The probabilities of psychiatric hospitalization of mental health clinic patients

Leonardo Naves dos Reis[1]
Julio Cesar Ribeiro Simplicio[2]
Edilaine Cristina da Silva Gherardi-Donato[3]
Ana Carolina Guidorizzi Zanetti[4]

The objective of this study is to evaluate the factors of prediction (diagnostic and socio-demographic characteristics) regarding psychiatric outpatient mental health among users. The study was conducted from secondary data, extracted from the charts and analyzed through logistic regression, to obtain the prediction equation of probability of psychiatric hospitalization. The diagnoses that showed statistical significance (p < 0.05) were bipolar affective disorder, schizophrenia, anxious disorders and depression, and the first two showed a high magnitude association with the need of hospitalization. The age was inversely proportional to the need of hospitalization. The results found may stimulate specific actions and the psychiatric prevention of younger patients with schizophrenia and bipolar affective disorder.

Descriptors: Mental Health; Epidemiology; Hospitalization; Psychiatry.

[1] Doctoral student, Escola de Enfermagem de Ribeirão Preto, Universidade de São Paulo, PAHO/WHO Collaborating Centre for Nursing Research Development, Ribeirão Preto, SP, Brazil. Police Investigator, Delegacia Seccional de Polícia de Sertãozinho, Sertãozinho, SP, Brazil.

[2] Specialist in Health Informatics, RN, Prevent Senior Private Operadora de Saúde, Ribeirão Preto, SP, Brazil.

[3] PhD, Associate Professor, Escola de Enfermagem de Ribeirão Preto, Universidade de São Paulo, PAHO/WHO Collaborating Centre for Nursing Research Development, Ribeirão Preto, SP, Brazil.

[4] PhD, Professor, Escola de Enfermagem de Ribeirão Preto, Universidade de São Paulo, PAHO/WHO Collaborating Centre for Nursing Research Development, Ribeirão Preto, SP, Brazil.

Correspondence
Leonardo Naves dos Reis
Rua Vila Nova, 398
Bairro: Ipiranga
CEP: 14060-010, Ribeirão Preto, SP, Brasil
E-mail: leonareis1@hotmail.com

Introduction

Brief analysis of epidemiological studies on mental disorders can show how these illnesses affect the world population[1]. In 2001, 450 million people suffered from mental disorders, resulting into the interaction of genetic and environmental factors. The mental disorders form the framework of chronic non-communicable diseases and present themselves as a global health problem and threat to health and human development. The burden of these diseases is especially on low- and middle-income countries[2].

In Brazil, with the advent of the Constitution of 1988 and of law nº 8,080/90, which stipulated the principles of the Unified Health System (Sistema Único de Saúde -SUS), experienced a process of transformations in the model of health assistance. When the health/disease process was considered to be a social process, regarding the field of mental health, it has brought the proposition of deinstitutionalization practices[3].

Taking into account the increasing efforts directed to the deinstitutionalization of patients with psychiatric disorders, and other factors such as the increase in life expectancy of the population, one can infer that there has been increased demand regarding the importance of services of primary and secondary levels in mental health. These observed changes create some challenges regarding the services, so they can fit in the new context and effectively meet the needs of its customers[4].

One of the main challenges consists of knowing the attended public, knowing the profile of the users, in search of a characterization that permits a better direction of service actions[5].

Within the principles that guide the SUS, fairness, strives to reduce the inequalities, when dealing with the different in a different way. And also of completeness that, among other things, aims to ensure the provision of an articulated and continuous set of actions and preventive services, curative and collective in all levels of assistance[6]. The epidemiological knowledge is an important tool in maintaining these principles, since it can provide data able to point out peculiarities of the attended public, as well as expressing their real health needs.

The importance of epidemiology in health services, for the biggest part is its role of producing knowledge for decision-making with regard to the formulation of health policies, the organization of the system and to interventions aimed at solving specific problems. In this way, it works as a valuable instrument to guide the planning and implementation of health actions. Reasons why the Ministry of Health classifies information systems, such as the Information System of Basic Care (Sistema de Informação da Atenção Básica - SIAB) and Outpatient Information System (Sistema de Informações Ambulatoriais - CIS) management tools, in respect of the importance assigned to epidemiological knowledge[7-8].

