Research note

Mental disorders record on the Brazilian primary health care information system, 2014

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Abstract

Objective: to describe the occurrence of the recording of mental disorders (MD) in primary health care (PHC) services in Brazilian municipalities and to analyze associated factors. **Methods**: an ecological study was conducted using PHC Information System secondary data for the year 2014; the magnitude of the occurrence of MD recording was assessed through indicators developed for this purpose; bivariate analysis was used. **Results**: 15,216 MD cases were recorded in 42 (0.8%) municipalities, corresponding to 16.9 MD cases/100,000 inhabitants for Brazil, with significant variations between the country's macro-regions; MD recording in PHC was most frequent in the Southeast and Southern macro-regions (p=0.001), in state capital cities (p<0.001), in municipalities with more than 200,000 inhabitants (p<0.001), those with PHC coverage greater than 75% (p=0.005) and those with Psychosocial Care Centers (p=0.001). **Conclusion**: recording of MD in PHC is incipient, unequally distributed and possibly dependent on local initiatives.

Keywords: Mental Health; Ecological Studies; Primary Health Care; Information Systems; Brazil.

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Introduction

Brazil has been implementing changes in the health care model for individuals with mental disorders, closing mental hospitals and expanding territorial community services, through the Community Psychosocial Centers (*CAPS*).[1] The measures adopted by the Brazilian Health System, which are aligned to proposals of international organizations, point to a connection between the services focused on mental health and the primary health care (PHC) services as an alternative to expanding health care access for people with mental disorders.[1,2]

> *The measures adopted by the Brazilian Health System, which are aligned to proposals of international organizations, point to a connection between the services focused on mental health and the primary health care (PHC) services as an alternative to expanding health care access for people with mental disorders.*

The Community Health Worker Program (CHWP) and the Family Health Strategy (FHS) were implemented in a great part of the country in order to expand primary health care to segments of the population which had no access to these services.[1] Community health workers (CHW), who work in both programs, among other activities, visit households, where they collect information on the living conditions and health of the families. Considering the tool used by the CHW, according to the information reported by the families, 11 diseases or health conditions were recorded, and one of them was mental disorders (MD). These data, complemented by other findings from professionals of the family health team, subsidize the Primary Health Care Information System (*SIAB*), which was designed to be a local, regional and national management tool.[3]

The awareness of the affected population is a key element for a programmatic development of health actions focused on specific diseases and diseases of interest – and responsibility – of the Primary Health Care. This study aimed to (i) describe the magnitude of the occurrence of the recording of mental disorders (MD) in Primary Health Care (PHC) services in Brazilian municipalities and (ii) to analyze associated factors to MD.

Methods

An ecological study was carried out and its main source of data was *SIAB*. Based on this system, information was obtained regarding the number of people registered in the Primary Health Care (PHC), the coverage extent of PHC and the MD records in the registered population.

We used *SIAB* data from municipalities that presented registered population records in Primary Health Care for the year 2014. The Brazilian Ministry of Health, when providing *SIAB* data, excludes municipalities that did not provide information to the system in every month of the period. Thus, this study was based solely on municipalities that provided data regularly during all the months of 2014.

In addition, the National Register of Health Service Providers (*CNES*) was used to access information on the existence of *CAPS* in different municipalities; and data from the Brazilian Institute of Geography and Statistics (*IBGE*) was used in order to estimate the municipalities' population in 2014.

Three indicators specially designed for this purpose were adopted to assess the magnitude of the occurrence of MD recording in Primary Health Care, including the use of absolute numbers and percentage of records. The first indicator was the Population Ratio of MD Records (*RPDM - acronym in Portuguese*): its numerator was the number of MD cases registered in the Primary Health Care, and its denominator was the population registered in the Primary Health Care; this indicator was presented in records per 100 thousand inhabitants. The other two indicators were the MD Recording Capacity (*CRDM - acronym in Portuguese*) and the MD-Case Estimate not Registered (*ENRDM - acronym in Portuguese*). The calculation of these indicators was based on the following estimate of the Brazilian Ministry of Health: 3% of the population is supposed to have severe and persistent mental illness (SPMI).[4] The MD Recording Capacity corresponds to the percentage of cases of MD registered out of the total of estimated cases of SPMI. While the MD-Case Estimate not Registered is the difference between the estimated cases of SPMI and mental disorders cases registered.

In order to perform bivariate analysis, the outcome was the 'DM record'. The explanatory variables analyzed were

(i) to be located in Southeast or Southern macro-regions (regions with better social and health indicators), (ii) to be a state capital city, (iii) to have more than 200,000 inhabitants, (iv) to provide coverage by the Primary Health Care greater than 75% and (v) to have *CAPS*.

