

## MOOD DISORDERS IN GENERAL HOSPITAL INPATIENTS: ONE YEAR DATA FROM A PSYCHIATRIC CONSULTATION-LIAISON SERVICE

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### SUMMARY

**Background:** Mood disorders (MD) show higher prevalence among psychiatric disorders. As a matter of fact 10% of inpatients in non psychiatric health care structures are affected by MD. A consultation-liaison service bridges the gap between psychiatric and other medical disciplines and increases the cooperation in the context of care, improving the diagnostic process for all inpatients in medical wards.

**Subjects and methods:** Our sample is composed of 1702 patients assessed from 1 January 2012 to 31 December 2012 referred from the wards for psychiatric specialist evaluation in Santa Maria della Misericordia, Perugia, Italy. Each patient was assessed by a consultant psychiatrist performing a psychiatric interview leading to a diagnosis according to DSM-IV-TR criteria. Clinical and sociodemographic data were collected and registered in the clinical records. SPSS software (ver. 18) was used for data analysis. Chi-square test and T-student tests were performed as appropriate. A p-value <0.05 was considered statistically significant.

**Results:** 17% of our sample shows a diagnosis within the mood disorder spectrum. As for the source of referrals we find that 51.4% came from the Emergency room, 39% from medical wards and 9.4% from surgical wards.

On the basis of the consultation referral urgent status we found that 84% of requests needed to be seen within 24 h, most of them come from Emergency room. Statistically significant correlations can be found between the source of referrals, the reasons for the referrals, psychiatric care prior to the evaluation and the psychiatric disorder which was diagnosed during the assessment.

**Conclusions:** Consultation-liaison service for MD in an Italian general hospital is generally based on emergency/urgency referrals from the Emergency room for patients already assessed to mental care facilities by private or national health service psychiatrists.

**Key words:** mood disorders - referral and consultation - consultation-liaison psychiatry

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### INTRODUCTION

Mood disorders (MD) represent an important world-wide common health problem (Kessler et al. 2005, Wittchen et al. 2011).

An important European study demonstrates the predominance of MD ranging 14.7% lifetime and 4.5% in the last 12 months (ESEMED 2004).

Some American and European epidemiological studies, in particular, would show a greater prevalence of major depressive episodes with a percentage point lifetime ranging from 13.4% in Europe to 16.6% lifetime in the USA and 6.7%, 6.9% in the last 12 months (Kessler et al. 2005, Wittchen et al 2011, ESEMED 2004).

In terms of social costs, (DALY, disability-adjusted life year), depression is the most burdensome disorder of all diseases in the EU. A projection shows that within 2020 depression will be the second cause of DALY after ischemia (Murray & Lopez 1997), and the first within 2030 (WHO Global Burden of Disease 2008). It is very important to emphasize that lots of organic diseases can be caused, in term of prognosis, by MD, in particular by depressive disorders (Chapman et al. 2005, Evans et al. 2005).

Depression, however, is underdiagnosed and ineffectively treated (Ni Mhaolain et al. 2008).

In this framework the formulation of a medico-psychiatric diagnosis and treatment instrument is fundamental. In the western countries Consultation-Liaison psychiatry (C-LP) is becoming really useful in the managing of psychiatric disorders and is regarded as a psychiatry main field (UEMS 2009).

The aim of this paper is to investigate the patterns of MD of inpatients referred from other wards to our C-LP service.

### SUBJECTS AND METHODS

The study has been carried out in the space of 12 months, from January 2012 to December 2012, including all the inpatients seen by C-LP service at Santa Maria della Misericordia Teaching Hospital, Perugia, Italy, highly qualified in the field and the largest in the region.

C-LP service is included in the psychiatric unit activity inside the hospital and is carried out by 8 consultants in more than 20 wards, Emergency Room (ER) included.

Inpatients data are gathered on file cards and suitably processed. On the cards are recorded the, levels of emergency (risk), cause of deferral, personal and socio-demographic data of inpatients are recorded together with medical and psychiatric anamnesis, therapy and discharge.