The family and social conviviality is extremely important for the rehabilitation of mental disorder and, in this context, the psychiatric hospitalization is the rupture of these relations by bringing implications for the course of their everyday lives[9]. Brazilian law No. 10,216/2001, in article 4, establishes that an individual should be hospitalized in a psychiatric unit, only when other treatments have been ineffective[10]. Normally, the hospitalization takes place after episodes of crises that occur for different reasons, such as abandonment of treatment and others. Such crises has consequences for the patient not only those related to hospitalization, but also several other linked to the disease process[11]. Thus, it is extremely important that the health team performs, constantly, with preventive interventions directed to the factors that would result in the hospitalization of the patient and, to this end, it is critical that known predisposing factors, as well as the highest risk groups for which these actions can be properly directed. The epidemiological knowledge presents itself as an instrument that can provide significant assistance to team work.

The need to provide full and fair service to users of mental health services, the lack of knowledge of the epidemiological profile of the population and, particularly, the possibility of increasing the chances to intervene with the patients with mental disorders, in order to avoid a crisis or any other events that may culminate in psychiatric hospitalization, were among the factors that stimulated the realization of this study.

The objective is to evaluate prediction factors (diagnostic and socio-demographic

characteristics) regarding psychiatric outpatient mental health among users. The study was conducted using secondary data, extracted from the charts and analyzed with logistic regression, in order to obtain the prediction equation of probability of psychiatric hospitalization.

The study also aimed to get insight in the socio-demographic characteristics and diagnosis of these patients, as well as, through the analysis of logistic regression, the relationship of these characteristics with the psychiatric hospitalization need to evaluate the possible prediction factors for hospitalization of patients in the study.

Methods

The project was approved by the Research Ethics Committee of the Nursing school Ribeirão Preto from the University of São Paulo (Protocol # 1446/2011), in accordance with the norms established by Resolution 196/96, the National Health Council.

We realized a quantitative descriptive and exploratory study, epidemiological in nature, as well as prevalent and correlational. The sample was composed by all 1,281 individuals in treatment of the Mental Health Core (Núcleo de Saúde Mental - NSM) Faculty of Medicine of the Health Center School Ribeirão Preto, in the period of data collection which were April and May 2012. This is a retrospective study, based on secondary data extracted from the records of patients classified as assets in the service record. The NSM is a service of secondary nature and offers outpatient mental health care.

The variables sex, age (years), psychiatric diagnosis (conform the CID-10 classification) and hospitalization have been considered. That last has been divided into the categories "yes", if the patient already had required at least one psychiatric hospitalization, and "no", in case the patient had never been hospitalized for mental health disorders.

In the first stage of the data analysis, descriptive statistics of the demographic characteristics and diagnosis of patients who have been admitted to the psychiatric unit at least once throughout life, have been compared with the characteristics of the general profile of the NSM. The group of patients

who needed psychiatric hospitalization will be named in this study as "hospitalization group".

In the second step, the association between the variable considered dependent, "hospitalization" and the independent variables (sex, age and the various diagnoses) were tested. Therefore, we used logistic regression analysis with multiple variables and the process of *backward stepwise* selection[12].

At first, there was the univariate analysis between the variable outcome (hospitalization) and independent variables. Then the exploratory variables that presented a value of $< p\ 0.20$ were included in the univariate analysis regarding the multiple model, and were kept in the final model with $p < 0.05$.

After the regression analysis and obtaining multiple end model, with the variables set to ($p < 0.05$), the coefficients were obtained for each of the independent variables of the model and the logistic function was referring to the sample, which has as a variable response to the likelihood of a patient of the NSM psychiatric hospitalization need at least once. The same equation can be applied to new patients in the service as a tool for prediction of the likelihood of hospitalization[12]. The final model is shown below.

