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Epidemiology of Mental Disorders in the South of Beira Interior (Portugal)

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Abstract

Aim: The aim of this study is to estimate the prevalence and incidence of mental disorders, in patients of the psychiatry service of a district hospital in central Portugal (Beira Interior South) that has served a population of 12,393 patients since 1979.**Methods:** The sample included 976, randomly selected, patients' charts, of these 592 were women (60.7%) and 384 were men (39.3%). The average age for the first consultation was of 43 years of age (SD=19, Median=43, mode=30, minimum age=3, maximum age=86). The data gathering instruments used were the patient's charts and data collection form (design for this study), and the instruments that supported the data analysis were the Pharmacological Symposium and DSM-IV, to help decode the diagnosis presented by the psychiatrist. The data collected was coded (human coding), and inserted in a SPSS database. Epidemiological rates were calculated. **Results:** The prevalence of mental disorders in this population, between the years of 2000 and 2006, was of 32.15%. The main disorders found in this sample were: mood disorders (42.6%), anxiety (13.8%), alcohol (12.4%), mental retardation (5.3%), dementia (4.7%) and schizophrenia (4.6%). **Conclusions:** The results obtained allow the filling of an important information gap regarding the epidemiology of mental disorders in Portugal, and also contribute in a significant way to the worldwide understanding of these disorders. Overall, our findings confirm the prevalence of the major mental disorders referred to in other studies. The implications of these results are thoroughly discussed.

Keywords: Mental health; Epidemiology; Psychopathology; Beira interior south

Introduction

The awareness that mental disorders are a serious public health problem is relatively recent. When the World Health Report, of 2001, was dedicated to Mental Health, the World Health Organization was making a very clear statement: mental health, which has been neglected for a long time, is crucial for the well-being of individuals, societies and countries [1]. In a world where the projections for mental and brain illnesses suggest an increase of 15% by 2020 [1], it becomes necessary to understand its epidemiological distribution.

In the last two decades there were many epidemiologic studies, that provided a better understanding about the occurrence and development of mental disorders, some examples are: the ECA Study - Epidemiologic Catchment Area: A Survey of Mental Disorders, by the National Institute of Mental Health (1980-1985) [2,3]; the NCS - National Co-morbidity Survey (1990-1992) [4], and the NCS-R - National Comorbidity Survey Replication (2001-2003) [5,6]. These studies provided knowledge of the direct and indirect consequences of mental disorders with personal, family and social impairment, as well as detailed information on the frequency and risk factors of these illnesses.

Since 1996, it has become impossible to ignore the burden of mental illness on both the individual and the community, weather we are speaking in absolute terms (not comparing with other pathologies) or relative terms (by comparison with other pathologies) [7]. Up to that date, mortality was the main measure on understanding the severity of a given pathology, and it was determinant for the decision-making process regarding health planning. Nevertheless, mental and behavioural disorders are present, at any given time, in about 10% of the adult population, affecting 20-25% of all people in some moment of their lives [1].

In this way, it became essential to know the values of lifetime prevalence, of mental disorders, in the communities. For example, the community-based epidemiological studies estimated that the worldwide lifetime prevalence of mental disorders, in adults, ranged from 8.4% to 29.1% [8]. According to the epidemiologic findings in several countries, mental disorders are common among the general population [9-20]. Overall, the prevalence of mental disorders, in recent months varied from 10 to 15%, between 6 and 12 months it varied from 15 to 25%, but when assessing lifetime prevalence the values increase to over 50%. Depression and anxiety are the mental disorders with the highest prevalence rates, followed by substance abuse.

