Original article

Use of psychotropic medications in adults and elderly living in Campinas, São Paulo, Brazil: cross-sectional population-based study*

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Abstract

Objective: to estimate the prevalence of use of psychotropic medicines and associated factors in adults and elderly, and to identify the main classes used. **Methods**: cross-sectional population-based study, conducted in Campinas-SP, Brazil (January/2008-April/2009); chi-square Rao-Scott test and Poisson multiple regression were applied. **Results**: the study included 2,472 individuals and the prevalence of use of at least one psychotropic medication in the three previous days was 6.8% (95%CI 5.5;8.1); in the adjusted analyses, there were positive associations between use and female sex (PR=1.48; 95%CI 1.01;2.18), worse health perception (PR=2.10; 95%CI 1.13;3.89), common mental disorder (PR=1.66; 95%CI 1.09;2.51) and emotional problems (PR=8.04; 95%CI 4.87;13.02); black/brown-skinned individuals presented significantly lower use (PR=0.58; 95%CI 0.39;0.88); antidepressants (52.6%), anxiolytics (28.1%) and antipsychotics (17.0%) were the most used. **Conclusion**: inequalities regarding sex and ethnicity/skin color were observed; the findings contribute to the evaluation of the rational use of these drugs.

Keywords: Drug Utilization; Psychotropic Drugs; Pharmacoepidemiology; Cross-Sectional Studies; Health Surveys.

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Introduction

According to the World Health Organization (WHO),[1] psychotropics are substances that act in the central nervous system, producing changes in behavior, mood and cognition. They are chemicals that act in the psychological function and alter the mental state, including antidepressants, hallucinogenic and/or tranquilizers. The use of psychotropics, especially antidepressants, has increased considerably because of the improvement in diagnosis of psychiatric disorders, the appearance of new drugs in the pharmaceutical market and the new therapeutic indications of the existing psychotropic drugs. Specifically for antidepressants, besides these factors, we must consider the length of drug treatment for depression. In the elderly depression in this stage of life should be taken into account, due to physical and social limitations caused by ageing.[2,3]

> *The use of psychotropics, especially antidepressants, has increased considerably.*

The practice of psychiatry was modified with the introduction of psychotropic drugs in therapies, providing a more immediate intervention and limiting the situations of mental disorders, other than using other therapies with less adverse effects and lower costs, such as psychotherapy and practice of physical activities.[3]

According to WHO, in its 'Comprehensive Mental Health Action Plan 2013-2020', one out of ten people worldwide suffers from some mental health disorder. It is estimated that mental and neurological diseases affect approximately 700 million people and represent 13% of all the diseases worldwide, corresponding to 1/3 of the non-communicable diseases. About 350 million people are expected to suffer from depression and 90 million will present some disorder due to abuse or addiction to psychotropic drugs, in the period of 2013-2020.[4]

The World Health Organization also points in the 'Mental Health Atlas 2014' that the local expenses with mental health remain low: low and medium income countries spend less than 2 dollars per capita a year, whilst in countries with a higher income, this value might reach 50 dollars or more. WHO also highlights the presence of great inequality in the access to mental health services, a situation that may get worse depending on the region where people live.[5]

In 2010, the Brazilian Ministry of Health informed that at least 23 million people (12% of the population) used or will use, at least once, mental health services in Brazil.[6] In this context, we can observe an increase in therapeutic indications, due to the medicalization of society, influenced by the industry and some medical societies, and also to the emergence of new drugs, and consequently, the increased use of psychotropic drugs.[3,7]

The studies regarding the use of psychotropic drugs, with data obtained from population-based surveys, are justified by the population's increased access and use, by the possibility of characterizing non-rational use, and by the importance of psychotropic drugs when rescuing the functioning potential of the individuals after the disease's clinical stabilization. In the municipality of Campinas-SP we did not find studies that estimated the prevalence of use of those drugs among the adult and elderly population.

Present study aimed to estimate the prevalence and factors associated to the use of psychotropic medications by the adult and elderly populations from Campinas, as well as to identify the main classes of psychotropic drugs used.

