Psychiatria Danubina, 2014; Vol. 26, Suppl. 1, pp 148–161 *Conference paper*

PSYCHIATRY IN THE EMERGENCY ROOM: CLINICAL EXPERIENCE IN PERUGIA

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SUMMARY

Background: *We examined all psychiatric consultations carried out over 3 years at the Emergency Room (ER) of the hospital of Perugia, with the aim of describing the epidemiologic characteristics of patients with any psychiatric illness and their management. We also assessed the distribution of psychiatric emergencies over this period of observation.*

Subjects and methods: *We recruited patients consecutively admitted to the ER, between June the 20th 2011 and June the 20th 2014, for which a psychiatric consultation was required. We analysed socio-demographic and clinical data as well as the type of long-range plan after discharge. Continuous variables were presented as means and standard deviations. Categorical variables were presented as number and percentages. For comparing the means we used the Student's t-test. For analyzing the association between categorical variables we performed Pearson's chi-squared test or the Fisher's exact test where appropriate. We considered significant test results with $p<0.05$. The post-hoc analyses were carried out by means of standardized Pearson residuals, in order to assess the significance of the cell-wise divergences from homogeneity. Spearman's correlations were computed for reasons for a psychiatric consultation request across months. Multinomial logistics regression model was used for analyzing the variability of the reasons for the admission to the ER for the 12 months. Statistical analyses were performed using the R software v 3.1.*

Results: *Neurotic, stress-related and somatoform disorders were the most represented. The most frequent approach to patients with psychiatric complaints did not imply the use of psychopharmacological treatments or coercive interventions. No particular seasonality of psychopathology was observed.*

Conclusions: *ERs may represent the place where the first psychiatric visit occurs and a point of reference for the chronic patients. It can also represent an opportunity for further examination of organic comorbidity.*

Key words: *psychiatric emergencies - consultation-liaison psychiatry - emergency room*

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INTRODUCTION

Patients with psychiatric illnesses represent a significant and increasing proportion of emergency department (ED) patients (Douglass 2011, Larkin 2009, Larkin 2005). The emergency rooms (ERs) of the EDs have proven to be an important entry point for a variety of psychiatric patients as well as a link between general hospitals (GHs) and community mental health services (Biancosino 2009). Several studies have been carried out to evaluate the socio-demographic and clinical characteristics of patients referred to the ED for specific mental health disorders and to examine the decision making process regarding admission to psychiatric or medical wards (Kawashima 2014, Chaput 2014, Choi 2012, Wu 2012, Castilla-Puentes 2011, Pompili 2011, Douglass 2011, Penagaluri 2010, Biancosino 2009, Pandya 2009, Boudreaux 2006, Larkin 2005) but few have assessed the epidemiology of the use of the ED for all mental illnesses in adults (Padilha 2013, Puffer 2012, Hazlett 2004).

In the ER psychiatrists are constantly faced with various types of psychiatric problems. First of all the real emergencies, which by definition indicate an acute disturbance of thought, mood, behavior or social relationship that requires an immediate intervention for the potential to rapidly treat and avoid a catastrophic outcome. Beside these, there are the urgent situations, namely those with a slower evolution and where the dangerous outcome is not imminent and attention can be shortly delayed (Villari 2007).

Alongside the management of psychiatric emergencies/urgencies, the ER is also a place where there occurs the so-called consultation-liaison (C-L) psychiatry, which has two separate modes of application in the clinical setting that is, on the one hand, the actual consultation, which essentially concerns the diagnosis and the treatment (Fulcheri 2001), and, on the other hand, the link or liaison, which is a more complex and continuous intervention which leads to a more extensive cooperation with the treating team, as well as a mediation and a connection between this, the patient, his/her family members and the staff in charge of assistance (Mayou 1988).

In this study we examined all the psychiatric consultations carried out at the ER of the Santa Maria della Misericordia Hospital in Perugia, between June the 20th 2011 and June the 20th 2014, with the aim of describing the epidemiologic characteristics of patients referred to the ER for any psychiatric condition and their management. Moreover, since it is widely believed that holidays are associated with an increased incidence of

psychopathology (Belleville 2013, Sansone 2011), we also assessed the distribution of psychiatric emergencies over these 3 years of observation.

SUBJECTS AND METHODS

We recruited 2074 consecutive patients admitted to the ER between June the 20th 2011 and June the 20th 2014, for which a psychiatric consultation was required. The present study was carried out with the approval of the local Ethics Committee.

The service, based at the psychiatric ward of the Santa Maria della Misericordia Hospital in Perugia, is available 24 hours a day, 365 days a year and is carried out by one attending psychiatrist and one resident. It receives requests for urgent or planned consultations, by all departments of the hospital. In the ED, consultations are always provided under emergency/urgency.

Activities are divided into diagnostic, therapeutic and planning after discharge.

Data was collected by the means of a survey form derived from the Patient Registration Form (PRF) (Lobo 1996) and subdivided in 8 sections:

- Demographic data;
- Administrative data about the length of stay and the number of consultations carried out;
- Data related to modality of request and provision of consultation;
- Presence of psychiatric history;
- Current psychiatric diagnosis;
- Medical diagnosis;
- Consultancy services and link provided;
- Long-range plan after discharge .

In particular, we analysed socio-demographic characteristics and clinical characteristics consisting in the primary reasons for the psychiatric consultation request, psychiatric diagnosis, previous psychiatric assistance, psychopharmacological treatments at home, psychopharmacological treatments in the ER, presence of medical comorbidity, and type of long-range plan after discharge. We also considered in which month each consultation was carried out. Finally we examined the distribution of the main reasons for the request of a psychiatric consultation by month, over the study period, and we looked for possible seasonal effects. We also analysed the association between the reasons for the request of a psychiatric consultation and the socio-demographic characteristics, between psychiatric diagnoses and demographic characteristics, and between plans after discharge and demographic characteristics and diagnoses.

Statistical analysis

Continuous variables were presented as means and standard deviations. Categorical variables were presented as number and percentages. For comparing the means we used the Student's t-test. For analyzing the association between categorical variables we performed Pearson's chi-squared test or the Fisher's exact test where appropriate. We considered significant test results with $p<0.05$. The post-hoc analyses were carried out by means of standardized Pearson residuals, in order to assess the significance of the cell-wise divergences from homogeneity. Spearman's correlations were computed for reasons for the request of a psychiatric consultation across months. A multinomial logistics regression model was used for analyzing the variability of the reasons for the admission to the ER over the 12 months. Statistical analyses were performed using the R software v 3.1. (R Core Team 2014).

RESULTS

In the study period, between June the 20th 2011 and June the 20th 2014, a total of 4337 consultations have been carried out in the Santa Maria della Misericordia Hospital in Perugia, of which 2074 (47.82%) were requested by the Emergency Department.

Socio-demographic characteristics of the sample are shown in Table 1. There were 928 men (44.7%) and 1146 women (55.3%), with a mean age of 41.7 years (SD 16.93) (range 13-94). Half of the sample (N=1042; 50.2%) were unmarried, 27.2 % (N=564) were married, 7.7% (N=159) were divorced/separated and 4.7% (N=97) were widowed. One third of the patients lived with their family of origin (N=653, 31.5%), one third of them lived with their conjugal family (N=548, 26.4%), 14.6% (N=303) lived alone, 4.6% (N=96) lived in an institution and 12.7% (N=263) lived in other conditions (mainly live-in partners, unmarried). One fourth of the patients (N=537, 25.9%) were unemployed, 20.8% (N=432) were employed, 16.6% (N=344) were retired/ disabled, 8.9% (N=184) were students, 3.4% (N=71) were housewives, 3.3% (N=69) were self-employed, 1.3% (N=27) were freelance professionals/managers. Regarding countries of origin, more than three fourths of the patients (N=1666, 80.3%) were Italian, 8.5% (N=177) came from the rest of Europe, 5.7% (N=119) from Africa, 1.5% (N=32) from South and Central America, 0.5% (N=11) from Middle East, 1.1% (N=23) from Asia, and 6 patients (0.3%) came from USA.