The statistics resultant from the two major epidemiologic studies conducted in the USA (the ECA and the NCS) [3,5,6], revealed that 22-23% of adult Americans (over 18 years old), had a mental disorder diagnosed by the Diagnostic and Statistical Manual of Mental Disorders (4th revision) (DSM-IV), in a one-year period [21,22]. The 2004 census showed a growth of these statistics, its results revealed that 26.2% of adult Americans [23], one in every four [6], had a mental disorder. According to the NCS-R (National Comorbidity Survey Replication), regarding the lifetime prevalence, about half of America's population (46.4%) fulfilled the criteria for one or more mental disorders diagnosed by DSM-IV [5,6]. These results raised a high level of concern among Mental Health staff. However, this study also concluded that the most severe disorders were limited to a much smaller population: one in every five people with a mental disorder, have a severe mental illness, which represents, overall, 5.7% of adult Americans.

Mental disorders seem to be escalating: every year 20% of adults are

affected by some kind of mental disorder [24]. Although, it is possible that due to a wider awareness, about mental disorders by the general community, more people declare their symptoms.

The data about the occurrence of mental disorders can vary according to the location: in Finland the prevalence of mental disorders is of 17 in 1,000 women and 14 in 1,000 men [25,26]; in Argentina it affects 26% of adults (30.8% women, 20.3% men) [26]; in Chile the lifetime prevalence is of 31.5%, the prevalence rate for the last year of 22.2% [27]; in European countries (Belgium, France, Germany, Italy, Spain & Holland) the prevalence is of 26%; in Bosnia Herzegovina of 60% ; in China of 1.35%; and in Norway of 25.7% with one diagnosis and 11.9% with two diagnoses [28-30].

Mental Disorders	Epidemiological Rates	Mental Disorder Per 1000 inhabitants
Mood Disorders	42.6%	48
Bipolar Disease	(3.9%)	(4.4)
Major Depression	(9.1%)	(10.3)
Dysthymia	(12.2%)	(13.8)
Reactive and transient	(13.8%)	(15.6)
Depressive Disorder NOS	(1.9%)	(2.14)
Other mood disorders	(1.6%)	(1.8)
Anxiety	13.8%	15.6
Post-traumatic Stress	0.2%	0.23
Conversion and Dissociative	0.3%	0.33
Somatoform disorders	0.1%	0.11
Tics	0.1%	0.11
Stuttering	0.1%	0.11
Anorexia nervosa	0.1%	0.11
Bulimia nervosa	0.1%*	0.11
Dementia	4.7%	5.3
Cognitive impairment	0.2%	0.23
Alcohol	12.4%	14
Substance disorders (illegal substances)	0.8%	0.9
Schizophrenia	4.6%	5.2
Other psychotic disorders	3.2%	3.6
Personality disorder	1%	1.3
Sexual disorders	0.4%*	0.45
Sleep disorders	2.4%*	2.7
Elimination disorders	0.9%*	1
Impulse-control disorders	0.3% 0.8%*	0.34 0.9
Attachment disorder	0.8%	0.9
Hyperactivity and Attention Deficit	0.5%	0.56
Learning disorder	2%	2.23
Development disorder	0.1%	0.11
Mental Retardation	5.3%	6
Non-specified Mental disorder	0.2%	0.23
Epilepsy (diagnosed as main diagnosis)	0.8%	0.9
Legal medical examination	1.1%	1.24
Waiting for diagnosis	1%	1.3

*Secondary Diagnosis

Table 1: Epidemiological rates presented by likely diagnosis and classified by psychopathological groups (n=976)

This type of studies has shown that, about 35% of the general adult population (i.e. non-hospitalized), develop some kind of mental disorder throughout their lives [31-33]. The studies summarized on Table 1 reveal a higher frequency of affective, anxiety, dissociative and eating disorders in women, and a higher frequency of substance abuse (including alcohol) in men.

In Portugal, there are few epidemiologic studies in mental health, thus the information on mental disorders is limited. It is estimated that 30% of the general population have some kind of mental disorder, of these about 12% are severe. A better characterization of this population is impossible due to the lack of epidemiological data [34,35].