Methods

This is a population-based cross-sectional study, conducted in Campinas, São Paulo State, Brazil, from January 2008 to April 2009.

Campinas-SP is located around 100km from São Paulo State capital. It has an area of 797.9km^2 and constitutes an industrial and technological center. In 2010, the municipality had a population of 1,080,113 inhabitants,[8] of which 48.2% were men. Campinas-SP has a comprehensive health care network. In 2010, it had 63 primary health care units, 3 emergency service units, 5 tertiary level hospitals and beneficent hospitals which provided part of their assistance to the Brazilian National Health System (SUS); it also had 3 Support Centers for Family Health in expansion and improvement process, and 4 Reference Centers (Elderly Health; Rehabilitation; Worker Health; and Sexually Transmitted Diseases and AIDS).[9] The local gross domestic product (GDP) in 2012 was BRL 42,766 billion, and the human development index (HDI) for the same year was 0.805.[8]

All individuals whose households were selected and were within the contemplated age group were invited to take part in the 'Health Survey of the Municipality of Campinas' (ISACamp). A two-stage probabilistic cluster sampling was applied: census tract and household. Considering the financial resources destined for the survey, focused on the teenager, adult and elderly population in Campinas-SP, in the first stage, 50 tracts were selected with probability proportional to their size (number of households). There was a systematic draw, in which the tracts were previously ordered by percentage of residents with higher education degree. In the second stage, households (3,614) were selected in a systematic draw, and, in those randomly selected households, all residents were interviewed.

In order to attain participation from the individuals in each age group, after updating the maps from the selected tracts and making an address list, independent samples of households were selected. Based on the probability of residents of each age group of living in the household, according to the 2000 Demographic Census, the following amounts of households were randomly selected for interviews with teenagers, adults and elderly, respectively: 2,150, 700 and 3,900. From the selected residences, all residents within the age group were interviewed. Up to three home visits were made in order to locate the participants. Details from the survey sampling plan are available at: www.fcm.unicamp.br/fcm/sites/default/files/plano de amostragem.pdf.

For the present study, we used data from adult (20 to 59) and elderly individuals (above 60) who composed ISACamp sample.

Data were collected from a questionnaire structured in thematic axes, previously used in a pilot-study and then applied into household interviews, held by trained and supervised interviewers. The information on the use of medicines was referred by the respondents and obtained from the question "*Have you used any medication within the last three days?*" In case of affirmative answer, the next question was: "*How many medications?*" and "*Which ones?*". The interviewer asked the respondent to present the packaging and/or medical prescription in order to facilitate the identification of the medication and minimize possible mistakes when taking notes.

The dependent variable was the use of at least one psychotropic medication (yes or no) within three days prior to the research (ISACamp 2008). To define the recall period, the criterion adopted was the same used by the researchers in a previous survey that included the municipality of Campinas. The medicines were classified according to the Anatomical Therapeutic Chemical Classification System (ATC),[10] adopted by WHO. For those medicines that did not present a specific code at ATC, we used the code up to the limit which could identify the group, class or therapeutic action of the drug.

In order to define the formulation of the medicines, we used the Dictionary of Pharmaceutical Specialties.[11] The use of tea, herbal medicines and medicinal plants with psychotropic properties was not identified.

To analyze the factors associated to the use of psychotropic substances we selected the following independent variables:

a) Demographic and socioeconomic
- sex (male, female);
- age group (20 to 59, ≥ 60);
- marital status (with or without spouse);
- ethnicity/skin color (white/Asian or black/brown – records regarding indigenous people [n = 3] were not considered);
- education level (in years of schooling: 0 to 3, 4 to 8, 9 and more);
- family income per capita (in minimum wages: ≤1, >;1 to ≤ 3, >;3); and
- occupational activity (yes or no)

