our sample showed a clinical profile characterized by higher levels of anxiety and concern as detected by scores at the items 16 and 29 of the scale.

As for the sub-sample of men with dual diagnosis, however, a depletion of emotional reactivity was detected as a clinical trait with significant prevalence according to the upper average scores obtained in item 8 ("affective flattening") of the PANSS Negative scale.

The reference studies in this sector are limited and the comparison is difficult due to the heterogeneity of the variables considered. Our results seem to be consistent with what was previously stated in the literature (Miquel et al. 2011; Arias et al. 2016; Antai-Otong et al. 2016), as demonstrated by a lower frequency of dual diagnosis in the female sex when considering different psychiatric settings and a greater prevalence of anxious symptoms associated with substance abuse in women. Some indices of severity highlighted in women, e.g. frequency of involuntary treatment and higher scores at the PANSS general psychopathology subscale, recall previous evidence (Miquel et al. 2011; Antai-Otong et al. 2016). Further elements possibly linked to a greater severity in the presentation of dual diagnosis in females were represented by the increased likelihood of suffering from a severe psychiatric disorder (Antai-Otong et al. 2016). The study by Miquel and collaborators (Miquel et al. 2011) also highlighted an increased risk of suicide in alcoholics with comorbidity for affective disorders and a greater severity, in women, of psychotic spectrum disorders (increased production symptoms, greater number of hospitalizations and worst overall functioning) when associated with SUD. Specifically, however, the indices of greater clinical severity that were significantly linked to the female sex in our sample need further studies to investigate these correlations. The data emerged in our study on gender differences are affected by some limitations including the retrospective nature of the study and the limited variables considered. Future prospective studies on larger samples may increase the statistical predictive power of the study and further stratify the population according to demographic and clinical criteria. Furthermore, additional variables related, for example, to the socio-economic status of the sample, the age and timing of the onset of the SUD and psychopathology, the type of substances used, as well as information on the course of the disorders and on the treatment path after diagnosis, may be useful in order to explore the overal clinical complexity of this population. In conclusion, gender differences in dual pathology deserve further investigation as variations are observed. A better characterization of such difference may influence clinical management, treatment and planning of services.

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