The first two Portuguese psychiatric censuses (1988 and 1996) focused solely on hospitalized patients [36,37]. The third census (2001), however, included for the first time not only hospitalized patients, but also patients that attended consultations, hospitals' emergency rooms and private institutions, in both the mainland and islands. The psychopathologies identified in this census were classified according to the International Classification of Diseases (9th edition) (ICD-9). From the results of the 2001 census, we can highlight the fact that it included 0.2% of the total population, and it was estimated that 1-2% of the Portuguese population attended psychiatric consultations every year (approximately half a million consultations per year). More specifically, the results regarding outpatients, based on a total of 9,414 sessions, indicate a prevalence of depression. Concerning the psychiatric emergency, 1,649 consultations were done in 32 different institutions; the results point out a predominance of changes associated to alcohol consumption (21%). Regarding hospitalized patients (n=6,839), the most frequent disorder was schizophrenia, with a total percentage of 36.2. Schizophrenia was, overall (including outpatients, inpatients and emergency patients), the most frequent pathology covering a total of 21.2% (although, regarding the psychiatric emergency its prevalence was only of 6%).

Considering the lack of epidemiological information about mental disorders, in the Portuguese clinical populations; we designed this study with the objective of estimating the prevalence and incidence rates, of mental disorders, in patients of the Psychiatry and Mental Health Unit (PMHU), in Hospital Amato Lusitano (HAL), located in Castelo Branco (Beira Interior South). We wanted to assess, more specifically: the lifetime prevalence rates between the years of 1977 (inauguration of the PMHU) and 2006 (limit established for this study) and also in different, more specific, time periods; epidemiological incidence rates (in our sample and in the target population); and annual incidence rates (based on the date of the first consultation).

Despite the fact that we wanted to estimate the prevalence and incidence of mental disorders in the population served by the HAL psychiatry service, we first calculated the distribution of mental disorders in the sample. Being this a representative sample of the entire population served, the results obtained can be generalized.

Method

Sample

This study's universe is of 12,393 patients, seen by professionals of the PMHU, of the HAL, from 1977 until the end of 2006. Of the initial random sample, composed of 1000 patient charts, 24 were removed for not meeting the inclusion criteria. Thus, we had a final sample of 976 patient's charts, representative of the population.

Hence, the sample consisted of 592 women (60.7%) and 384 men

	São Paulo I (N = 1.464) %(c) M/ W	NCS II (N = 8.098) %(c) M/ W	NEMESIS III (N = 7.076) %(c) M/ W	OPCS IV (N=10.108) % M/ W	Santiago/ Chile V (N = 3.870) % M/ W
Any disorder	46.3/5.3	47.3/48.7	39.9/42.5	19.5/12.3**a**	35.2/17.3**a**
Any affective disorder	21.0/15.0	23.9/14.7	24.5/13.6	-	-
Major depression	19.2/13.5	21.3/12.7	20.1/10.9	2.5/1.7**a**	8.0/2.7**a**
Dysthymia	4.7/3.7	8.0/4.8	8.9/3.8	-	-
Manic episode	0.9/1.1	1.7/1.6	2.1/1.5	-	-
Any anxiety disorder Generalized anxiety disorder Panic disorder Simple phobia	15.6/8.2 4.9/3.3 2.3/0.7 6.7/2.2	30.5/19.2 6.6/3.8 5.0/2.0 15.7/6.7	25.0/13.8 2.9/1.6 5.7/1.9 13.6/6.6	3.4/2.8ᵃ - 0.9/0.8**a** 1.4/0.7**a**	- 6.9/3.2**a** 1.5/1.1**a** 5.6/2.9**a**
Schizophrenia	23.0/33.1	0.8/0.6	-	0.4/0.4**a**	NA
Alcohol abuse/addiction Any drug abuse/addiction	3.8/7.8 0.6/1.9	8.2/20.1 5.9/6.7	1.9/9.0 1.5/2.1	2.1/7.5**b** 1.5/2.9**b**	NA NA
Bulimia Nervous	2.4/0.3	NA	1.1/0.2	NA	NA
Somatization disorder	6.9/4.7	NA	NA	NA	NA
Cognitive impairment	1.1/1.3	NA	NA	NA	NA