In the bivariate analysis, Fisher's exact test was used to assess differences between the relative proportions. The statistical significance was 5%.

As this was an ecological study using secondary data, and the units of analysis were not individuals but municipalities and states, this research was dispensed from examination by the Research Ethics Committee.

Results

Data from 5,014 municipalities (90% of Brazilian municipalities) were included, comprising 90,186,880 people aged 15 or more and registered in the Primary Health Care Information System (*SIAB*). Considering the included municipalities, 50.6% were located in the Southeast or Southern regions, 97.3% had less than 200,000 inhabitants, 87.2% had coverage to Primary Health Care greater than 75%, 69.1% did not have *CAPS* and 0.8% (42) reported cases of DM in Primary Health Care in the studied period (Table 1).

The record of MD in Primary Health Care was more frequent in the Southeast and Southern regions ($p = 0.001$), in state capital cities ($p < 0.001$), in municipalities with population greater than 200,000 inhabitants ($p < 0.001$), in municipalities with Primary Health Care coverage higher than 75% ($p = 0.005$) and in the ones which had *CAPS* ($p=0.001$) (Table 2).

In these municipalities, 15,216 cases were recorded, of which about 83% were recorded in four states: Paraná (53.3%), Rio de Janeiro (14.2%), Santa Catarina (7.8%) and Minas Gerais (7.6%). MD was not registered in 14 states: two in the Midwest macro-region, five in the Northeast, and all the states in the Northern macro-region. (Table 3).

The Population Ratio of MD Records (*RPDM*) was 16.9/100,000 inhabitants; and the MD Recording Capacity (*CRDM*) was 0.6%. The macro-regions which presented the highest values of these indicators were the South (71.3/100,000 inhabitants; 2.4%) and the Southeast (16.6/100,000 inhabitants; 0.6%). The MD-Case Estimate not Registered (ENRDM) in Primary Health Care was of 2,690,391 people (Table 3).

Table 1 – Characterization of the Brazilian municipalities included (n = 5,014) in the study of mental disorders recorded on the Primary Health Care Information System (SIAB). Brazil, 2014

Variable	N	%
Macro-region		
Northeast	1,646	32.8
Southeast	1,472	29.4
South	1,065	21.2
Midwest	419	8.4
North	412	8.2
State Capital		
Yes	25	0.5
No	4,989	99.5
Population larger than 200,000 inhabitants		
Yes	137	2.7
No	4,877	9.,3
Coverage by the Primary Health Care greater than 75%		
Yes	4,372	87.2
No	642	12.8
Presence of Community Psychosocial Centers - CAPS		
Yes	1,549	30.9
No	3,465	69.1
Mental Disorders Records		
Yes	42	0.8
No	4,972	99.2

Table 2 – Records of mental disorders on the Primary Health Care Information System (*SIAB*) in Brazilian municipalities, according to selected variables. Brazil, 2014

Variables	Mental Disorders Records		p-value [a]
	Yes n (%)	No n (%)	
Macro-region			
Southeast / South	32 (76.2)	2,505 (50.4)	0.001
Others	10 (23.8)	2,467 (49.6)	
State Capital			
Yes	5 (11.9)	20 (0.4)	<0.001
No	37 (88.1)	4,952 (99.6)	
Population larger than 200,000 inhabitants			
Yes	11 (26.2)	126 (2.5)	<0.001
No	31 (73.8)	4,846 (97.5)	
Coverage by the Primary Health Care greater than 75%			
Yes	30 (71.4)	4.342 (87,3)	0.005
No	12 (28.6)	630 (12,7)	
Presence of Community Psychosocial Centers - CAPS			
Yes	23 (54.8)	1.526 (30.7)	0.001
No	19 (45.2)	3,446 (69.3)	
Total	42 (100.0)	4,972 (100.0)	

a) Fisher's exact test

Discussion

The results of this study suggest that the connection between Mental Health and public programs of Primary Health Care is weak, because less than 1% of the municipalities included in the study presented mental disorders records.