Clinical characteristics of the sample are presented in Table 2. The distribution of the different reasons of the requests are as follows: 29.4% Anxiety (N=609), 24% Agitation (N=497), 12.4% Suicide attempt (N=258), 5.9% Depression (N=123), 4.4% Delusions/ hallucinations (N=91), 3.3% Confusion (N=69), 2.8% Unexplained physical symptoms (N=59), 2.2% Alcoholism (N=46), 1.6% Psychiatric history (N=34), 1.5% Difficult management and poor compliance (N=31), 1.3% Re-evaluation of psychopharmacological therapy (N=27), 1.2% Aggressive behaviour (N=24), 0.9% Patient's request (N=19), 0.9% Insomnia (N=18), 0.6% Undefined (N=13).

Table 1. Socio-demographic characteristics of the sample

	Mean N	SD* %
Age	41.7	16.93
< 20	130	6.3
20-29	416	20.1
30-39	496	23.9
40-49	417	20.1
50-59	279	13.5
>60	307	14.8
Unknown	29	1.4
Gender		
Male	928	44.7
Female	1146	55.3
Conjugal status		
Unmarried	1042	50.2
Married	564	27.2
Divorced/separated	159	7.7
Widowed	97	4.7
Unknown	212	10.2
Environment		
Family of origin	653	31.5
Conjugal family	548	26.4
Alone	303	14.6
Institution	96	4.6
Other	263	12.7
Unknown	211	10.2
Occupation		
Unemployed	537	25.9
Employed	432	20.8
Retired/disabled	344	16.6
Student	184	8.9
Housewife	71	3.4
Self-employed	69	3.3
Freelance professional, manager	27	1.3
Other	75	3.6
Unknown	335	16.2
Country of Origin		
Italy	1666	80.3
Rest of Europe	177	8.5
Africa	119	5.7
South and Central America	32	1.5
Middle East	11	0.5
Asia	23	1.1
USA	6	0.3
Unknown	40	1.9

*SD Standard deviation

Table 2. Clinical characteristics of the sample

	N	%
Primary reason for the request of a psychiatric consultation		
Anxiety	609	29.4
Agitation	497	24.0
Suicide attempt/suicide risk	258	12.4
Other	156	7.5
Depression	123	5.9
Delusions/hallucinations	91	4.4
Confusion	69	3.3
Unexplained physical symptoms	59	2.8
Alcoholism	46	2.2
Psychiatric history	34	1.6
Re-evaluation of pharmacological therapy	27	1.3
Aggressive behaviour	24	1.2
Request from the patient	19	0.9
Insomnia	18	0.9
Undefined	13	0.6
Psychiatric diagnosis		
Neurotic, stress-related and somatoform disorders	519	25.0
Mood (affective) disorders	310	14.9
Schizophrenia, schizotypal and delusional disorders	290	14.0
Deferred diagnosis	268	12.9
Disorders of adult personality and behavior	224	10.8
Mental and behavioural disorders due to psychoactive substance use	131	6.3
None	145	7.0
Dual diagnosis	70	3.4
Organic, including symptomatic, mental disorders	65	3.1
Mental retardation	26	1.3
Behavioural syndromes associated with physiological disturbances and physical factors	19	0.9
Behavioural and emotional disorders with onset usually occurring in childhood and adolescence	7	0.3
Psychiatric assistance in the last 5 years		
Community mental health services	843	40.6
None	662	31.9
Private psychiatrist	254	12.2
Unknown	161	7.8
General practitioner	96	4.6
Other	58	2.8
Psychiatric assistance in the last 6 months		
Community mental health services	844	40.7
None	574	27.7
Private psychiatrist	263	12.7
General practitioner	156	7.5
Unknown	176	8.5
Other	61	2.9

1 BDZ = Benzodiazepines; 2 AD = Antidepressants;
3 NL = Neuroleptics; 4 = Mood stabilizers

Table 2. Continues

	N	%
Psychopharmacological treatments at home		
None	794	38.3
BDZ1	223	10.8
BDZ+AD2	196	9.5
BDZ+NL3	163	7.9
NL	131	6.3
BDZ+AD+NL	110	5.3
BDZ+NL+MS4	117	5.6
AD	56	2.7
AD+BDZ+NL+MS	51	2.5
NL+MS	60	2.9
AD+BDZ+MS	23	1.1
MS	26	1.3
BDZ+MS	25	1.2
AD+NL	22	1.1
AD+NL+MS	29	1.4
AD+MS	15	0.7
Methadone	9	0.4
Disulfiram	2	0.1
Methadone+others	22	1.1
Psychopharmacological treatments in the ER		
None	1290	62.2
BDZ	503	24.3
BDZ+NL	115	5.5
NL	113	5.4
BDZ+AD	12	0.6
Other	10	0.5
NL+BDZ+MS	7	0.3
BDZ+MS	5	0.2
AD+NL	4	0.2
MS	4	0.2
AD	3	0.1
BDZ+AD+NL	3	0.1
NL+MS	2	0.1
AD+BDZ+NL+MS	2	0.1
AD+BDZ+MS	1	0.1
Medical comorbidity		
Yes	450	21.7
No	1624	78.3
Postdischarge plan		
Community mental health services	811	39.1
Other	453	21.8
None	221	10.7
Voluntary hospitalization	134	6.5
Private psychiatrist	133	6.4
General practitioner	122	5.9
Our outpatient psychiatric service	94	4.5
Admission to internal medicine wards	39	1.9
Community drug addiction service	24	1.2
Social assistance	23	1.1
Involuntary hospitalization	20	1.0

1 BDZ = Benzodiazepines; 2 AD = Antidepressants;
3 NL = Neuroleptics; 4 = Mood stabilizers

The most frequent ICD-10 psychiatric diagnoses (International Statistical Classification of Diseases and Related Health Problems 10th Revision Version for 2010) at admission were neurotic, stress-related and somatoform disorders (N=519, 25%), mood disorders (N=310, 14.9%), schizophrenia, schizotypal and delusional disorders (N=290, 14%), disorders of adult personality and behaviour (N=224, 10.8%) and mental and behavioural disorders due to psychoactive substance use (N=131, 6.3%).

Regarding the psychiatric assistance in the previous 5 years, 40.6% (N=843) were cared for by community mental health services, one third of sample (N=662, 31.9%) didn't receive any psychiatric assistance, 12.2% (N=254) were treated by a private psychiatrist and 4.6% (N=96) were cared for by their general practitioners.

The different types of psychiatric assistance in the previous 6 months were nearly the same as those in the previous 5 years: 40.7% (N=844) were cared for by the community mental health services, while one third of them (N=574, 27.7%) did not receive any psychiatric assistance, 12.7% (N=263) referred to a private psychiatrist. A higher number of patients (N=156, 7.5%) were cared for by their general practitioners.