W: Women; M: Men
a) Prevalence in the last week, **b)**Prevalence in the last 12 m
onths, **c)** lifetime prevalence
References: **I** (34); **II (4)**: **III** (15); **IV (**34); **V (**28)

Table 2: Prevalence of Psychiatric illnesses: results of 5 population-based studies, developed in Western countries

(39.3%). Regarding the marital status, 52.7% were married (n=514) while the remaining 39.9% were martially unbounded (28.2% single, 3.9% divorced, 7.8% widowed). In 7.5% it was impossible to retrieve this information.

Regarding the educational attainment, most of the patients had a low educational level. 32.1% (n=313) had completed primary education, 4.8% had completed secondary education (high school) and 4.2% completed tertiary education. The illiteracy rate was of 14.5% (n=142). This information was not available for the remnant 32.4% of the sample (n=658).

When dividing the patients in age groups, we observed that the most prevalent ages were from 36 to 55 years old (33.7%, n=329), followed by 16 to 35 years of age (29%, n=283), over 65 years old (14.6%), and finally 4 to 16 years of age (childhood and teenage years) (6.8%). The mean age of the patients attending the first consultation was 43 years old (SD=19, median=43, mode=30, minimum age=3, maximum age=86). Concerning the geographical origin, 47.8% were from urban areas, 51.5% from rural areas (countryside) and 0.8% were institutionalized.

The data collected also indicates a high rate of psychotropic drug use. Thus, 5.1% of patients were treated with anti-depressives, 53.9% were treated with an anti-anxiety agent, 22.6% with neuroleptics/ antipsychotics, 11.7% with mood stabilizers, 7.8% with an anti-parkinsonian agent, 3.4% with anti-epileptics, and, finally 6.6% with several psychotropic drugs. No drugs were prescribed to 16% of patients.

Instruments

The data gathering instruments used was the patient's charts, from both the consultations and hospitalizations, and a data collection form (built specifically for this study, to collect information with epidemiological relevance from the charts). The patient chart (consultation) includes the, so called, psychiatric chart, which has all the information on the patient, as well as (when existent), psychological evaluations, physiological exams and information provided by other doctors that may have treated the patient previously. If the patient deceased, and the unit was noticed, information regarding the death was also included in this chart. The hospitalization chart was also used to

gather any important information that arouse from the hospitalization period.

The instruments that supported the data analysis were the Pharmacological Symposium, to assist in the classification of psychoactive drugs and psychopharmacological groups, and DSM-IV, to help decode the diagnosis presented by the psychiatrist.

Procedures

After the direction of PMHU granted the authorization to conduct this study, we assessed patient's charts, from which we retrieved the data necessary for this study, being that this data survey took place between the 3rd of January, 2007 and the 20th of October, 2008. During this period 1000 patient records were examined. All patient records are archived sequentially numbered, thus each file is identified with the patient's number.

The criteria used for the diagnosis was based on the DSM IV, because we had to have some uniformity in the classification of the data in order to accommodate the results of different records that, in most cases, were done by psychiatrists with the writings from unstructured interviews. Exceptions were cases of specific assessments, which resulted from the application of an instrument/structured scale. Also we took into consideration the prescribed medication to the patient. When no diagnostic criteria were met to be considered safe enough, no classification was assigned and the patient was removed from the sample.

The numbers of all the patient's charts were inserted in a SPSS (Statistical Package for the Social Sciences) database, built solely for this purpose. All charts were given a new, sequential number (numbers ranged from 1 to 12,393).