b) Health-related behaviors
- alcohol use (assessed by the Alcohol Use Disorder Identification Test – [AUDIT], with cut-off score ≥8; the test considers the use as harmful and probable dependence);[12]
- smoking (smoker, former-smoker or non-smoker);
- physical activity at least once a week (yes or no);
- body mass index (BMI, in kg/m^2), calculated based on weight and height and cut-off scores proposed by WHO13 to the adult population (BMI≤18.4kg/m^2, from 18.5kg/m^2 to 24.9kg/m^2 and ≥25.0kg/m^2); and
- daily sleeping time (in hours: <6 or ≥7)

c) health indicators and use of services
- self-perception of health (excellent/very good, good, bad/very bad);
- common mental disorder (CMD), based on the Self Reporting Questionnaire (SRQ-20) and cut-off score 7 or 8;[14]
- number of chronic diseases (none, one, two or more), considering the following referred diseases:

hypertension, diabetes, heart disease, tumor/cancer, osteoporosis, asthma/bronchitis/emphysema, tendonitis/musculoskeletal diseases, rheumatism/arthritis/osteoarthritis and vascular disease;
- reference of emotional problems;
- insomnia (yes or no);
- search for health service/professional in the previous 15 days (yes or no);
- hospitalization in the previous year; and
- private health care insurance (yes or no)

The number of individuals necessary to compose the survey sample was calculated considering the situation corresponding to the maximum variability for the frequency of the studied events (50%), 95% confidence level (z = 1.96), sampling errors between 4 and 5%, and design effect equal to 2, totalizing 1,000 individuals in each age group: teenagers (10 to 19), adults (20 to 59) and elderly (60 years and above). The sample size was corrected to 1,250 individuals, expecting an 80% rate as answer. The records from two age groups were considered: 20 to 59 and 60 years old and above, for which independent samples were drawn, which constituted the adult population (≥20 years) (n=2,472).

The association between the various variables and the use of psychotropic substances was verified by Rao Scott Pearson's chi-square test for complex samples with a significance level of 5%. The prevalence ratios were estimated and the adjusted analysis was conducted through Poisson multiple regression.

In the final multiple model, the inclusion criterion of the variables was the presentation p-value lower than 0.20 in the crude analysis. The selection of variables followed the backward selection procedure, being considered significant those variables with $p<0.05$. As the data were obtained through complex sample design, the design effect (*deff*) was also estimated for the variables that remained in the final model. *Deff* is the ratio between variance of the proportion estimator in a cluster sample and the variance of the proportion estimator in a simple random sample. We used the command *estat effects*, *deff* of the Stata Program, to calculate the presented values.

All psychotropics were also identified by class, and the percentage frequencies for antipsychotics, anxiolytics, hypnotics, sedatives, antidepressants (non-selective monoamine reuptake inhibitors and selective serotonin reuptake inhibitors), and others were presented. Data analyses were performed using the *survey* module (svy) of Stata 12.

The research project was approved by the Ethics Committee of the State University of Campinas: Report No. 1,126,179, dated June 26th 2015. All participants in the study signed a Free and Informed Term of Consent.

Results

For the sample of adults aged 20 to 59, in 19.6% of the selected households, it was not possible to perform the survey, either because the individuals refused to inform the household residents (10.1%), or because they were not at home (3.7%) or even for other reasons (5.8%). Out of the 1,082 adults spotted and who should be interviewed, the refusal rate was of 11.6%. Regarding those aged ≥60 living in one of the selected households, the loss was of 6.5% due to impossibility of finding a resident or due to their refusal to list the residents. Out of the 1,558 elderlies identified in the selected households, 2.5% refused to take part in the research.

Among the adults and elderly interviewed by ISACamp (n=2,476), 4 did not know or did not answer the specific question about the use of medicines within three days prior to the survey. Thus, in this study, the records of all the adults and elderly with an answer (yes or no) for the use of medications (n=2,472) were considered.

The prevalence of use of at least one medication within three days prior to the survey in the studied population was 57.2% (95%CI 53.7%; 60.7%). The average age was 42.7 (95%CI 41.5;43.9). The population distribution according to sociodemographic variables, as well as the prevalence of use of psychotropic substances are presented in Table 1. It was observed a higher proportion of women, individuals aged 20 to 59, people who live with their spouse, white-skinned, individuals with more than 9 years of schooling, with per capita income of up to 3 minimum wages and those who have a job.