The application for a consultation is picked up by a resident doctor who will give it to a consultant on the basis of priorities. In case of urgency it will be performed within 24 hours.

The resident doctor, moreover, will attend to the gathering of data and their recording on a dedicated database.

Each patient was assessed by a consultant psychiatrist performing a psychiatric interview leading to DSM-IV-TR criteria.

SPSS software package (Version 18, SPSS Inc., Chicago, USA) was used to analyze the data.

Descriptive statistics and correlation coefficient was used to obtain the desired results.

## RESULTS

Assessed inpatient, 1702. 16.9% of them present MD, while the majority present anxiety disorders (20.7%).

Concerning the study population (188 patients with at least one mood disorder) the average age is 51.7.

There is female predominance with 174 women (60.4%) and 114 men (39.6%).

Furthermore almost one half of the study population is married (44.9%) but only 43.6% lives in a conjugal family, 24.7% with their family of origin, 14.2% lives on their own and 2.1% is in a rehabilitation therapeutic institution.

As for the occupational status 34.1% are employed, 31.9% are retired, 14.3% unemployed, 5.2% are housewives and 4.2% are students.

Within the limits of MD, 141 depressive disorder NOS (49%), 73 patients (25.3%) present a major depressive disorder, 39 bipolar disorder I (13.5%), 19 with a bipolar disorder NOS (6.6%), 11 bipolar disorder II (3.8%) and 5 dysthymia (1.7%).

In order to analyze the source, each referral was divided according to the ward of origin: 51.4% of referrals come from the Emergency Room (ER), 39% from medical wards and 9.6% from surgical wards.

Almost the totality of the referrals are urgent (84%) and should be performed within 24 hours.

In frequency order the reasons of consultation have been: depression followed by suicide attempts, agitation, checking therapy and anxiety.

Among the assessed patients 240 (83.3%) were already under psychopharmacological treatment at the moment of the consultation, in particular 43.9% of them

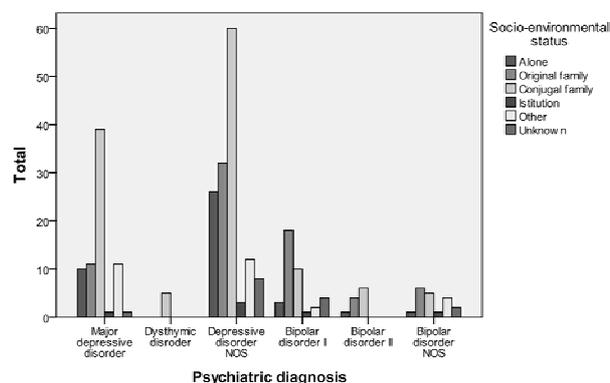
had been referred to the public mental care territorial facilities, 26.8% by a private specialist, 18.2% had never received to any mental care service in the 6 months prior to consultation, 8.9% had had therapeutic intervention from a general practitioner (GP) while 2.1% had got another kind of help.

At discharge 37.5% of the population studied had been referred to the public mental health facilities, 13.7% to the university service inside the hospital, 10.9% to a private specialist and the others to the GP.

A statistical analysis studied the correlations between MD and variables such as sex, marital status, socio-environmental status, occupational status, source of referral, reason of claim, suicidal attempts, pathways of attempts, type of psychiatric assistance in the last 6 months prior to the evaluation, type of pharmacological treatment at the moment of consultation and type of program at discharge.

There are statistically significant differences in the frequency distributions between marital status and diagnosis ( $p=0.033$ ): patients with bipolar disorder I were mostly unmarried while the other categories were married subjects.

Socio-environmental status is distributed in inhomogeneous pathways among diagnostic categories ( $p=0.019$ ) (Figure 1).



**Figure 1.** Distribution of socio-environmental status among disorders

It is statistical significant ( $p=0.003$ ) that there is a different distribution between occupational status and type of disorder: specifically bipolar disorder I, bipolar disorder II and NOS retired subjects are less represented than other diagnostic categories.

This fact is proved by the statistical significance ( $p=0.012$ ) in the differences of average age among diverse disorders (Table 1).