In a first stage, we calculated the number of patient charts required to obtain a representative sample of this population (i.e. patients treated in mental health services). A simple random sample of 1000 patient charts was obtained, using a program that generates random numbers (SPSS). It was calculated using a confidence interval of 4, to a confidence level of 95%.

In a second stage, the chart numbers were randomized, by the same program, which selected 1000 random chart numbers.

In a third stage, using the list of random chart numbers, the patients' records were retrieved from the archive. Based on the information available in these charts, the data collection form was completed.

Finally, the data gathered, through this form, was coded (human coding), and inserted in a new SPSS database. Epidemiological rates were than calculated.

The anonymity of all patients was maintained throughout this study, as all the data collection and analysis was done based on the chart's numbers.

Data analysis

Data analysis consisted of descriptive statistics such as crosstabulations of categorical variables, means and standard deviations. Epidemiological rates were also estimated. These calculations were based on the lifetime prevalence rates of the mental disorders, found in our sample. These values were obtained, based on the frequency of all the mental disorders, that occurred during the 30 year period considered for our data collection (patient's charts from 1977-2006). After this, calculations were done to assess the lifetime probability of these people suffering from a mental disorder.

We wanted to estimate the prevalence and incidence of mental disorders in the population served by the HAL psychiatry, and for this purpose we first estimated the distribution of mental disorders in the sample. Being this a representative sample of the population, the results obtained can be generalized to the entire population.

Lifetime prevalence was estimated for the total population for specified periods of time, and the results obtained for that same period. Data were collected at the dates of first appointment.

Results

The epidemiologic rates, calculated for this study's universe (population of the Southern Beira Interior municipalities', serviced by the PMHU), are presented, organized by diagnosis, on Table 1. The estimation of the population universe in this study was specifically calculated for seven municipalities of District of Castelo Branco's region (Beira Interior South), which are served by the Mental Health HAL services, covering a geographical area of approximately 4,688 km^2.

The Population average of these municipalities was calculated by the total population in 1981, 1991, 2001 and 2004 for each municipality, using data obtained by the National Statistics Institute. The universe considered in the study population in the study for 30 years was 112,767 inhabitants.

Table 2 summarizes some significant population-based studies performed in Western countries.

The lifetime prevalence rates of the mental disorders, calculated for different time periods (1977/1984, 1985/1989, 1990/1994, 1995/1999, 2000/2006), are detailed in Table 3. These numbers represent the lifetime probability of this population having suffered, from one or more, mental disorders, during each time period.

While observing this graphic, it becomes clear that: these rates presented higher values in the period between 2000 and 2006; the demand for psychiatric services almost doubled from the period of 1977-1984 to the period of 2000-2006.

In Table 4 we can visualize the incidence rates for the whole population. The possibility of calculating the actual incidence rates was possible due to the information available on the patients' charts. Besides its clear importance, this data also allows for testing the reliability of the random samples. Thus, we can observe that the rates we obtained for the population are not very different from the ones of the sample.

Table 5 presents diagnosis incidence rates (for the most significant diagnosis), for five different time periods, revealing a different perspective on the incidence rates.

Discussion

As previously referred, this is a population-based study, with a representative sample of 976 patients, of whom 96.2% had at least one psychopathology. The prevalence rates of mental disorders, found in this sample, arose from the patient's (or host institutions') need to find support in a psychiatric setting.

The demand rate for these services was of 11% (of the population), not differing much from the WHO's data [38], which estimates that behavioural or mental disorders are present in: 10% of the adult population, at any given time; and 20-25% of the general population, sometime in their lives. Also the community-based epidemiological studies suggest that, the worldwide lifetime prevalence rate, in adults, varies from 8.4-29.1% [1].

The population-based studies, conducted in Western countries, have shown that, about 35% of the non-institutionalized adult population, presents some mental disorder throughout their life [33].