Logistic function (NSM)

$$logit(p_{[i]}) = \beta_0 + \beta_1 Idade + \beta_2 Schizophrenia + \beta_3 TAB + \beta_4 Depression + \beta_5 T.\ of\ Anxiety$$

$p_{[i]}$: probability of a NSM patient who require hospitalization at least once in their life

β_0: constant parameter, estimate based on sample data = -1.097663

β_1: constant multiplier parameter of age = -0.0124421

β_2: constant parameter multiplied by 1, if the patient has a diagnosis of schizophrenia or 0, if the patient does not have this diagnosis = 1.151083

β_3: constant parameter multiplied by 1, if the patient has diagnosis of Bipolar Affective Disorder (TAB) or 0, if you do not have = 1.195894

β_4: constant parameter multiplied by 1, if the patient has a diagnosis of depression or 0,

SMAD, Rev. Eletrônica Saúde Mental Álcool Drog. Apr.-June 2015;11(2):61-9.

64

if the patient does not have the diagnosis = -0.8565831

β_5: constant parameter multiplied by 1, if the patient has a diagnosis of anxiety disorder or 0, if the patient does not have the diagnosis = -1.437605.

Once the equation lines were obtained for each disorder, they were organized according to age and likelihood of hospitalization[12].

Denominative somatic symptoms point out a process linked to a causal chain, through which it is possible to infer the existence of a disease. However in respect of a psychiatric symptom (not somatic), the elements to be analyzed, are equal in the experience lived by the patient, and this is mediated by external and environmental aspects. These "symptoms" are often very particular experiences of each individual, which makes it difficult to say that this is something really connected to any pathological process[13]. We can say that the psychiatric diagnosis depends on many factors, including the form of interpretation of each professional[14]. The majority of patients are assisted by three different psychiatrists of the NSM, and a small minority by residents. It is common for the NSM that a patient that was attended by a particular psychiatrist, will be attended by another for various reasons related to human resource management of the health service after some time, so in the chart of a patient it is possible to observe they received specific diagnosis at the beginning of the treatment and this has changed over time , which is due to different interpretations among psychiatrists or because the experiences by the patient allowed to find the most appropriate diagnosis. Because of these particularities linked to psychiatric diagnosis, a bias related to the variable "diagnosis" was accepted "current" diagnosis contained in patient records, regardless of the professional responsible for his treatment.

Results

Among all users in treatment of the NSM, 234 (18.27%) have already been hospitalized in psychiatric units, at least once. The comparison between the distributions by gender and hospitalization is shown in Figure 1.

The hospitalization group had an average age of 46.61 years, while the overall average of the NSM was 49.69 years. Another discovery, which demonstrates that the patients of group hospitalization are generally younger is the age pyramid of these patients, which is displaced to the left relative of the pyramid of the general profile of the NSM, however, calls attention to the low percentage of individuals from 18 to 29 years, 7.95% against 17.59% of the overall sample of users of the NSM. The vast majority (76.15%) of patients in the hospitalization group are in the age of 30 to 59 years (Figure 2).

Together, the three most prevalent diagnoses in the hospitalization group represent more than 72% of the total. The distribution of the hospitalization group, second main diagnosis, is shown in Figure 3.

To analyze the adjusted rates of each pathology (table 1), it is observed that the manic episode and schizoaffective disorder was the diagnosis that presented a higher proportion of patients who needed hospitalization, however, in this case, the accuracy of the analysis may have been compromised by the sample with the low prevalence of these diagnoses. The proportions for the other disorders are also displayed in table 1.

By means of regression logistic analysis with multiple variables, it was observed that there was no association between the dependent variable "hospitalization" and the independent variable "age" (p = 0.003). Also the association between hospitalization and schizophrenia diagnoses variable (p < 0.001), TAB (p < 0.001), depression (p = 0.007) and anxious disorders (p < 0.001) was found.

As well as in relation to the variable "sex" to source organic disorders, substance-related disorders, delusional and psychotic disorders, *equizotípico*, manic episode, personality disorders and mental retardation, it wasn't possible to observe an association (p > 0.05).