Moreover, in the subgroup of municipalities with MD cases recorded an over-representation of municipalities located in the macro-regions with better socioeconomic indicators (South and Southeast), with greater infrastructure (capitals and municipalities with more than 200,000 inhabitants) and more utilization capacity in the field of Mental Health (presence of *CAPS*) was highlighted. However, literature indicates that settings that are poorer and with less utilization capacity present greater connection between the Primary Health Care and the Mental Health.[2]

The analysis of the magnitude of the occurrence of MD recording demonstrated significant weakness in the capacity of identifying cases: slightly more than 0.5% of expected cases were recorded, producing a low *RPDM* and an estimate of more than 2.5 million people without MD records. In addition, an underreporting of such magnitude showed significant variations between the country macro-regions: in those with the worst social indicators, such as the Northern region, there was no case record, and in the Southeast and South, which showed the best indicators, this magnitude was higher.

The low magnitude of MD records in Primary Health Care should not be attributed solely to a widespread deficiency of *SIAB*. For example, there is evidence of a better record on the system to other diseases, such as diabetes mellitus.[5]

The literature on self-reported morbidity due to chronic diseases indicates that certain factors capable of influencing access to health services can also impact diseases of self-awareness.[6] In the particular case of mental disorders, it is known that social stigmas related to this condition make the case identification based on self-reporting more difficult.[2] Such features could help explaining, partially, the observed variations in the magnitude of records between the Brazilian macro-regions; but these features would still be insufficient to justify why 14 states did not present any records of MD, and why more than 80% of all records occurred in four states. It is reasonable to assume that circumscribed policies and initiatives at local level could influence MD recording within certain contexts, to the detriment of others. Concerning possible initiatives in terms of influence, the implementation of

Table 3 – Records of mental disorders in people over 15 years of age (n = 15,216) according to national macro-regions and states. Brazil, 2014

Macro-region/ State	% Record	RPDM [a] (per 100,000 inhabitants)	CRDM [b] (%)	ENRDM [c]
North	–	–	–	241,957
Rondônia	–	–	–	27,324
Acre	–	–	–	14,641
Amazonas	–	–	–	44,507
Roraima	–	–	–	7,491
Pará	–	–	–	120,368
Tocantins	–	–	–	27,530
Amapá	–	–	–	96
Midwest	0.7	1.7	0.1	183,626
Mato Grosso do Sul	–	–	–	45,209
Distrito Federal	–	–	–	16,027
Goiás	0.3	1.7	0.1	67,398
Mato Grosso	0.4	3.4	0.1	54,992
Northeast	6.0	2.6	0.1	1,031,776
Maranhão	–	–	–	108,150
Piauí	–	–	–	63,855
Paraíba	–	–	–	80,310
Alagoas	–	–	–	48,850
Sergipe	–	–	–	50,839
Pernambuco	0.0 [d]	0.0	0.0	179,763
Ceará	1.3	3.3	0.1	180,628
Bahia	3.6	6.2	0.2	264,765
Rio Grande do Norte	1.0	8.6	0.3	54,617
Southeast	30.8	16.6	0.6	841,658
Minas Gerais	7.6	10.0	0.3	344,399
São Paulo	7.1	11.7	0.4	276,255
Espírito Santo	1.9	15.6	0.5	54,997
Rio de Janeiro	14.2	38.4	1.3	166,007
South	62.6	71.3	2.4	391,375
Rio Grande do Sul	1.5	6.1	0.2	112,711
Santa Catarina	7.8	28.5	1.0	123,989
Paraná	53.3	149.4	5.0	154,675
Brazil	100.0	16.9	0.6	2,690,391

a) RPDM: Population Ratio of Mental Disorders Record
b) CRDM: Mental Disorders Record Capacity
c) ENRDM: Mental Disorders Case Estimate not Registered
d) One case was recorded

matrix support strategies on mental health teams working in Primary Health Care stands out.

A potential limitation of the present study is the use of estimates of severe and persistent mental illness – SPMI – as a reference for the analysis of MD records magnitude in *SIAB*. There is a myriad of other psychiatric conditions which are not included in this subgroup of disorders, such as the common mental disorders, which are much more prevalent in the Primary Health Care.[7] Furthermore, one of the recognized difficulties associated with the investigation of self-reported morbidity is the categorization of the perception of disease by lay interviewers and interviewees in biomedical diagnostics.[8] In any case, SPMI tends to approach more than what

would popularly be considered MD, given its very visible dysfunctionality. The eventual use of broader parameters would only increase this already obvious limitation in identifying cases of MD by the Primary Health Care.

The data presented indicate that the MD recording in the population registered in the Community Health Worker Program – CHWP – and in the Family Health Strategy – FHS – here taken as an estimate to assess the coordination between the Mental Health and Primary Health Care in Brazil is still incipient, unequally distributed and possibly dependent on local initiatives for their enforcement.

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