The prevalence of use of at least one psychotropic drug among adults and elderly was of 6.8% (95%CI 5.5%;8.1%). Higher prevalence of use, adjusted by age and/or sex, were observed in women (PR=2.51; 95%CI 1.66;3.79), in elderly (PR=1.71; 95%CI 1.30;2.60) and those who reported not having any occupational activity at the time of the survey (PR=2.15; 95%CI 1.24;3.74) (Table 1).

The prevalence of use of psychotropics according to health-related behaviors and health indicators can also be observed in Table 1. In the crude analysis,

Table 1 – Sample distribution (n=2,472), prevalence and prevalence ratio of psychotropic use according to socio-demographic variables and health-related behaviors in the municipality of Campinas-SP, January/2008-April 2009

Variables	Sample		Prevalence of use of psychotropic substances		P value [c]	Crude$_{PR}$ [d] (95%CI)[e]	Adjusted$_{PR}$ [f] (95%CI)[e]
	n[a]	%[b]	n[a]	%[b]			
Sex					<0.001		
Male	1,063	47.7	50	3.6		1.00	1.00
Female	1,409	52.3	174	9.6		2.64 (1.74;4.00)	2.51 (1.66;3.79)
Age group (in years)					<0.001		
20-59	957	83.9	59	6.0		1.00	1.00
≥60	1,515	16.1	165	10.8		1.80 (1.35;2.40)	1.71 (1.30;2.60)
Marital status					0.305		
With spouse	1,438	61.0	107	6.3		1.00	1.00
Without spouse	1,034	39.0	117	7.6		1.20 (0.84;1.72)	1.11 (0.76;1.63)
Ethnicity/skin color					0.023		
White/Asian	1,881	74.6	192	7.6		1.00	1.00
Black/brown	584	25.4	32	4.5		0.59 (0.37;0.94)	0.65 (0.40;1.03)
Education level (in years of schooling)					0.020		
0-3	607	10.9	59	10.5		1.00	1.00
4-8	934	33.7	87	7.8		0.74 (0.45;1.22)	1.07 (0.62;1.84)
≥9	932	55.4	78	5.4		0.51 (0.32;0.82)	0.97 (0.56;1.65)
Monthly income per capita (in minimum wages)					0.286		
≤1	1,018	40.5	89	5.7		1.00	1.00
>1 to ≤3	995	39.7	87	7.9		1.37 (0.95;1.96)	1.41 (0.97;2.05)
>3	459	19.8	48	6.7		1.17 (0.70;1.95)	1.20 (0.73;1.98)
Occupational activity					<0.001		
Yes	1,006	64.5	41	3.8		1.00	1,00
No	1,465	35.5	183	12.1		3.14 (2.08;4.74)	2.15 (1.24;3.74)
Abusive alcohol use					0.132		
No	2,319	91.4	217	7.1		1.00	1,00
Yes	148	8.6	6	3.3		0.46 (0.16;1.33)	0.74 (0.24;2.27)
Smoking					0.201		
Non-smoker	1,682	67.9	162	6.5		1.00	1,00
Smoker	369	19.2	23	5.7		0.88 (0.48;1.61)	1.05 (0.57;1.91)
Former-smoker	418	12.9	38	9.9		1.53 (0.95; 2.44)	1.53 (0.94;2.49)
Practice of physical activity during free time					0.150		
No	1,678	66.7	159	7.4		1.00	1,00
Yes	793	33.3	65	5.5		0.74 (0.50;1.12)	0.86 (0.58; 1.30)
Body mass index (BMI)					0.963		
Low weight	288	6.0	27	7.3		1.00	1,00
Eutrophy	1,136	48.8	93	6.7		0.93 (0.47;1.83)	1.42 (0.73;2.75)
Excess weight	942	45.2	88	6.6		0.91 (0.44;1.86)	1.28 (0.62;2.64)