After the development of the logistic function of the patient population of the NSM, which contained the coefficients relating to age and which disorders have adapted to the regression model, it was possible to trace lines regarding the need of hospitalization
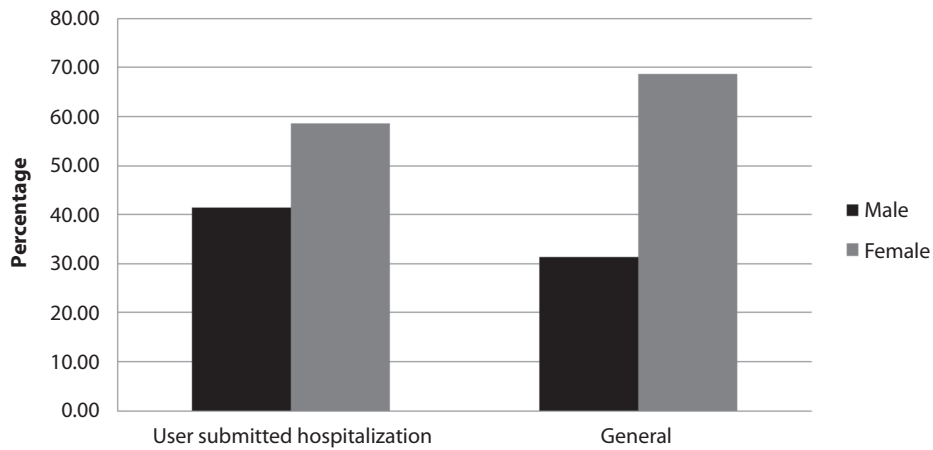
Figure 1 – Gender distribution and hospitalization of the NSM. Ribeirão Preto, SP, Brazil, 2012
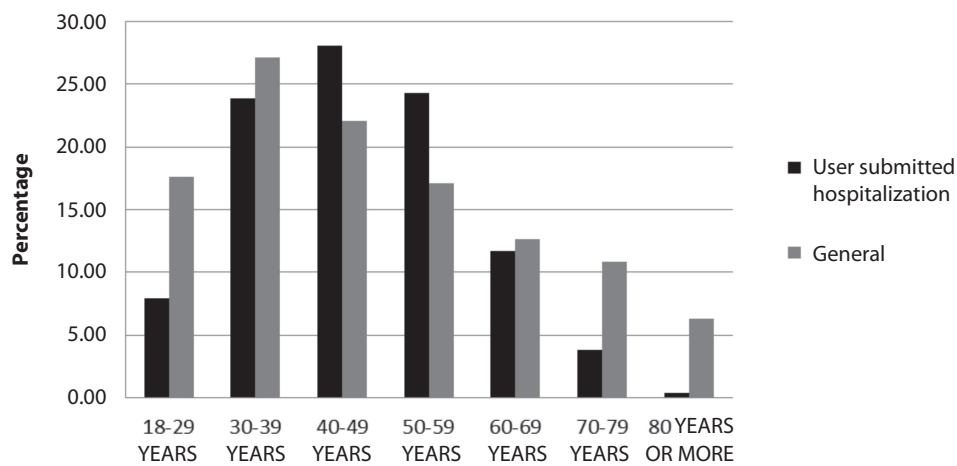
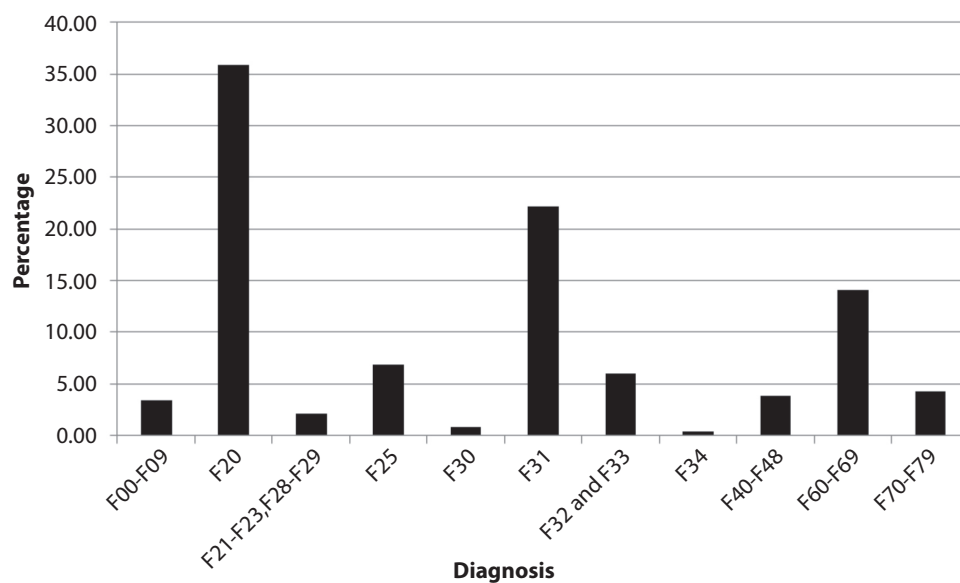Figure 2 - Distribution between age and hospitalizations of the NSM. Ribeirão Preto, SP, Brazil, 2012