At entry to the ER more than one third of the sample (N=794, 38.3%) did not receive any psychotropic medication at home, while 10.8% (N=223) were treated with Benzodiazepines (BDZs) alone; 9.5% (N=196) with BDZs and Antidepressants (ADs); 7.9% (N=163) with BDZs and Neuroleptics (NLs); 6.3% (N=131) with NLs alone; 5.6% (N=117) with BDZs, NLs and Mood Stabilizers (MSs); 5.3% (N=110) with BDZs, ADs and NLs; 2.9% (N=60) with NLs and MSs; 2.7% (N=56) with AD alone; 2.5% (N=51) with ADs, BDZs, NLs and MSs; 1.4% (N=29) with ADs, NLs and MSs; 1.3% (N=26) with MSs alone; 1.2% (N=25) with BDZs and MSs; 1.1% (N=23) with ADs, BDZs, and MSs; 1.1% (N=22) with ADs and NLs; 0.7% (N=15) with ADs and MSs; 0.4% (N=9) with methadone alone and 1.1% (N=22) with methadone in association with other psychopharmacological agents, mostly BDZs.

During the consultation in the ER two thirds of the patients did not receive any pharmacological treatment 62.2% (N=1290); 24.3% (N=503) were treated with BDZs alone; 5.5% (N=115) with BDZs and NLs; 5.4% (N=113) were treated with NLs alone; 0.6% (N=12) with BDZs and ADs; 0.3% (N=7) with BDZs, NLs and MSs; 0.2% (N=5) with BDZs and MSs; 0.2% (N=4) with ADs and NLs; 0.2% (N=4) with MSs alone; 0.1% (N=3) with BDZs, ADs and NLs; 0.1% (N=3) with ADs alone; 0.1% (N=2) with NLs+MSs; 0.1% (N=2) with ADs, BDZs, NLs and MSs and only 1 patient was treated with ADs, BDZs and MSs.

More than three fourths of the sample (N=1624, 78.3%) did not suffer from any medical condition, while 21.7% (N=165) presented with medical comorbidity.

After discharge 39.1% (N=811) were referred to the community mental health services, 10.7% (N=221) were discharged to their homes, 6.5% (N=134) underwent a voluntary hospitalization, 6.4% (N=133) were referred to a private psychiatrist, 5.9% (N=122) were referred to their general practitioner, 4.5% (N=94) were referred to our outpatient psychiatric facility, 1.9% (N=39) were admitted to an internal medicine ward, 1.2% (N=24) were referred to community drug addiction services, 1.1% (N=23) received social assistance, 1% (N=20) underwent an involuntary hospitalization and 21.8% (N=453) followed other plans after discharge.

The distribution of the reasons of the requests from the ER by month is shown in Table 3. The higher number of consultations was carried out in August (N=196, 9.45%). The most frequent reason for the request of a psychiatric consultation in the ER was anxiety (N=609, 29.36%). The higher number of consultations for suicide attempts was observed in the month of May (N=11, 5.79%). The higher number of consultations for anxiety was observed in the month of January (N=64, 36.16%). The higher number of consultations for depression was observed in the months of February (N=14, 10%), August (N=14, 7.14%), and September (N=14, 7.95%). The higher number of consultations for psychomotor agitation was observed in the month of August (N=51, 26.02%). The higher number of consultations for delusions/hallucinations was observed in the month of June (N=26, 15.48%).

A multivariate multinomial logistic regression was performed to check for significant differences between months with respect to reasons for the request of a psychiatric consultation (Figure 1). After post-hoc analysis no significant differences were detected.

Although not supported by statistical significance, some reasons show some amount of between correlation across months: delirium/hallucinations and agitation (rs=0.49); delirium/hallucinations and depression (rs=0.40).

The associations between the reason for the request of a psychiatric consultation and the socio-demographic characteristics are shown in Table 4. Suicide attempts were significantly more frequent in the age group between 40 and 49 years (N=32, 7.67%, p<0.001) and in the patients coming from countries out of Europe (N=15, 7.85%, p=0.0155). This reason was significantly less frequent in patients aged under 20 (N=1, 0.77%, p=0.0402) and in Italian patients (N=66, 3.96%, p=0.0307). No significant association emerged between this reason for the request of a psychiatric consultation and gender, marital status, occupation and environment.

Anxiety was significantly more frequent in female patients (N=392, 34.21%, p<0.001), aged between 20 and 29 (N=150, 36.06%, p=0.0014), Italian (N=507, 30.43%, p=0.0172), employed (N=165, 38.19%, p<0.001), students (N=75, 40.76%, p<0.001) and living with their conjugal family (N=183, 33.39%, p=0.0044). This reason was significantly less frequent in male patients (N=217, 23.38%, p<0.001), aged under 20 (N=50, 38.46%, p=0.0236) and over 60 (N=67, 21,81%, p<0.001), in retired/disabled patients (N=62, 18.02%, p<0.001) and unemployed (N=122, 22.72%, p<0.001), and in patients who lived in an institution (N=9, 9.38%, p<0.001). No significant association emerged between this reason for the request of a psychiatric consultation and marital status.

Depression was significantly more frequent in patients aged between 50 and 59 (N=27, 9.68%, p=0.0042) and over 60 years (N=34, 11.07%, p<0.001), married (N=51, 9%, p<0.001) or unmarried (N=41, 3.93%, p<0.001), housewives (N=9, 12.68%, p=0.0151) and retired/disabled (N=29, 8.43%, p=0.0324), Italian (N=110, 6.6%, p=0.0146) and living with their conjugal family (N=52, 9.49%, p<0.001). It was significantly less frequent in patients aged between 20 and 29 (N=11, 2.64%, p=0.0015), in patients from countries out of Europe (N=4, 2.09%, p=0.0170) and in patients who lived with their family of origin (N=21, 3.22%, p<0.001).

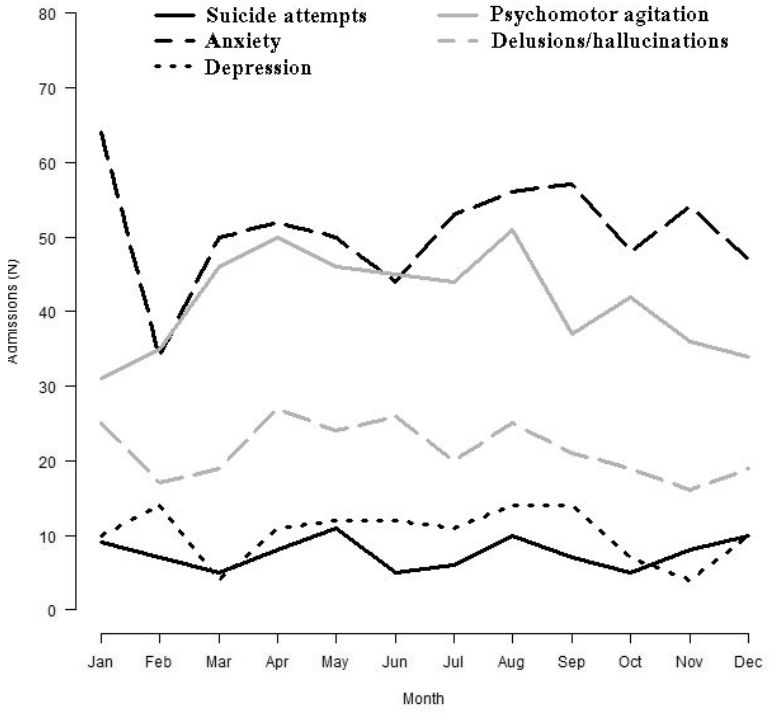
Table 3. Distribution of the main reasons for the request of a psychiatric consultation by month over the study period (counts and row percentages)