According to Kessler et al. [18,19], about half the American population (46.4%) has enough criteria for one, or more, DSM-IV based diagnosis. These values raised a high level of concern among

	1977/1984	1985/1989	1990/1994	1995/1999	2000/2006
Prevalence rates in the population	15.8%	17%	17.8%	20.9%	28.5%
Nr. of cases per 1000 inhabitants	17.8	19.2	20.1	23.6	32.1

Table 3: Lifetime prevalence rates of mental disorders, during different time periods.

	Time period	Number of new cases	Incidence rate in the population	Incidence rate in the sample
1977/1984	7 years	1621	13.8%	15.8%
1985/1989	5 years	2134	18%	17.1%
1990/1994	5 years	1999	17%	17.9%
1995/1999	5 years	2267	19.3%	20.9%
2000/2006	7 years	3727	31%	28.5%

Table 4: Incidence rates in different time periods (n=11,800).

Disorder	1977/1984 N=154	1985/1989 N=166	1990/1994 N=174	1995/1999 N=204	2000 /2006 N=278
Mood					
Major	10.1%	7.9%	20.2%	19.1%	42.7%
Bipolar	10.5%	23.7%	5%	39%	21%
Dysthymia	11.7%	13.43%	20.8%	25.8%	28.3%
Transitory	3%	5%	12.8%	38.3%	40.6%
Other	25%	13.9%	11.1%	5.5%	44.4%
Anxiety	18.8%	27.3%	17%	14.8%	21.9%
Dementias	10.9%	15.2%	21.7%	10.9%	41.3%
Schizophrenia	33.3%	24.4%	17.8%	17.8%	6.7%
Other Psychosis	9.7%	26%	26%	29%	9.7%
Alcohol	17.4%	18.8%	23.1%	20.7%	19%
Learning	25%	50%	15%	5%	5%
Attachment	37.5%	25%	12.5%	25%	-
Personality	-	-	30%	20%	50%
Mental retardation	34.6%	15.4%	5.8%	9.6%	32.7%

*Considering our sample, according to the DSM-IV classification, for some 89.9% of patients, the mental disorder rates match DSM's Axis I disorders (Clinical Syndromes). Also, 26.4% also had disorders from this Axis, but as a secondary diagnosis.

Table 5: Mental disorders' most significant incidence rates in three different time periods (n=976)

Mental Health staff. However, these studies concluded that severe disorders were limited to a small portion of the population (one in every five people) [18,19].

6.3% of patients evidenced a disorder from Axis II (Developmental Disorders and Personality Disorders). These disorders are very different from the ones in Axis I, as these can cause a subject's lasting misfit. A study performed in 1993, in Olinda [39], with a domestic sample, revealed a 35% prevalence of common mental disorders. Also, the study by Bland in Edmonton [40], performed in non-clinical Canadian population, with a random sample of 3,528 adults, showed prevalence rates of 33.8% for one or more psychiatric diagnoses.

Axis III disorders (Physical Conditions) were considered and coded, by psychiatrists, in 30.4% of the sample. All the registered physical symptoms, which were in agreement with the diagnosed mental disorder, were taken into account by this study.

As to Axis IV disorders (Severity of Psychosocial Stressors), they do not seem to have great significance in diagnosis, not being coded in the patient's chart. These were only referred in some cases, when the patient's life problems are of relevance for the diagnosis, being these utterances registered by the clinician. There were, however, two exceptions, both cases of childhood sexual abuse, as the consequences of this experience were mentioned during first consultation.

It should be noted that, a large part of the epidemiological studies, done up to now, tend to focus on specific mental disorders (for example: depression, anxiety or any other mental disorder), and/or on specific populations (clinical or non-clinical). However, there are a limited number of studies that approach mental disorders in general. Thus, as our study aimed at filling this information gap, the comparison of results with other studies is quite limited. Anyhow, most of the results of this study are similar to the ones obtained in other studies, even when these were performed in different conditions.