Figure 3 – Distribution of diagnostics (DSM-IV) and psychiatric hospitalization, at least once, according to the patients of the NSM. Ribeirão Preto, SP, Brazil, 2012

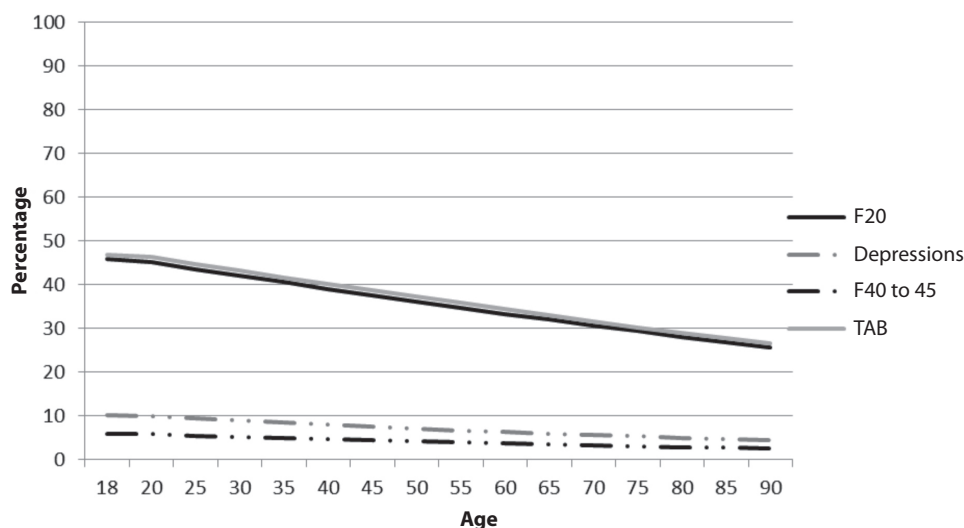SMAD, Rev. Eletrônica Saúde Mental Álcool Drog. Apr.-June 2015;11(2):61-9.

66

Figure 4 - Probability (%) of a user of the NSM who needed psychiatric hospitalization, at least once, according to age and mental disorder. Ribeirão Preto, SP, Brazil, 2012

probability depending on the diagnosis and age (Figure 4).

Table 1 – User rate of the NSM which already underwent hospitalization at least once, according to diagnosis (user-submitted hospitalization/100 patients). Ribeirão Preto, SP, Brazil, 2012

Main diagnosis	user-submitted hospitalization/100 patients
F00-F09	22,22
F10-F19	0,00
F20	36,52
F21-F23, F28-F29	10,87
F25	41,03
F30	66,67
F31	37,96
F32 e F33	4,88
F34	5,26
F40-F48	4,25
F60-F69	16,18
F70-F79	18,87
G40	0,00
Not reported	0,00
Total	18,27

Discussion

Targeted analyses to socio demographic characteristics, held in psychiatric hospitals, show that the majority of the inpatients are male, and it was observed that men represent between 53 and 61% of the total[15-16]. Already among the patients of the NSM that already needed psychiatric hospitalization, the opposite, since women make up the majority, approximately 59%. Another study conducted by the NSM in 2007, has pointed out that women were the majority among the graduates of psychiatric hospitalization, and represented around 62% of the total[11].