Month	Suicide attempts	Anxiety	Depression	Psychomotor Agitation	Delusions/ hallucinations	Others	Total
January	9 (5.08%)	64 (36.16%)	10 (5.65%)	31 (17.51%)	25 (14.12%)	38 (21.47%)	177 (8.53%)
February	7 (5%)	34 (24.29%)	14 (10%)	35 (25%)	17 (12.14%)	33 (23.57%)	140 (6.75%)
March	5 (3.05%)	50 (30.49%)	4 (2.44%)	46 (28.05%)	19 (11.59%)	40 (24.39%)	164 (7.91%)
April	8 (4.19%)	52 (27.23%)	11 (5.76%)	50 (26.18%)	27 (14.14%)	43 (22.51%)	191 (9.21%)
May	11 (5.79%)	50 (26.32%)	12 (6.32%)	46 (24.21%)	24 (12.63%)	47 (24.74%)	190 (9.16%)
June	5 (2.98%)	44 (26.19%)	12 (7.14%)	45 (26.79%)	26 (15.48%)	36 (21.43%)	168 (8.1%)
July	6 (3.37%)	53 (29.78%)	11 (6.18%)	44 (24.72%)	20 (11.24%)	44 (24.72%)	178 (8.58%)
August	10 (5.1%)	56 (28.57%)	14 (7.14%)	51 (26.02%)	25 (12.76%)	40 (20.41%)	196 (9.45%)
September	7 (3.98%)	57 (32.39%)	14 (7.95%)	37 (21.02%)	21 (11.93%)	40 (22.73%)	176 (8.49%)
October	5 (3.05%)	48 (29.27%)	7 (4.27%)	42 (25.61%)	19 (11.59%)	43 (26.22%)	164 (7.91%)
November	8 (4.82%)	54 (32.53%)	4 (2.41%)	36 (21.69%)	16 (9.64%)	48 (28.92%)	166 (8%)
December	10 (6.1%)	47 (28.66%)	10 (6.1%)	34 (20.73%)	19 (11.59%)	44 (26.83%)	164 (7.91%)
Total	91 (4.39%)	609 (29.36%)	123 (5.93%)	497 (23.96%)	258 (12.44%)	496 (23.92%)	2.074

Table 4. Association between the reasons for the request of a psychiatric consultation and the socio-demographic characteristics

	Suicide attempt	Anxiety	Depression	Psychomotor agitation	Delusions/ hallucinations	Others	Total	p-value
Gender								
Male	46	217	50	282	79	254	928	<0.001
	4.96	23.38***	5.39	30.39***	8.51***	27.37	100	
Female	45	392	73	215	179	242	1.146	
	3.93	34.21***	6.37	18.76***	15.62***	21.12	100	
Age group								
<20	1	50	4	22	15	38	130	<0.001
	0.77*	38.46*	3.08	16.92	11.54	29.23	100	
20-29	15	150	11	96	56	88	416	
	3.61	36.06**	2.64*	23.08	13.46	21.15	100	
30-39	17	144	25	155	45	110	496	
	3.43	29.03	5.04	31.25**	9.07**	22.18	100	
40-49	32	115	20	76	77	97	417	
	7.67***	27.58	4.8	18.23**	18.47***	23.26	100	
50-59	9	81	27	48	42	72	279	
	3.23	29.03	9.68**	17.2**	15.05	25.81	100	
>60	14	67	34	90	21	81	307	
	4.56	21.82***	11.07***	29.32*	6.84**	26.38	100	
Marital status								
Unmarried	47	300	41	291	112	251	1.042	<0.001
	4.51	28.79	3.93***	27.93***	10.75**	24.09	100	
Married	22	184	51	98	87	122	564	
	4	33	9***	17***	15*	22	100	
Divorced/ separated	5	39	10	30	33	42	159	
	3.14	24.53	6.29	18.87	20.75**	26.42	100	
Widowed	5	26	9	27	10	20	97	
	5.15	26.8	9.28	27.84	10.31	20.62	100	
Country of origin								
Italy	66	507	110	399	199	385	1.666	0.014
	3.96*	30.43*	6.6*	23.95	11.94	23.11	100	
Rest of Europe	9	41	8	39	28	52	177	
	5.08	23.16	4.52	22.03	15.82	29.38	100	
Other	15	48	4	50	25	49	191	
	7.85*	25.13	2.09*	26.18	13.09	25.65	100	
Occupation								
Freelance professional/manager	0	10	3	3	3	8	27	<0.001
	0	37.04	11.11	11.11	11.11	29.63	100	
Self-employed	3	26	5	11	10	14	69	
	4.35	37.68	7.25	15.94	14.49	20.29	100	
Employed	18	165	23	71	83	72	432	
	4.17	38.19***	5.32	16.44***	19.21***	16.67	100	
Housewife	1	24	9	12	5	20	71	
	1.41	33.8	12.68*	16.9	7.04	28.17	100	
Retired/disabled	21	62	29	114	28	90	344	
	6.1	18.02***	8.43*	33.14***	8.14**	26.16	100	
Student	4	75	7	35	18	45	184	
	2.17	40.76***	3.8	19.02	9.78	24.46	100	
Unemployed	24	122	26	150	64	151	537	
	4.47	22.72***	4.84	27.93**	11.92	28.12	100	
Other	6	18	2	18	13	18	75	
	8	24	2.67	24	17.33	24	100	
Environment								
Alone	15	78	25	68	39	78	303	<0.001
	4.95	25.74	8.25	22.44	12.87	25.74	100	
Family of origin	28	188	21	193	67	156	653	
	4.29	28.79	3.22***	29.56***	10.26	23.89	100	
Conjugal family	23	183	52	91	84	115	548	
	4.2	33.39**	9.49***	16.61***	15.33	20.99	100	
Institution	3	9	4	37	8	35	96	
	3.13	9.38***	4.17	38.54***	8.33	36.46	100	
Other	14	78	8	61	48	54	263	
	5.32	29.66	3.04	23.19	18.25	20.53	100	

* p<0.05; **p<0.01; ***p<0.001



Multivariate multinomial logistic regression performed to check for significant differences between months with respect to reasons for the request of a psychiatric consultation. Post-hoc analysis showed no significant difference.

Figure 1. Proportion of psychiatric consultations according to the twelve months

Agitation was significantly more frequent in males (N=282, 30.39%, p<0.001), aged between 30 and 39 (N=155, 31.25%, p=0.0027) or older than 60 (N=90, 29.32%, p=0.0141), unmarried (N=291, 27.93%, p<0.001), unemployed (N=150, 27.93%, p=0.0069) or retired/disabled (N=114, 33.14%, p<0.001) and living with their family of origin (N=193, 29.56%, p <0.001) or in institution (N=37, 38.54%, p <0.001). Agitation was significantly less frequent in females (N= 215, 18.76%, p<0.001), aged between 40 and 49 (N=76, 18.23%, p=0.0027), and between 50 and 59 years (N=48, 17.2%, p=0.0053), married (N=98, 17%, p<0.001), employed (N=71, 16.44%, p<0.001) and living with the conjugal family (N=91, 16.61%, p<0.001). No significant association emerged between this reason for the request of a psychiatric consultation and the country of origin.

Delusions/hallucinations were significantly more frequent in female patients (N=179, 15.62%, p<0.001), aged between 30 and 39 (N=45, 9.07%, p=0.0077) and between 40 and 49 years (N=77, 18.47%, p<0.001), unmarried (N=112, 10.75%, p=0.0011) or married (N=87, 15%, p=0.0399) and employed (N=83, 19.21%, p<0.001). This reason was significantly less frequent in male patients (N=79, 8.51%, p<0.001), older than 60 years (N=21, 6.84%, p=0.0011), divorced/separated (N=33, 20.75%, p=0.0024), and retired/disabled (N=28, 8.14%, p=0.0034). No significant association emerged between this reason for the psychiatric consultation request and the country of origin.

The associations between diagnoses and the socio-demographic characteristics are shown in Table 5.