Thus, the diagnosis rates presented in Table 2, confirm that mood disorders present the highest prevalence rates (42.6%), followed by alcohol consumption (4.7%), anxiety (4.6%), schizophrenia (13.8%) and dementias (12.4%). We will now discuss each disorder separately, to facilitate their comprehension and comparison.

Mood disorders

Regarding mood disorders, we observed a lifetime prevalence rate of 28.8%; when joined with adjustment and depressed mood disorders, this rate rises to 42.6%. The prevalence rate of bipolar disease was of 3.9%, of these 71% were women, thus, revealing differences between genders. This data is consistent with the results obtained I several other studies [19,41-43].

The prevalence of dysthymic disorders proved to be very high in our sample; reaching a total of 12.3% (81.5% were women). These results go against the ones obtained by Zimmerman et al. [44], who found a 6.9% rate, for outpatients; by Caraveo [45], who obtained a lifetime prevalence of 4.4% (2:1 W/M); and by Szadoczky et al. [41,42], who got a 4.5% lifetime prevalence rate. Among the possible reasons to explain our dysthymia high rate (12%), are probably a number of risk factors in this sample. Namely, a psychiatric setting, with patients mostly from rural areas, with occupations correspondent to a low socio-economic status, and located in an area where the aging rate is higher than in most of the other municipalities. Also, the majority of the sample was female, of which 10% were housewives. Regarding alcohol consumption, about 15% of the patients had direct relatives who were alcoholic, of these 33.3% were their spouses and 68% were theirs parents. In the cases where it was possible to acquire information about the family's stability, we observed that 61% presented a dysfunctional family environment. Thus, a number of interactions, among the assessed data, seem to suggest that social factors have an important role. These factors seem to contribute to, or even trigger, unrewarding situations, or maladaptation to daily roles and routines, leading to long-term psychological malaise, without many prospects for a positive change.

Anxiety disorders

4.1% of patients (n=138) had an anxiety disorder as main diagnosis, and 5.7% as secondary diagnosis. Other authors have estimated rates similar to these concerning the co-existence of symptoms (secondary diagnosis). Zimmerman et al. [46] refers that 85% of depressed adults also have significant anxiety symptoms, and 58% have a diagnosable anxiety disorder, sometime during their life.

Alcohol

Alcohol dependence was responsible for 12.4% of the diagnosis. These values are similar to the ones presented by other authors, regarding the Portuguese population [47]. According to Mello et al. [47], about 10% of the general Portuguese population has severe incapacities related to alcohol consumption.

Hall [48] found a 6.5% 12-month prevalence rate, for substance abuse, in the Australian population. It should be noted that these values are lower than those we found, however, the rates in our study were regarding lifetime prevalence rather than one year.

It is also mentioned by several authors that alcohol dependence is associated to high rates of psychiatric symptoms, which reflect long-term mental disorders [20,49]. For example, the co-morbidity between depression and alcohol abuse has been well documented. According to ECA, the risk rates for developing a depression are, roughly, double (1.5/2.0) in alcoholics than in non-alcoholics [49].

Personality disorders

In our sample, personality disorders account for 1% of the main diagnoses (n=10) and 1.4% of the secondary diagnoses (n=14). These rates are, however, low and not very significant when compared with other studies. A possible reason for these results may be that other diagnoses disguise these disorders. Zimmerman et al. [44], concluded, that the majority of patients do not seek treatment for personality disorders. Hence, these should be evaluated in all psychiatric patients [44,50].

Schizophrenia and other psychosis

In our sample, schizophrenia was diagnosed in 2% of patients, as a secondary diagnosis. This value can be explained by the severity of this pathology, and the degree on incapacity associated to it, which leads the patient to reaching out for help. This data is in accordance with other studies. The WHO/NIH joint project [51], conducted in 14 countries to evaluate the degree of incapacity associated to several diseases (physical and mental), concluded that an active psychosis is the third most disabling disease (with higher values that paraplegia and blindness). On the other hand, the lifetime prevalence rate was of 4.6% (5.2 per 1000 inhabitants), which is higher than in other studies [1,52-55].