With regard to mental disorders, various authors advocate the idea of gender as psychosocial construction that inevitably influences the expression of mental health. In some disorders, men and women may exhibit differences related to prognosis, suicide rates, length of stay and the number of psychiatric rehospitalization . Such differences between the genders suggests the need for different approaches on the part of mental health teams, on the basis of sex. It is known that in several countries, planning of interventions is differentiated for men and women[16-17]. And, in this context, the knowledge of the users profile becomes extremely relevant, as a tool for management and planning of specific interventions for individuals of both sexes.

In the study where the relationship of socio demographic characteristics and diagnostics with the positive or negative outcome of psychiatric hospitalization, points out that individuals over 60 years have higher chance of presenting unfavorable outcome than the younger individuals[18]. Almost 30% of the patients of the NSM are in the age of 60 or older. There is also another work which shows that the higher the patient's age, the greater the incidence of psychiatric rehospitalization [16]. Among the users who already

have undergone hospitalization, only 31.8% are in the age below 40.

Data as described in the previous paragraph point out, with regard to the specific context of the NSM, the need for actions to avoid the rehospitalization, in view of the average age of the patients of group "hospitalization", for close to 50 years, and the large number of patients with a age above 40 years. Alertness is required even though a significant number of users of the service are in the age above 60 years, and as already described, these patients have a greater chance of negative outcome after the hospitalization.

Also worth noting, in table 1, is the high rates of hospitalization observed for patients diagnosed with schizophrenia, and, in particular, personality disorders, considering that, for the latter diagnosis, no statistically significant association was observed after logistic regression analysis. However, simply descriptive analysis, displayed in the table, does not show any association or causal relationship between the diagnoses and the hospitalization. But could encourage further research of the NSM, with the purpose of investigating such an association, noting that recent studies also show that the percentage of patients with personality disorders end up needing psychiatric hospitalization[11.19]. Also important to note is that among the psychiatric disorders, schizophrenia, and personality disorders, are those who constitute major risk factors regarding suicide and depression, according to a study conducted in Sweden[20]. Such considerations refer to the need for specific actions on the part of the health team, directed to this type of patient, in order to prevent the "crisis" that could lead to hospitalization of the patient.

Studies carried out in Brazil, as most frequently verified diagnosis among the inpatients group of schizophrenics and associated disorders (43 and 54%) [21-23], are very close to the percentage checked among patients of the NSM that have already been hospitalized (44.87%), however, studies carried out in Italy and China, are pointing to depression as the most frequent cause of hospitalization[24-25]. In particular, in the case of the service under study, and perhaps even in the case of Brazil, due to the results obtained in other national studies[21-23], attention is required regarding preventive actions in order to avoid

rehospitalizations of patients with mental disorders, especially schizophrenics, as they are the majority among those who required hospitalization and constitute the profile of patients more susceptible to rehospitalizations [16].

Through the observation of Figure 4, the variability related to likelihood of hospitalization of patients of NSM is wide, and that, for example, a patient with 18 years of age and diagnosed with TAB features shows a probability of approximately 47%. A patient in the age of 65 and suffering from some anxious disorder presents just over 3% chance of the necessity of hospitalization. The same variability is observed in table 1, which shows that, among those with anxiety disorders, of every 100 only 4.25 already were admitted, but for patients with TAB, this rate is almost nine times higher. It is noted that younger patients and patients with certain disorders require attention in order to prevent the psychiatric hospitalizations.

It was concluded that the disorders which have a higher likelihood of hospitalization are the TAB and schizophrenia which was also observed in other studies of psychiatric hospitalization[-20 11.19]. Such a conclusion is logically related to the symptoms of these diseases, which bring great prejudice to the functioning of the individual, often enough to cause hospitalization[11].

Studies like those mentioned in the previous paragraph suggest in relation to patients with TAB or schizophrenia, to offer preventive care of the crises that could lead to hospitalization, which consequently would end up separating them from family and social coexistence which is very important for the rehabilitation of these individuals.