The diagnosis of neurotic, stress-related and somatoform disorders was significantly more frequent in female patients (N=338, 29.49%, p<0.001), aged between 20 and 29 (N=122, 29.33%, p=0.0334), married (N=185, 32.8%, p<0.001), self-employed (N=28, 40.58%, p=0.0017) or employed (N=151, 34.95%, p<0.001), and living with their conjugal family (N=180, 32.85%, p<0.001). It was significantly less frequent in male patients (N=181, 19,5%, p<0.001), unmarried (N=225, 21.59%, p<0.001), unemployed (N=86, 16.01%, p<0.001) or retired/disabled (N=63, 18.31%, p=0.001), living with their family of origin (N=139, 21.29%, p=0.0277) or in an institution (N=5, 5.21%, p<0.001). No significant association was observed between this diagnosis and the country of origin.

The diagnosis of mood disorders was significantly more frequent in female patients (N=194, 16.93%, p=0.0049), aged between 40 and 49 (N=78, 18.71%, p=0.0149), between 50-59 years (N=60, 21.51%, p<0.001) and older than 60 years (N=61, 19.87%, p<0.001), divorced/separated (N=38 23.9%, p<0.001) or married (N=116, 20.57%, p=0.0034), from Italy (N=267, 16.06%, p<0.001), in housewives (N=19, 26.76%, p=0.0094) or employed (N=87, 20.14%, p=0.0039) and living with their conjugal family (N=113, 20.62%, p<0.001).It was significantly less frequent in male patients (N=116, 12.5%, p=0.0049), aged under 20 (N=6, 4.62%, p<0.001) and between 20 and 29 years (N=33, 7.93%, p<0.001), unmarried (N=124, 11.9%, p<0.001), from countries out of Europe (N=15, 7.85%, p<0.001), in students (N= 12, 6.52%, p<0.001) and in patients who lived in an institution (N=5, 5.21%, p=0.0037).

Table 5. Association between the psychiatric diagnoses and the socio-demographic characteristics

	None	Disorders of adult personality and behavior	Mental and behavioural disorders due to psychoactive substance use	Mood disorders	Schizophrenia, schizotypal and delusional disorders	Neurotic, stress-related and somatoform disorders	Others	Total	p-value
Gender									
Male	72	83	89	116	158	181	229	928	<0.001
	7.76	8.94*	9.59***	12.5**	17.03***	19.5***	24.68	100	
Female	73	141	42	194	132	338	226	1146	
	6.37	12.3*	3.66***	16.93**	11.52***	29.49***	19.72	100	
Age group									
<20	17	17	2	6	6	40	42	130	<0.001
	13.08**	13.08	1.54*	4.62***	4.62**	30.77	32.31	100	
20-29	32	70	22	33	60	122	77	416	
	7.69	16.83***	5.29	7.93***	14.42	29.33*	18.51	100	
30-39	28	53	42	67	75	113	118	496	
	5.65	10.69	8.47*	13.51	15.12	22.78	23.79	100	
40-49	23	38	26	78	68	105	79	417	
	5.52	9.11	6.24	18.71*	16.31	25.18	18.94	100	
50-59	7	31	28	60	41	61	51	279	
	2.51	11.11	10.04**	21.51***	14.7	21.86	18.28	100	
>60	34	15	10	61	33	76	78	307	
	11.07**	4.89***	3.26*	19.87***	10.75	24.76	25.41	100	
Marital status									
Unmarried	64	136	70	124	192	225	231	1042	<0.001
	6.14	13.05**	6.72*	11.9***	18.43***	21.59***	22.17	100	
Married	37	55	23	116	47	185	101	564	
	6.56	9.75	4.08	20.57**	8.33***	32.8***	17.91	100	
Divorced/ separated	12	16	8	38	17	32	36	159	
	7.55	10.06	5.03	23.9***	10.69	20.13	22.64	100	
Widowed	11	4	4	16	9	24	29	97	
	11.34	4.12*	4.12	16.49	9.28	24.74	29.9	100	
Country of origin									
Italy	104	185	89	267	229	423	369	1666	<0.001
	6.24	11.1	5.34***	16.03***	13.75	25.39	22.15	100	
Rest of Europe	15	25	24	23	17	41	32	177	
	8.47	14.12	13.56***	12.99	9.6	23.16	18.08	100	
Other	17	13	14	15	41	45	46	191	
	8.9	6.81	7.33	7.85***	21.47**	23.56	24.08	100	
Occupation									
Freelance professional/manager	2	2	0	5	2	11	5	27	<0.001
	7.41	7.41	0	18.52	7.41	40.74	18.52	100	
Self-employed	5	8	2	11	5	28	10	69	
	7.25	11.59	2.9	15.94	7.25	40.58**	14.49	100	
Employed	29	48	13	87	36	151	68	432	
	6.71	11.11	3.01**	20.14**	8.33***	34.95***	15.74	100	
Housewife	5	6	5	19	7	18	11	71	
	7.04	8.45	7.04	26.76**	9.86	25.35	15.49	100	
Retired/disabled	27	24	6	58	64	63	102	344	
	7.85	6.98**	1.74***	16.86	18.6**	18.31**	29.65	100	
Student	18	25	3	12	18	63	45	184	
	9.78	13.59	1.63	6.52***	9.78	34.24	24.46	100	
Unemployed	23	78	69	72	92	86	117	537	
	4.28	14.53**	12.85***	13.41	17.13*	16.01***	21.79	100	
Other	7	7	3	10	22	8	18	75	
	9.33	9.33	4	13.33	29.33	10.67	24	100	
Environment									
Alone	21	30	16	52	45	65	74	303	<0.001
	6.93	9.9	5.28	17.16	14.85	21.45	24.42	100	
Family of origin	38	85	44	91	115	139	141	653	
	5.82	13.02	6.74	13.94	17.61**	21.29*	21.59	100	
Conjugal family	32	56	26	113	42	180	99	548	
	5.84	10.22	4.74	20.62***	7.66***	32.85***	18.07	100	
Institution	8	15	5	5	33	5	25	96	
	8.33	15.63	5.21	5.21**	34.38***	5.21***	26.04	100	
Other	24	26	19	32	36	63	63	263	
	9.13	9.89	7.22	12.17	13.69	23.95	23.95	100	

* p<0.05; **p<0.01; ***p<0.001

The diagnosis of schizophrenia, schizotypal and delusional disorders was significantly more frequent in male patients (N=158, 17.03%, p<0.001), unmarried (N=192, 18.43%, p<0.001), retired/disabled (N=64, 18.6%, p=0.0081) and unemployed (N=92, 17.13%, p=0.0169) and living in an institution (N=33, 34.38%, p<0.001). This was significantly less frequent in female patients (N=132, 11.52%, p<0.001), aged under 20 (N=6, 4.62%, p=0.0016), married (N=47, 8.33%, p<0.001), from countries out of Europe (N=41, 21.47%, p=0.0022), employed (N=36, 8.33%, p<0.001), living with their conjugal family (N=42, 7.66%, p<0.001), or with their family of origin (N=115, 17.61%, p=0.0058).

The diagnosis of disorders of adult personality and behavior was significantly more frequent in female patients (N=141, 12.3%, p=0.0142), aged between 20 and 29 (N=70, 16.83%, p<0.001), unmarried (N=136, 13.05%, p=0.0083) and unemployed (N=78, 14.53%, p=0.0059). It was significantly less frequent in male patients (N=83, 8.94%, p=0.0142), older than 60 years (N=15, 4.89%, p<0.001), widowed (N=4, 4.12%, p=0.0214) and retired/disabled (N=24, 6.98%, p=0.0040). There was no significant association with the country of origin and the environment.