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Table 1 – Conclusion

Variables	Sample		Prevalence of use of psychotropic substances		P value [c]	Crude$_{PR}$ [d] (95%CI) [e]	Adjusted$_{PR}$ [f] (95%CI) [e]
	n[a]	%[b]	n[a]	%[b]			
Sleeping hours (per day)					0.036		
<6	439	16.0	51	9.7		1.00	1,00
≥7	2,016	84.0	171	6.2		0.64 (0.42;0.97)	0.72 (0.47;1.09)
Self-perception of health					<0.001		
Excellent/very good	760	39.8	37	3.4		1.00	1,00
Good	1,460	52.7	127	6.1		1.81 (1.03;3.18)	1.55 (0.87;2.77)
Bad/very bad	252	7.5	60	29.6		8.80 (4.84;16.03)	6.79 (3.51;13.11)
Common mental disorder					<0.001		
Negative	2,148	90.2	130	3.9		1.00	1,00
Positive	322	9.8	94	33.0		8.40 (5.89;11.97)	6.65 (4.42;9.99)
Number of chronic diseases					<0.001		
None	883	56.3	40	4.2		1.00	1,00
One	580	24.0	43	4.7		1.12 (0.64;1.97)	0.98 (0.55;1.74)
Two or more	977	19.7	137	16.2		3.87 (2.45;6.13)	2.66 (1.58;4.48)
Emotional problems					<0.001		
No	1,945	80.7	68	1.9		1.00	1,00
Yes	527	19.3	156	27.0		13.95 (8.78;22.17)	11.92 (7.28;19.50)
Insomnia					<0.001		
No	1,978	83.9	131	4.4		1.00	1,00
Yes	494	16.1	93	18.9		4.25 (2.92;6.20)	3.25 (2.17;4.89)
Demand for health service					<0.001		
No	1,916	80.6	147	5.0		1.00	1,00
Yes	556	19.4	77	14.3		2.88 (1.97;4.22)	2.45 (1.67;3.59)
Hospitalization within the previous year					0.042		
No	2,168	90.2	179	6.4		1.00	1,00
Yes	304	9.8	45	10.3		1.61 (1.02;2.54)	1.37 (0.87;2.16)
Private health care insurance					0.667		
No	1,347	55.3	103	6.5		1.00	1,00
Yes	1,123	44.7	121	7.1		1.08 (0.74;1.58)	1.02 (0.70;1.48)

a) n=number of individuals in non-weighted sample.
b) Weighted percentages for sample design.
c) Value of p from Rao-Scott's chi-square test.
d) CrudePR: Crude prevalence ratio.
e) 95%CI: confidence interval of 95%.
f) AdjustedPR: prevalence ratio adjusted by sex and age, Poisson regression.

only the shortest sleeping time was associated to use, although it did not present statistical significance after adjusting for sex and age (PR=0.72; 95%CI 0.47;1.09). Worst perception of health, presence of a CMD, presence of two or more chronic diseases, emotional problems, insomnia and demand for health service/health care professional within 15 days prior to the interview were positively associated to the use of psychotropic substances, in the non-adjusted analysis. In all the estimates presented in the study, data with information for the investigated variables were considered.

The final results from multiple regression of the factors associated to the use of psychotropic substances are presented in Table 2. The use of psychotropic drugs was 48% higher among women. Positive associations to use were verified for worse perception of health, presence of CMD and emotional problems. The prevalence of use

of psychotropic drugs was significantly lower among black/brown adults (PR=0.58 – 95%CI 0.39;0.88). For the variables associated to the use of psychotropic drugs, *deffs* below 1.8, presented in Table 2, show that, when performing the tests, there was no significant reduction in the statistical power.