Important to note that the findings of this study differ from other observed internationally as, for example, in one of these works, in which the authors correlate the use of health services with health conditions, besides the results exposed, it mentions about how broad the literary production in order to say that depression is associated with the increased use of tertiary level services[26]. The results obtained in this study, when it comes to depression, most likely, are related to some peculiarity of the health investigated service, which could motivate other studies in the same location, with the purpose to understand such particularities.

SMAD, Rev. Eletrônica Saúde Mental Álcool Drog. Apr.-June 2015;11(2):61-9.

68

Although the likelihood of hospitalization of patients with depression can be considered low when compared to the TAB and schizophrenia (Figure 4), there must be special attention of the health team to these patients, especially the older ones. Depression is among the chronic diseases that affect this population and decreases the quality of life[27], moreover, the depressive disorder poses significant risk factor for suicide, mainly for subjects who require attention at hospital level[26].

Conclusion

The results of this study can serve to direct preventive actions and instead of psychiatric hospitalizations by the health service could encourage an increased tailored care for young patients with a diagnosis of schizophrenia or TAB. Possibly it could result in a permanent program of home visits to patients with increased risk for hospitalizations or the scheduling of more frequent returns of these patients to the service.

At a moment that has been talked about so much in psychiatric reform, deinstitutionalization and psychosocial rehabilitation, preventive actions, in order to avoid situations that would eventually culminate in psychiatric hospitalizations, become extremely important. Such understanding, linked with the epidemiologic knowledge becomes a valuable management tool in mental health. The tools of prediction, in the case of this study especially related to psychiatric hospitalizations, can serve as a guiding instrument of the team's actions in order to rationalize the application of the various types of resources and in search of fair and comprehensive service, in accordance with the principles of the Unified Health System.

Limitations

Finally, the use of secondary data from medical records are considered as limitations of this study, not just by the fact of not having the collection directly with the subject, but, also, not having the standardization of diagnostic criteria, since the service had more psychiatrists, and the interpretation of signs and symptoms that lead to final diagnosis can vary between professionals.

Another important limitation is related to the type of study (transverse), better would have been the possibility of conducting a cohort study, however, the required resources weren't available for this type of work.

References

1. Serrano-Blanco A, Palao DJ, Luciano JV, Pinto-Meza A, Luján L, Fernández A, et al. Prevalence of mental disorders in primary care: results from the diagnosis and treatment of mental disorders in primary care study (DASMAP). Soc Psychiat Epidemiol. 2010;45:201-10.

2. Silva DS, Santana PR. Transtornos mentais e pobreza no Brasil: uma revisão sistemática. Tempus – Actas Saúde Coletiva. 2012;6(4):175-85.

3. Parente ACM, Menezes LC, Castelo Branco FMF, Sales JCS, Parente ACBV. Reform of Psychiatric care in Brazil: reality and perspective. REUFPI. 2013;2(2):66-73.

4. Feitosa CMA, Silva T, Silveira MFA, Santos Junior HPO. (Re)construção das práticas em saúde mental: Compreensão dos profissionais sobre o processo de desinstitucionalização. Psicol Teor Prat. 2012;14(1):40-54.

5. Tomasi E, Facchini LA, Piccini RX, Thumé E, Silveira DS, Siqueira FV, et al. Perfil sócio-demográfico e epidemiológico dos trabalhadores da atenção básica à saúde nas regiões Sul e Nordeste do Brasil. Cad Saúde Pública. 2008;24(1):193-201.

6. Ayres JRCM, Carvalho YM, Nasser MA, Saltão RM, Mendes VM. Caminhos da integralidade: adolescentes e jovens da Atenção Primária à Saúde. Revista Interface – Comunicação, Saúde e Educação. 2012; 16(40):67-81.

7. Domingos PAS, Ribeiro DG, Dinelli W, Staufackar CA, Campos JABD. Aspectos epidemiológicos da saúde bucal de crianças em um município brasileiro. Arq Odontol. 2010; 45(2):82-7.

8. Almeida GCM, Ferreira MAF. Saúde bucal no contexto do Programa Saúde da Família: práticas de prevenção orientadas ao indivíduo e ao coletivo. Cad Saúde Pública. 2008; 24(9):93-104.