The diagnosis of mental and behavioral disorders due to psychoactive substance use was significantly more frequent in male patients (N=89, 9.59%, p<0.001), aged between 30 and 39 (N=42, 8.47%, p=0.0268) and between 50 and 59 years (N=28, 10.04%, p=0.0067), unmarried (N=70, 6.72%, p=0.0229), coming from the rest of Europe (N=24, 13.56%, p<0.001) and unemployed (N=69, 12.85%, p<0.001). It was significantly less frequent in female patients (N=42, 3.66%, p<0.001), Italian (N=89, 5.34%, p<0.001), aged under 20 (N=2, 1.54%, p=0.0200), older than 60 years (N=10, 3.26%, p=0.0158), employed (N=13, 3.01%, p=0.0041) or retired/disabled (N=6, 1.74%, p<0.001). There was no significant association with the environment.

The absence of a psychiatric diagnosis was significantly more often observed in patients aged over 60 (N=34, 11.07%, p=0.0019) and less in patients under 20 years (N=17, 13.08%, p=0.0017).

The associations between the plan after discharge and socio-demographic characteristics and diagnoses are shown in Table 6.

Patients referred to the Community Mental Health Services were significantly more often aged between 20 and 29 (N=184, 44.23%, p=0.0228), unmarried (N=464, 44.53%, p<0.001), unemployed (N=262, 48.79%, p<0.001), living with their family of origin (N=319, 48.85%, p<0.001) and diagnosed with neurotic, stress-related and somatoform disorders (N= 245, 47.21%, p<0.001). Patients referred to these services were significantly less frequently aged over 60 (N=85, 27.69%, p<0.001), married (N=196, 34.75%, p=0.0011), freelance professionals/managers (N=5, 18.52%, p=0.0212) or employed (N=150, 34.72%, p=0.0088), living with their conjugal family (N=191, 34.85%, p=0.0035), and diagnosed with mental and behavioral disorders due to psychoactive substance use (N=40, 30.53%, p<0.001). There was no significant association with gender and country of origin.

Patients discharged to their homes were significantly more often males (N=113, 12.18%, p=0.0434), from countries out of Europe (N=30, 15.71%, p=0.0111), diagnosed with neurotic, stress-related and somatoform disorders (N=50, 9.63%, p=0.0154) and with mental and behavioral disorders due to psychoactive substance use (N=25, 19.08%, p<0.001). Patients discharged to their homes were significantly less frequently female (N=108, 9.42%, p=0.0434), aged between 40 and 49 (N=27, 6.47%, p=0.0026) or between 50 and 59 years (N=16, 5.73%, p=0.0051), from Italy (N=155, 9.3%, p<0.001) and diagnosed with mood disorders (N=11, 3.55%, p=0.0036) and with schizophrenia, schizotypal and delusional disorders (N=9, 3.1%, p=0.0018). There was no significant association with marital status, occupation and environment.

Patients who underwent a voluntary hospitalization were significantly more often aged between 50 and 59 (N=26, 9.32%, p=0.0445) and diagnosed with schizophrenia, schizotypal and delusional disorders (N=30, 10.34%, p<0.001), with mood disorders (N=27, 8.71%, p=0.0312), and with disorders of adult personality and behaviour (N=24, 10.71%, p=0.0018). This plan after discharge was significantly less frequent in patients diagnosed with neurotic, stress-related and somatoform disorders (N=5, 0.96%, p<0.001). There was no significant association with gender, marital status, country of origin, occupation and environment.

Patients referred to a private psychiatrist were significantly more often female (N=90, 7.85%, p=0.0029), aged over 60 (N= 36, 11.73%, p<0.001), married (N=50, 8.87%, p=0.0015), from Italy (N=125, 7.5%, p<0.001), self-employed (N=12, 17.39%, p<0.001) or retired/disabled (N=31, 9.01%, p=0.0260), living with their conjugal family (N=50, 9.12%, p<0.001) and suffering from neurotic, stress-related and somatoform disorders (N=48, 9.25%, p=0.0073). Patients referred to a private psychiatrist were significantly less often males (N=43, 4.63%, p=0.0029), unmarried (N=49, 4.7%, p=0.0031), aged between 20 and 29 (N=17, 4.09, p=0.0276), coming from the rest of Europe (N=5, 2.82, p=0.0383) and from countries out of Europe (N=2, 1.05%, p=0.0013), unemployed (N=13, 2.42%, p<0.001), diagnosed with mental and behavioral disorders due to psychoactive substance use (N=0, p=0.0011) and with schizophrenia, schizotypal and delusional disorders (N=8, 2.76%, p=0.0021).

Patients referred to the general practitioner were significantly more often females (N=84, 7.33%, p=0.0018), over 60 years (N=38, 12.38%, p<0.001), married (N=52, 9.22%, p<0.001) or widowed (N=11, 11.34%, p=0.0137), housewives (N=9, 12.68%, p=0.0086) or employed (N= 38, 8.8%, p=0.0010), living with their conjugal family (N= 47, 8.58%, p<0.001) and suffering from neurotic, stress-related and somatoform disorders (N=73, 14.07%, p<0.001). Patients with this plan

Table 6. Association between plans after discharge and socio-demographic characteristics and diagnoses

	Home	Social assistance	General practitioner	Community mental health services	Community drug addiction services	Private psychiatrist	Our outpatient facility	Involuntary admission	Voluntary admission	Internal medicine ward	Total	p-value
Gender												
Male	113	12	38	361	19	43	27	7	69	19	928	<0.001
	12.18*	1.29	4.09**	38.9	2.05***	4.63**	2.91**	0.75	7.44	2.05	100	
Female	108	11	84	450	5	90	67	13	65	20	1.146	
	9.42*	0.96	7.33**	39.27	0.44***	7.85**	5.85**	1.13	5.67	1.75	100	
Age group												
<20	19	1	5	53	1	4	8	0	8	1	130	<0.001
	14.62	0.77	3.85	40.77	0.77	3.08	6.15	0	6.15	0.77	100	
20-29	53	6	18	184	4	17	21	5	21	5	416	
	12.74	1.44	4.33	44.23*	0.96	4.09**	5.05	1.2	5.05	1.2	100	
30-39	62	3	20	207	8	28	18	8	35	7	496	
	12.5	0.6	4.03	41.73	1.61	5.65	3.63	1.61**	7.06	1.41	100	
40-49	27	6	23	162	7	30	12	4	31	10	417	
	6.47**	1.44	5.52	38.85	1.68	7.19	2.88	0.96	7.43	2.4	100	
50-59	16	2	16	114	3	17	16	1	26	7	279	
	5.73**	0.72	5.73	40.86	1.08	6.09	5.73	0.36	9.32*	2.51	100	
>60	38	4	38	85	1	36	18	0	13	9	307	
	12.38	1.3	12.38***	27.69***	0.33	11.73***	5.86	0	4.23	2.93	100	
Marital status												
Unmarried	98	9	34	464	14	49	40	11	75	15	1.042	<0.001
	9.4	0.86	3.26***	44.53***	1.34	4.7**	3.84	1.06	7.2	1.44	100	
Married	54	7	52	196	4	50	34	2	42	13	564	
	9.57	1.24	9.22***	34.75**	0.71	8.87**	6.03	0.35	7.45	2.3	100	
Divorced/ separated	15	2	9	62	1	8	7	3	8	3	159	
	9.43	1.26	5.66	38.99	0.63	5.03	4.4	1.89	5.03	1.89	100	
Widowed	15	0	11	30	0	8	4	0	2	4	97	
	15.46	0	11.34*	30.93	0	8.25	4.12	0	2.06	4.12	100	
Country of origin												
Italy	155	17	91	655	16	125	83	18	115	31	1.666	0.005
	9.3***	1.02	5.46	39.32	0.96	7.5***	4.98	1.08	6.9	1.86	100	
Rest of Europe	26	3	10	70	2	5	5	1	6	4	177	
	14.69	1.69	5.65	39.55	1.13	2.82*	2.82	0.56	3.39	2.26	100	
Other	30	2	14	71	5	2	5	1	13	4	191	
	15.71*	1.05	7.33	37.17	2.62*	1.05**	2.62	0.52	6.81	2.09	100	
Occupation												
Freelance professional/manager	3	1	3	5	0	1	5	1	3	0	27	<0.001
	11.11	3.7	11.11	18.52*	0	3.7	18.52***	3.7	11.11	0	100	
Self-employed	5	0	3	20	0	12	8	1	7	2	69	
	7.25	0	4.35	28.99	0	17.39***	11.59**	1.45	10.14	2.9	100	
Employed	46	2	38	150	2	33	27	3	25	7	432	
	10.65	0.46	8.8**	34.72**	0.46	7.64	6.25	0.69	5.79	1.62	100	
Housewife	5	0	9	31	2	5	5	0	3	3	71	
	7.04	0	12.68**	43.66	2.82	7.04	7.04	0	4.23	4.23	100	
Retired/disabled	32	4	27	125	1	31	15	1	22	9	344	
	9.3	1.16	7.85	36.34	0.29	9.01*	4.36	0.29	6.4	2.62	100	
Student	17	1	6	78	1	11	15	3	12	0	184	
	9.24	0.54	3.26	42.39	0.54	5.98	8.15*	1.63	6.52	0	100	
Unemployed	51	11	11	262	14	13	7	6	31	9	537	
	9.5	2.05*	2.05***	48.79***	2.61***	2.42***	1.3***	1.12	5.77	1.68	100	
Other	6	0	1	26	0	5	0	0	9	1	75	
	8	0	1.33	34.67	0	6.67	0	0	12	1.33	100	