As for other psychosis, the results were of 3.2% for main diagnosis, and 1.5% for secondary diagnosis, giving a total of 4.7% psychotic patients (n=46). Psychoses, are the mental health disorders, more likely to cause severe suffering, having high psychological costs (for the individual and the family), in both micro and macro-social levels [56].

With regard to suicide levels in these patients, 19.3% thought about or attempted to commit suicide. Of these, 9.5% did one or more attempts. This data confirms the results obtained by other authors regarding schizophrenia, which also revealed a very high, positive correlation between this disorder and suicide [57,58].

Considering the changes observed, during the established period (1977-2006), we found that, the results for learning disorders, attachment disorders and mental retardation, were higher in the early years, which is explained by the fact that these disorders are diagnosed between childhood and adolescence, and, as from 1994, this age group has been treated in a different department. We also saw that there was an increase of all disorders between the years of 1995 and 1999, and more significantly between 2000 and 2006. This change was related, on the one hand, to an increased demand for psychological support, and

on the other hand, by an increase in the number of clinicians to provide that support.

Considering this increase in the incidence and prevalence rates, especially regarding the last time period (2000-2006), we chose to calculate separate prevalence rates for the period from 2005-2006 (only two years). Here we also found a growing demand regarding these mental health services.

Analyzing these results more profoundly, we can also observe that it is of great importance to understand the associations among several risk factors.

Apparently, our results do not seem to differ substantially from what has been described in the literature, regarding the relation between socio-demographic variables, and affective, anxiety or somatoform disorders. The presence of these disorders (commonly referred to as minor psychiatric disorders) appeared to be associated to: the female gender, a lower education level and to social "disadvantaged" patients. However, the relations between some of these characteristics and the disorders are of great complexity. This is proved to be real by the manifestation of the consequences of other socio-demographic elements on these variables.

The prevalence rates, of mental disorders, obtained in other studies cannot be compared from country to country, as different age groups, time periods, disorders and methods were used. Despite this, these studies provided one crucial piece of information: they made us aware of the magnitude of this problem (not enough epidemiological information), and served as a starting point for our study. The limitations of this study also include the fact that this was a records-based where patients were assessed by different psychiatrists, who were not using a standardized tool for assessment. This factor may have had an influence on the data that was collected, as some data was missing or not recorded in the clinical file.

Our study was developed in a certain historical period in Beira Interior South, providing us with specific information, but this information incites the development of more studies, and of mental health promotion actions, in the Portuguese mental health system.

Also, as in Portugal the lack of epidemiologic studies in mental health (which could work as a comparison basis for the data obtained in this research) is a reality, the results attained with this study might have important implications in the perception of mental health. We believe this data provides reliable information about the nature and magnitude of mental health problems, in this population.We also trust that these results may be used by the PMHU (as they provide real and concrete data on this population), as well as by other units or departments, to help design interventions, facilitate decisions, to get from the hospitals' administrations a new perspective on mental illness, or even to make some political pressure for the development of mental health programs (prevention and intervention). Overall, they can be used as a powerful tool for decision makers, and generate greater concern about mental health.

Health promotion, a greater involvement and action in the community will, certainly, be essential aspects of the future intervention in mental health. Studies, like this one, contribute to a better understanding of the reality in mental health intervention. In a more direct way, they provide data that should be divulged, not only to the several district and national health services, but also to the general population. Thus, we hope this study can contribute, in some way, to improve the perceptions on mental health and illness, as well as

contribute to the development of the mental health programs, in both the studied region and other worldwide locations.

Declaration of Interest

The authors declare no conflict of interests in the submission of this paper, which was authorized by the ethic comities of the intervening parts. The present research was carried out with its own financial resources.

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