Differences in the origin of the consultation referrals are statistically relevant ( $p=0.016$ ).

The consultation referral for ER is predominant as regards the other wards for all the MD except for the more diagnosed depressive disorder NOS thanks to a consultation in a clinical area unit.

**Table 1.** Statistical significance in the differences of average age among disorders

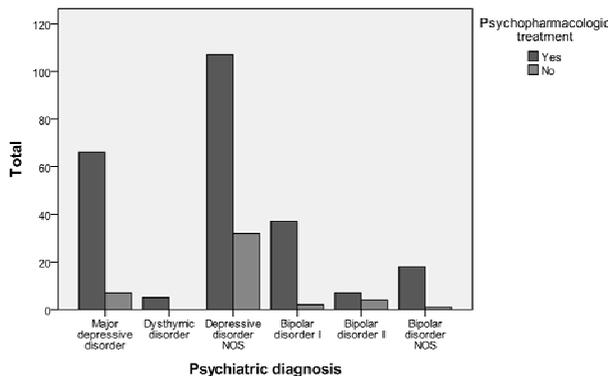
Age	Average	Std Error
Major depressive disorder	52.10	2.034
Dysthymic disorder	57.75	9.232
Depressive disorder NOS	54.21	1.657
Bipolar disorder I	42.64	2.515
Bipolar disorder II	44.73	3.633
Bipolar disorder NOS	53.89	3.570
Total	51.76	1.087

The differences in the distribution of the cause of the consultation referal in the several disorders is statistically relevant ( $p=0.003$ ). Especially for the depressive NOS disorder is the main cause is linked to depressive symptoms. For the bipolar disorders it is psychomotor agitation, while for the major depressive disorder it is attempted suicide.

For all disorders it is evident that the majority of the subjects is dependent on the territorial service or private specialists, while for the depressive ones it appears that there is ( $p=0.016$ ) a larger distribution as to bipolar disorders in subjects who had not received any kind of psychiatric help in the months prior to the consultation.

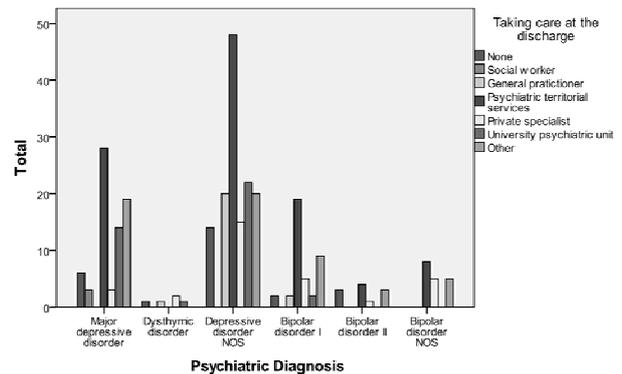
Statistically significant ( $p=0.005$ ) is also the different distribution of the number of subjects who took therapy prior to the consultation as to the diagnosis.

Psychotropic drug intake prevails among all diagnostic groups even if for the depressive NOS disorder and the bipolar disorder II the number of subjects who did not undergo any treatment proves to be larger than the other diagnostic categories (Figure 2).



**Figure 2.** Distribution of drug intake among disorders

The distribution of frequencies of the taking care of the patient at the moment of discharge is statistically relevant ( $p=0.001$ ) pointing out for all the diagnostic categories that most of them are sent to the territorial psychiatric services and that the very often quoted voice “other” must be read in such terms that in this category there are subjects who after consultation in ER are admitted to the medical or psychiatric ward (Figure 3).



**Figure 3.** Distribution of taking care at the moment of discharge among disorders

## DISCUSSION

Mood disorders, rank second among diagnoses so that the psychiatric consultant has to act promptly within 24 hours, in order to carry out his consultation.

Besides over the half of the claims come from ER and among the causes of consultation in the first place we find that attempted suicide and psychomotor agitation correlate respectively with major depression and bipolar disorder I.

In medical wards, on the other hand, we see a greater number of subjects having a depressive NOS disorder with a symptomatology, therefore, which is less disabling and needing a minor timeliness in the execution of service.