* p<0.05; **p<0.01; ***p<0.001; Unspecified plans after discharge are not shown.

Table 6. Continuos

	Home	Social assistance	General practitioner	Community mental health services	Community drug addiction services	Private psychiatrist	Our outpatient facility	Involuntary admission	Voluntary admission	Internal medicine ward	Total	p-value
Environment												
Alone	31	5	22	111	5	17	11	7	19	6	303	<0.001
	10.23	1.65	7.26	36.63	1.65	5.61	3.63	2.31**	6.27	1.98	100	
Family of origin	60	4	9	319	6	34	27	7	40	6	653	
	9.19	0.61	1.38***	48.85***	0.92	5.21	4.13	1.07	6.13	0.92*	100	
Conjugal family	60	5	47	191	4	50	35	1	37	12	548	
	10.95	0.91	8.58***	34.85**	0.73	9.12***	6.39**	0.18**	6.75	2.19	100	
Institution	6	0	2	33	0	3	0	1	10	2	96	
	6.25	0	2.08	34.38	0	3.13	0*	1.04	10.42	2.08	100	
Other	27	4	24	91	2	12	10	1	17	9	263	
	10.27	1.52	9.13	34.6	0.76	4.56	3.8	0.38	6.46	3.42	100	
Main psychiatric diagnosis												
Disorders of adult personality and behavior	14	1	3	106	3	17	5	1	24	4	224	
	6.25	0.45	1.34**	47.32	1.34	7.59	2.23	0.45	10.71**	1.79	100	
Mental and behavioural disorders due to psychoactive substance use	25	3	3	40	16	0	2	1	4	2	131	
	19.08***	2.29	2.29	30.53***	12.21***	0**	1.53	0.76	3.05	1.53	100	
Mood disorders	11	2	12	130	1	28	15	4	27	9	310	
	3.55**	0.65	3.87	41.94	0.32	9.03	4.84	1.29	8.71*	2.9**	100	
Schizophrenia, schizotypal and delusional disorders	9	4	1	134	0	8	4	11	30	2	290	
	3.1**	1.38	0.34***	46.21	0*	2.76**	1.38**	3.79***	10.34***	0.69	100	
Neurotic, stress-related and somatoform disorders	50	2	73	245	0	48	44	0	5	2	519	
	9.63*	0.39	14.07***	47.21***	0***	9.25**	8.48***	0**	0.96***	0.39*	100	

* p<0.05; **p<0.01; ***p<0.001; Unspecified plans after discharge are not shown.

after discharge were significantly less often males (N=38, 4.09%, p=0.0018), unmarried (N=34, 3.26%, p<0.001), unemployed (N=11, 2.05%, p<0.001), living with their family of origin (N=9, 1.38%, p<0.001), suffering from disorders of adult personality and behaviour (N=3, 1.34%, p=0.0010) and from schizophrenia, schizotypal and delusional disorders (N=1, 0.34%, p<0.001). There was not a significant association with the country of origin.

Patients referred to our outpatient psychiatric facility were significantly more often female (N=67, 5.85%, p=0.0014), students (N=15, 8.15%, p=0.0200), freelance professional/manager (N=5, 18.52%, p<0.001), self-employed (N=8, 11.59%, p=0.0059), living with their conjugal families (N=35, 6.39%, p=0.0091) and suffering from neurotic, stress-related and somatoform disorders (N=44, 8.48%, p<0.001). Patients referred to our outpatient facility were significantly less often male (N=27. 2.91%, p=0.0014), unemployed (N=7, 1.3%, p<0.001), living in an institution (N=0, p=0.0298) and suffering from schizophrenia, schizotypal and delusional disorders (N=4, 1.38%, p=0.0026). No significant association was observed with age, marital status and country of origin.

Patients referred to internal medicine wards were significantly more often living with their family of origin (N=6, 0.92%, p=0.0250) and suffering from mood disorders (N=9, 2.9%, p=0.0046) and significantly less often from neurotic, stress-related and somatoform disorders (N=2, 0.39%, p=0.0234). No significant association was observed with gender, age, marital status, country of origin and occupation.

Patients referred to Community Drug Addiction Services were significantly more often male (N=19, 2.05%, p<0.001), unemployed (N=14, 2.61%, p<0.001) and suffering from mental and behavioral disorders due to psychoactive substance use (N=16, 12.21%, p<0.001). These patients were significantly less often coming from countries out of Europe (N=5, 2.62%, p=0.0412) and suffering from schizophrenia, schizotypal and delusional disorders (N=0, p=0.0258) and from neurotic, stress-related and somatoform disorders (N=0, p=0.0009). No significant association was observed with age, marital status and environment.

Patients referred to social assistance were significantly more often unemployed (N=11, 2.05%, p=0.0104). No other significant association was observed.

Patients who underwent an involuntary hospitalization were significantly more often aged between 30 and 39 (N=8, 1.61%, p=0.0047), living alone (N=7, 2.31%, p=0.0052) and suffering from schizophrenia, schizotypal and delusional disorders (N=11, 3.79%, p<0.001). Patients involuntary admitted were significantly less often living with their conjugal families (N=1, 0.18%, p=0.0091) and suffering from neurotic, stress-related and somatoform disorders (N=0, p=0.0022). No significant association was observed with gender, marital status, country of origin and occupation.

DISCUSSION

It is hard to find reliable data on the frequency of psychiatric emergencies in the ERs, as well as in the general hospitals. The prevalence rate of psychiatric emergencies reported in different studies shows a wide variation, from 10% to 60%, probably due to the different methods adopted. Moreover the differences in health care systems from one country to another may limit the generalization of findings (Mavrogiorgou et al. 2011).

In line with previous studies concerning psychiatric consultations carried out both in general hospitals (Padilha 2013, Piselli 2011, Huyse 2001, Gala 1999) and in the ERs (Biancosino 2009, Hazlett 2004), in our sample there was a greater proportion of female patients, mainly young adults and, in contrast with data deriving from general hospital consultations (Padilha 2013, Huyse 2001, Piselli 2011, Gala 1999), but in line with those carried out in the ER (Biancosino 2009), mostly unmarried.