Among the psychotropics used, 52.6% corresponded to antidepressants, of which: 29.8% were selective serotonin reuptake inhibitors, with fluoxetine standing out as the drug which showed the highest proportion; 18.0% were nonselective inhibitors of monoamine reuptake, being amitriptyline the main drug found. Then, the anxiolytic drugs accounted for 28.1% of the psychotropics. The most used, in order of importance were diazepam, bromazepam and clobazam. The antipsychotics (17.2%) were represented, mainly, by haloperidol and lithium. Hypnotics and sedatives, with a percentage of 2.1% (Table 3) were also referred.

Discussion

The prevalence of use of psychotropic drugs was 6.8%. Antidepressants, anxiolytic drugs and antipsychotics stood out. The results revealed a higher prevalence of use of psychotropic drugs among women, those with worse self-perception of health, those with CMD and also among those with emotional problems. Lower use of psychotropic drugs was verified among black and brown-skinned individuals.

Among the limitations of this study, we should mention the three-day recall period, which hindered the comparison of the findings with other studies.[15] The use of medication may be underestimated, given the short period of time considered; however, this period broadens the possibility of obtaining information on the use of any drug (eventual or chronic; with medical prescription or not). Thus, short recall periods minimize recall bias, and balances recent use and

Table 2 – Multivariate Poisson regression model for the use of psychotropic drugs among the adult population (n=2,472) in the municipality of Campinas-SP, January/2008-April/2009

Variables	Adjusted$_{PR}$ [a] (95%CI)[b]	P value [c]	Design effect
Sex			
Male	1.00		
Female	1.49 (1.02;2.20)	0.041	1.51
Age group (in years)			
20-59	1.00		
≥60	1.36 (1.04;1.77)	0.026	0.68
Ethnicity/skin color			
White/Asian	1.00		
Black/brown	0.57 (0.38;0.85)	0.007	1.22
Self-perception of health			
Excellent/very good	1.00		
Good	1.17 (0.71;1.93)	0.533	1.57
Bad/very bad	2.15 (1.15;4.01)	0.017	1.74
Common mental disorder			
Negative	1.00		
Positive	1.74 (1.15;2.65)	0.010	1.46
Emotional problems			
No	1.00		
Yes	8.08 (4.99;13.09)	<0.001	1.37

a) adjusted $_{PR}$: prevalence ratio adjusted in the multivariable model.
b) 95%IC: confidence interval of 95%.
c) p value of Wald test.
Note: PR = adjusted prevalence ratio by Poisson's multiple regression (2,463 adults were included in the final model).

Table 3 – Distribution of psychotropic drug classes used by the adult population (n=224) according to Anatomical Therapeutic Chemical Classification System (ATC), municipality of Campinas-SP, January/2008-April/2009

Drug classes	ATC	%
Antidepressants	N06A	52.6
Serotonin reuptake selective inhibitors	N06AB	29.8
Monoamine reuptake nonselective inhibitors	N06AA	18.0
Other antidepressants	N06AX	4.8
Anxiolytics	N05B	28.1
Antipsychotics	N05A	17.2
Hypnotics and sedatives	N05C	2.1

chronic use.[16] It is worth noting that the use of drugs for chronic diseases probably also occurred on the day of the interview. There was no reference of episodic use of medicines by the respondents on the day of the interview. Moreover, we must consider the difficulty of establishing causal relationships in cross-sectional studies, even if they exist. In this study, we observed a higher prevalence of use of psychotropic drugs among those who had an occupation. Due to the possibility of reverse causality bias, it is not possible to allege whether having an occupation or not led to the use of psychotropic drugs. However, this association did not remain in the final model.

This study was conducted from a probabilistic representative sample of the population; therefore, the findings can be generalized for adults resident in the municipality of Campinas-SP at the time of the survey.