9. Ramos DKB, Guimarães J, Bertha CE. Análise contextual de reinternações frequentes

de portador de transtorno mental. Interface – Comun Saúde Educ. 2011;15(37):519-27.

10. Lei 10216, de 6 de abril de 2001 (BR). Dispõe sobre a proteção e os direitos das pessoas portadoras de transtornos mentais e redireciona o modelo assistencial em saúde mental. Diário Oficial da União. Poder Executivo. Brasília; 2001.

11. Cardoso L, Galera SAF. Quem são os egressos de internação psiquiátrica? Acta Paul Enferm. 2009;22(6):733-40.

12. Pagano M, Gauvreau K. Princípios de Bioestatística.São Paulo: Editora Cengage Learning; 2010.

13. Bloc L, Moreira V. Sintoma e fenômeno na psicologia fenomenológica de Arthur Tatossian. Rev Latinoam Psicopatol Fund. 2013;16(1):28-41.

14. Ferreira LO. Jurupari ou "visagens": reflexões sobre os descompassos interpretativos existentes entre os pontos de vista psiquiátrico e indígenas. Medicações. 2012;16(2):249-65.

15. Oliveira MSN, Pinto FJM, Aguiar JB, Sampaio RMM, Medeiros CRB. Perfil sociodemográfico e clínico de pacientes em internações psiquiátricas voluntárias e involuntárias. Rev Bras Promoç Saúde. 2011;24(4):361-6.

16. Castro AS, Furegato ARF, Santos JLF. Características sociodemográficas e clínicas em reinternações psiquiátricas. Rev. Latino-Am. Enfermagem. 2010;18(4):800-8.

17. Rabasquinho C, Pereira H. Gênero e saúde mental: Uma abordagem epidemiológica. Análise Psicol. 2007;3(25):439-54.

18. Sousa-Muñoz RLS, Tagushi LC, Martins GCCS, Andrade MR, Lima KMSR. Prevalência e fatores associados com ocorrência de *delirium* em adultos e idosos internados. Rev Bras Clin Med. 2012;10(4):285-90.

19. Furlan PM, Paschetta E, Solia F, Picci RL, Giaretto R, Carezana C, et al. O serviço psiquiátrico de diagnóstico e tratamento no hospital geral: usuários e novas urgências. J Nurs Health. 2011;1(1):300-10.

20. Tidemalm D, Langstrom N, Lichtenstein P, Runeson B. Risk of suicide after suicide attempt according to coexisting psychiatric disorder: Swedish cohort study with long term follow-up. BMJ. 2008;337:a2205.

21. Paixão C, Matias D, Alencar I, Nunes M, Sales P, Veiga PHA. Análise da prevalência dos transtornos psíquicos na região metropolitana do Recife. Ciênc Saúde Coletiva. 2009; 14(1):261-6.

22. Kilsztajn S, Lopes ES, Lima LZ, Rocha PAF, Carmo MSN. Leitos hospitalares e reforma psiquiátrica no Brasil. Cad Saúde Pública. 2008;24(10):2354-62.

23. Souza J, Souza N, Magna L. Tempo médio de hospitalização e categorias diagnósticas em hospital psiquiátrico. J Bras Psiquiatria. 2008;57(2):112-6.

24. Phillips MR, Zhang J, Shi Q, Song Z, Ding Z, Pang S, et al. Prevalence, treatment, and associated disability of mental disorders in four provinces in China during 2001–05: an epidemiological survey. Lancet. 2009;373(9680):2041-53.

25. Rocca P, Mingrone C, Mongini T, Montemagni C, Pulvirenti L, Rocca G, et al. Outcome and length of stay in psychiatric hospitalization, the experience of the University Clinic of Turin. Soc Psychiatr Psychiatric Epidemiol. 2010;45(6):603-10.

26. Ballard ED, Cwik M, Storr CL, Goldstein M, Eaton WW, Wilcox HC. Recent medical service utilization and health conditions associated with a history of suicide attempts. Gen Hosp Psychiatry. 2014;36:437-41.

27. Garcia MAA, Rodrigues MG, Borega RS. O envelhecimento e a saúde. Rev Ciênc Méd. 2012;11(3):221-31.