In comparison with the results of Padilha et al. 2013 and Biancosino et al. 2009, also our patients had a regular occupation, but in our sample there were more students. This could be linked with the fact that employed and younger patients more frequently turn to the ER maybe because of the fear of stigmatisation associated with community mental health services.

In contrast with the result of Padilha et al. 2013, but in line with Biancosino et al. 2009, in our study the main reasons for seeking psychiatric emergency consultations were anxiety, psychomotor agitation and suicide attempt. Huyse et al. 2001 and Mavrogiorgou et al. 2011 observed that suicidality and self-destructive behaviour accounted for 15% of psychiatric emergencies and also in our study this reason accounted for 12.4%. In contrast with the results of Larkin et al. 2008 and Larkin et al. 2005, who observed that suicidal patients were mostly young, in our sample patients who attempted suicide were more frequently aged between 40 and 49 and significantly less frequently aged under 20, and this reason was equally frequent between women and men. In contrast with what Padilha et al. 2013, and Biancosino et al. 2009 observed, our higher percentage of suicidal patients is probably due to the fact that, in our ER, psychiatric consultations are always requested for attempted suicide (ascertained or suspected) and carried out before any further medical interventions, when clinically possible.

Regarding the distribution of primary psychiatric diagnosis, we found that neurotic, stress-related and somatoform disorders were by far the most represented, followed by affective disorders and schizophrenia, schizotypal and delusional disorders. These results are comparable with those obtained by Biancosino et al. 2009 in the ER and by Piselli et al. 2011 and Gala et al. 1999 in general hospitals, but in contrast with those of Padilha et al. 2013, Larkin et al. 2009 and Larkin et al. 2005, in which substance use disorders predominated. Our lower percentage of patients with mental illnesses due to psychoactive drugs might be due to the fact that, according to the health system in Italy, these patients are referred to internal medicine wards and for them a consultation from the community drug addiction services, separated from the GH, is routinely requested.

In contrast with the results of Piselli et al. 2011 in the same general hospital, we found a lower percentage of mental disorders related to organic conditions in the ER, including dementing diseases, as a cause of agitation and abnormal behaviour, probably because this is not the first place of intervention for this kind of disorders.

In any case it should be noted that, due to the use of different psychiatric diagnosis systems used in other studies, an appropriate comparison of diagnostic groups was not always possible.

In contrast with Gala et al. 1999, our study showed that the great majority of patients admitted to the ER, for which a psychiatric consultation was required, had previously had psychiatric assistance and that they had been mainly followed by community mental health services. Anyway in line with this study, in our sample too there were a great proportion of patients who had never had psychiatric contacts, in the 5 years prior to the current admission. Moreover, both studies showed that at discharge the great majority of patients were recommended for further psychiatric care through community mental health services, outpatient facilities, their own general practitioner and other services and only a minority of them were transferred to psychiatric units, probably because of the tendency in Italy to transfer only patients with acute psychiatric illnesses to the psychiatric ward.

The only coercive intervention in case the patient became excessively aggressive or even dangerous, or in case he/she arbitrarily refused to take medications in the ER, is the involuntary hospitalization according to Law 180 (the so-called “Legge Basaglia”) which also permits the administration of involuntary treatment. There are no other compulsory interventions to be taken in the ER, such as physical restraint or seclusion, described in literature (Villari 2007). In our study, we found that only 1% of the sample underwent involuntary hospitalization. In line with what Montemagni et al. 2011, and Biancosino et al. 2009 observed, compulsory admission was significantly more often needed in the case of patients whose primary reason for referral was the presence of psychotic symptoms. In our study too, socio-demographic characteristics did not significantly

influence the difference between patients who underwent an involuntary hospitalization from voluntary ones. The only differences detected in our study consisted in the fact that patients who underwent an involuntary hospitalisation were significantly more often aged between 30 and 39 and living alone, while patients who underwent a voluntary hospitalisation were significantly more often aged between 50 and 59. On the other hand patients who had received a diagnosis of neurotic, stress-related and somatoform disorder were more often referred to community mental health services while patients suffering from mood disorders were more often transferred to internal medicine wards, mainly because of the need of observation after the ingestion of drugs related to suicidal intent or for further evaluation in patients with significant organic comorbidity.

A great proportion of patients were referred to the community mental health services also because the majority of them were already careed for by them, thus underling the importance of the consultation-liaison activity. The reason why people already in charge of the community mental health services frequently turn to the ERs rather than to the services is probably related to the fact that the first ones are easy to reach, always available (Mavrogiorgou 2011) and also because of the fear of stigmatization.

In contrast with the results of Padilha et al. 2013 and Gala et al. 1999, who observed that nearly 70% of their patients received medication, in our case the majority of patients did not receive any psychotropic medication during the psychiatric consultation. Of course the prescription of psychotropic medications was left for specialists who would follow up the patients later on. By far the most administered drugs in the ER were benzodiazepines, alone or in association with neuroleptics and/or antidepressants. This is in line with other studies (Villari 2007, Piselli 2011, Gala 1999) and correlates with the fact that anxiety, agitation, psychotic symptoms and depression were the most frequent reasons for a psychiatric consultation request in patients admitted to the ER.

In our study we examined the distribution of the consultations over 3 years, looking for a possible seasonality of psychopathology. In Italy, as a predominantly Christian country, the two most significant religious holidays are Christmas and Easter, but we must also consider summer, in particular August, when the majority of people go on holiday. In line with several studies (Wilson 2012, Sansone 2011), our results do not support the common clinical belief that the holiday seasons are associated with higher rates of psychiatric emergencies. As regards the seasonality of suicide attempts, a suicide peak in springtime, and early summer has been descried (Woo 2012, Christodoulou 2011). Other studies observed that although there were fewer suicide attempts than projected around Christmas holidays, there also was a rebound increase afterwards (Sansone 2011). Although not statistically significant, our results confirm these observations, showing that the higher rates of suicide attempts almost equally occurred in May, August and December followed by January. In January we also observed the highest number of consultations carried out, for which the reason was anxiety. In contrast with the literature, (Christodoulou 2011) we did not find any association with socio-demographic characteristics, except for the age of suicide attempters which in our study is more frequently comprised between 40 and 49 years.

CONCLUSIONS

ERs may represent the place where the first psychiatric visit occurs, thus also allowing the psychiatrist to come in contact with those patients who are not fully aware of their illness, but they are also a point of reference for the chronic ones.

Moreover, patients admitted to the ER for which a psychiatric consultation is required, often belong to the most vulnerable segments of the general population, that is young, unemployed or retired/disabled and with previous psychiatric problems.

The psychiatric consultation may also represent an opportunity for further examination of organic comorbidity, avoiding the risk of attributing all of the symptoms to the psychiatric disorder. In fact when patients arrive in the ER, given the need for clarity and speed, there is the tendency to attribute operational definitions, on the basis of the specific problems that in that specific moment must be primarily considered. Patients are defined as "surgical", "cardiology", or "psychiatric", but, in the latter case, there is an additional underlying meaning that must be taken into account (Villari 2007). The psychiatric patient is a person who is often seen in a different way compared with “organic” patients for several reasons: the presence of psychiatric history, the unusual appearance or behavior, as well as subjective symptoms reported by the patient him/herself or his/her family members (Villari 2007), such as bizarre ideation or altered perceptions. This is why this kind of patient is often totally entrusted to the psychiatrist (Villari 2007), even if in that particular moment his/her main problem is organic.

Acknowledgements: None.

Conflict of interest: None to declare.

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