The prevalence of use of psychotropic drugs in Campinas-SP was lower than the one found in Botucatu-SP (13.3%), among individuals aged ≥15 years (n=1,023), taking into account the same recall period.[17] The prevalence was also below what was observed among individuals from Pelotas-RS aged≥ 15 years (n=3,542) with a two-week recall period (9.9%).[2] Similar prevalence (6.4%) was identified in a multicentric telephone survey, with representative sample of the populations of France, Germany, Italy and the United Kingdom aged ≥15 years (n=18,679).[18]

In Brazil, considerable changes in the role of women in society, such the overload of tasks arising from their professional activities – owing to their increasing participation in formal labor market –, besides having to take care of the family and household, may have contributed to increase mental health problems in the female population.[19,20] The prevalence of CMD was significantly higher among women over 15 years of age, resident in the municipality of São Paulo-SP.[21] Another study conducted in Campinas-SP, to assess the relationship between the entrance of women into the labor market (paid workers or housewives) and health-related quality of life (HRQoL), according to socio-economic strata, found that being a housewife was associated to worse HRQoL, especially regarding mental health in low and intermediary socioeconomic levels.[20] Stressful life events can generate conflict and suffering situations, contributing to a higher psychic morbidity.[19]

The aforementioned comparative population-based cross-sectional study performed in Pelotas-RS included individuals aged ≥15 years of age living in urban areas – 1,277 in 1994 and 3,542 in 2003 – and found, after adjustments, significant association of use of psychotropic substances with the female sex in the two years observed. For the year of 2003, it was also found that white individuals took more psychotropics than black and brown people.[2]

In Campinas-SP, the prevalence of CMD, insomnia, emotional problems and use of health services did not show statistically significant differences according to ethnicity/skin color (data not presented). However, for individuals who reported emotional problems, the highest percentage of search for health care corresponded to white individuals (data not presented). This finding may partially explain the lower prevalence of use of these drugs observed among brown and black individuals. Therefore, the lower prevalence of use of psychotropic drugs may reflect lower proportion of health problems diagnosis of psychic origin in the sub-group of black and brown people. Studies with different methodologies

are necessary in order to identify the reasons why not white individuals, who refer as much emotional problems as white people, look for health services in the municipality less frequently.

The prevalence of use of psychotropic drugs among the elderly was of 10.8%. A population-based cross-sectional study, on data from the study 'Health, Well-being and Ageing' with elderly aged ≥65 years, found prevalence of use of 12.2%.[22] Among the oldest (75 to 89 years) residents of Bambuí-MG, there was an increasing trend in the use of antidepressants from 8.3% in 1997 to 23.6% in 2012.[3]

In this study, we observed an independent association between the use of psychotropic drugs and a worse self-perception of health. The self-perception of health is a measure that reflects the subjective judgment of the individuals on the quality of their physical and mental health, based on personal and social criteria.[23] A cross-sectional study, conducted with a representative sample of elderly found that depressive symptoms are the main predictors of a worse self-assessment of health.[24]

The association between the use of psychotropic drugs and CMD was described in several studies.[17,25,26] The nonpsychotic psychiatric symptoms which compose the set designated as Common Mental Disorder are characterized by irritability, fatigue, insomnia, difficulty concentrating, forgetfulness, anxiety and somatic complaints.[25,26] The individuals affected present acute problems of anxiety and depression, with less severe symptoms, related to stressful life events.[27] In Botucatu-SP, the percentage of individuals aged ≥15 with CMD and using psychotropic drugs was of 27.1%, whilst for those with no CMD, that proportion was of 9.7%.[17] In Campinas-SP, the results obtained for the adult population (≥20 years) were of 33.0% for individuals with CMD and 3.9% for those without TCM.

Among the groups of psychotropic drugs, antidepressants were the most used. In another study conducted in Pelotas-RS with a population aged ≥40 years (n=1,327) and a recall period of 15 days, the proportion for antidepressants was of 60.2%.[27] Also in Pelotas-RS, there was a percentage of consumption of antidepressants of 31.6% for the year 2003.[3] In a study conducted in Portugal for the year of 2009, on the prescription of psychiatric drugs at primary health care, they corresponded to 14.3% of packaging, being 21% antidepressants, of which the selective serotonin reuptake inhibitors accounted for 59% of the prescription and fluoxetine was the most prescribed drug (about 20% of all antidepressants). According to the same Portuguese study, the group of anxiolytics, sedatives and hypnotics (ASH) accounted for 74%, and benzodiazepines, 90% of prescriptions, being alprazolam the most prescribed drug (about 24% of all ASH). Based on the defined daily dose of the most prescribed medications – alprazolan and fluoxetine – there was great variability (about 4.6 times more) between the doctors who most prescribed (above 95 percentile) and the least prescribers (below 5 percentile). It is highlighted, therefore, the need to standardize the prescription patterns among physicians.[28]