During the consultation the majority of inpatients has already got in touch with a psychiatrist (private or territorial) or in any case presents a psychopharmacological prescription. In spite of this a specialist examination is requested and this fact can be read in a double viewpoint, first the less familiarity the non-psychiatrist physicians (Rothenhausler 2006, Feinstein 2006) have got with subjects with psychiatric pathology and their pharmacological treatment and second the search by the subjects who are supported by the territorial psychiatry for other figures of reference available 24/7 when the territorial services do not work.

At the moment of discharge we can see the redistribution of inpatients by the university psychiatric unit of the hospital in 13.7% of cases

And that often happens in order to allow a psychodiagnostic assessment which overcomes the syndromic aspects of acute presentations and to assess as a whole the patient’s psychopathology.

A widening of the sample with deeper assessment of the congruence between the cause of referral and the patient’s psychopathological picture, and the time when consultations are requested could give further information about possible moments of connection.

In this way the connection can be more effective and less expensive for the patient.

## CONCLUSIONS

Consultation-Liaison psychiatry occupies an important position in the run of the psychiatric unit in Santa Maria della Misericordia Teaching Hospital, highlighting the importance of psychiatric assessment of medical and surgical inpatients.

This observational survey demonstrates the variety of situations faced by the psychiatrist in his consultations, trying to mediate between the needs of the patient's treatment and the need of the doctor for support.

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**Conflict of interest:** None to declare.

## References

1. Chapman DP, Perry GS & Strine TW: The vital link between chronic disease and depressive disorders. *Prev Chronic Dis* 2005; 2:A14.
2. ESEMeD/MHEDEA: 2000 investigators. Prevalence of mental disorders in Europe: results from the European Study of the Epidemiology of Mental Disorders (ESEMeD) project. *Acta Psychiatr Scand Suppl* 2004; 420:21-27.
3. Evans DL, Charney DS, Lewis L, Golden RN, Gorman JM, Krishnan KR, et al: Mood disorders in the medically ill: scientific review and recommendations. *Biol Psychiatry* 2005; 58:175–189.
4. Feinstein RE, Blumenfeld M, Orlowski B, Frishman WH & Ovanessian S: A national survey of cardiovascular physicians' beliefs and clinical care practices when diagnosing and treating depression in patients with cardiovascular disease. *Cardiol Rev* 2006; 14:164-9.
5. Kessler RC, Berglund P, Demler O, et al: Lifetime prevalence and age-of-onset distributions of DSM-IV Disorders in the National Comorbidity Survey Replication. *Arch Gen Psychiatry* 2005; 62:593-602.
6. Murray CJ & Lopez AD: Global mortality, disability, and the contribution of risk factors: Global Burden of Disease Study. *Lancet* 1997; 9063:1498-504.
7. Ni Mhaolain AM, Butler JS, Magill PF, Wood AE & Sheehan J: The increased need for liaison psychiatry in surgical patients due to the high prevalence of undiagnosed anxiety and depression. *Ir J Med Sci* 2008; 177:211-5.
8. Rothenhäusler HB: Mental disorders in general hospital patients. *Psychiatr Danub* 2006; 18:183-92.
9. UEMS, European Board of Psychiatry: Consultation-liaison psychiatry in Europe. Report approved Ljubliana, Slovenia, 17 October 2009. <http://www.uempsychiatry.org/board/reports/2009-Oct-CL%20Psychiatry%20in%20Europe.pdf>
10. WHO Global Burden of Disease: 2004 update. Geneva: World Health Organization, 2008. [http://www.who.int/healthinfo/global\\_burden\\_disease/GBD\\_report\\_2004update\\_full.pdf](http://www.who.int/healthinfo/global_burden_disease/GBD_report_2004update_full.pdf) (accessed Feb. 5,2012)
11. Wittchen HU, Jacobi F, Rehm J, Gustavsson A, Svensson M, Jönsson B, et al: The size and burden of mental disorders and other disorders of the brain in Europe 2010. *Eur Neuropsychopharmacol* 2011; 21:655-79.

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