The aforementioned study performed with elderlies in Bambuí-MG using data from 1997 (n=351) and 2012 (n=462), observed an increasing trend in the use of antidepressants, with a higher proportion of selective inhibitors of serotonin.[3] The abuse of prescriptions of antidepressants such as fluoxetine hydrochloride, is a serious Public Health issue, especially among the elderly.[7] A study on the treatment of depression in the elderly points to the focus on the use of medication, the healing of harms arising from psychosocial adversity, lack of social support and lack of access to appropriate health services for the treatment of this disorder in older individuals.[7] Particularly, the treatment of depressive disorders should involve non-drug therapies associated with drug therapies.[6]

The anxiety disorders are highly prevalent among psychiatric disorders. The clinical condition of these disorders is characterized by somatic, cognitive, behavioral, emotional and perceptive symptoms, and by the presence of physical symptoms, mostly accompanied by catastrophic thoughts associated to changes in behavior.[29] Most anxiety disorders can be treated with medication. The need and the level of indication of the pharmacological treatment depends on the type of disorder, on the likelihood of spontaneous remission, on the severity and its interference in occupational and social activities.[29] Among the anti-anxiety drugs, the most used are benzodiazepines.[17]

With regard to antipsychotics, the observed proportion was higher than the one found by the comparative study of Pelotas-RS: 11.8% in 1994 and 4.0% in 2003.[2] It is important to emphasize the importance of the Psychiatric Reform promoted in recent years, in Brazil, more specifically in the region of Campinas-SP, from 2001 to 2004, which has contributed to the deinstitutionalization process, which could justify this difference in consumption.

We should consider that the decision to use a psychotropic drug depends on the diagnosis, including eventual comorbidities. For many disorders, drug therapy is preferential. In this case, it is important to define a

therapeutic plan, highlighting the desirable effects, the adverse effects, and the adherence to the treatment. At the same time, psychotherapies can be the first option, or yet, the combination of both can be a choice for specific situations. The context in which people are inserted, the many and various life, family, functional and disease circumstances may lead to clinical manifestations that, if overcame, do not require drug treatment. In turn, patients affected by mental health problems are commonly assisted by general practitioners, who need to develop diagnostic abilities and recognize adequate treatment strategies.[6,29]

In Brazil, since 2004, with the implementation of the National Policy of Pharmaceutical Assistance, an increase in the access to medicines, seeking to ensure its rational use, has been observed.[30] Psychotropic medications are important for the treatment of human suffering; but its use must not be strict, but integrated to a broader care, with a broader interface between pharmacotherapy and psychotherapy, for a more effective assistance. This way, it is necessary to highlight the importance of mental health issues in the health care of populations, adopting measures to minimize morbidity and to increase the rational use of this group of medication in primary health care.

In Campinas, psychotropics were mostly used by women, white-skinned individuals, with worse self-perception of health, common mental disorders and emotional problems. A different kind of attention is needed for the population subgroups that referred higher prevalence of psychotropic use, and for the inequality of ethnicity/skin color in the use of psychotropic drugs. Considering that the use of these drugs may raise the risk of dependence and poisoning, in addition to various adverse effects, the findings presented contribute to the assessment of the rational use of this group of medications.

Authors' Contributions

Prado MAMB and Francisco PMSB participated in the proposal's draft, data analysis and preliminary versions of the manuscript. Barros MBA contributed to the study design and revision of the statistical analysis. Prado MAMB, Francisco PMSB and Barros MBA critically reviewed the text, approved the final version to be published and declared to be responsible for all aspects of the study, ensuring its accuracy and integrity.

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