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Original Research Paper

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PREVALENCE AND DETERMINANTS OF SELF-MEDICATION IN ADULTS IN SOUTHERN BRAZIL: POPULATION BASED STUDY

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ABSTRACT

Objective of this research was to identify the prevalence of self - medication in the adult population in the municipality of the South of Brazil and its associated factors. It is a cross-sectional population-based study with 1,720 adults from an urban area of a municipality in the South of Brazil conducted in 2009. The research outcome was self-medication. The prevalence of self-medication was analyzed according to gender, age, monthly income per capita, skin color, schooling, use of health services and self-reported diseases and self-medication, adjusted for a complex sample. All the statistical analyzes were performed in the Stata® 11.0 program, considering the effect of the delineation of complex samples and the individual weights. The bivariate and multiple analyzes were performed through Logistic Regression. The sample consisted mostly of individuals who reported that they had not consulted with any doctor in the past 30 days and had not received a visit from ACS in the last year. The prevalence of self-medication was associated only with the variables age, health plan and medical consultation. Individuals who reported not having consulted in the last 30 days had a 40% greater chance of self-medication than those who had a medical visit.

KEYWORDS : self-medication; prevalence; pharmacoepidemiology

INTRODUCTION

The use of medications without prior medical consultation on indication, dosage and duration of treatment is referred to as self-medication. According to the World Health Organization, responsible self-medication, which requires a certain level of knowledge and health guidance, has advantages, is thought to reduce the burden on medical services, reduce waiting time and reduce costs. However, it is not free from risks that may result in adverse health effects that require medical intervention (Who, 2014).

Risk factors that may lead to increased error in disease diagnoses, use of insufficient or excessive dosage, the appearance of serious undesirable effects or allergic reactions (Who, 2012). In 2013, the National Toxic Drug Information System in Brazil (Brasil, 2013), had as main agent of intoxication the drugs with 11,985 cases, 28.4% of the total.

Self-medication is a common phenomenon worldwide with high prevalence rates. In Egypt, interviews with users of pharmacies found a prevalence of 81.1% of self-medication (Salam, 2009). Study conducted in Ethiopia in 2013, with people who went to the community pharmacies to practice self-medication, found a prevalence of 27.6% (Eticha, 2014). In Turkey, there was a prevalence of 58.9% (Navir *et al.,* 2016).

In Brazil this reality is also worrying. A study conducted in Brazil in 2013, with data from the National Survey on Access, Use and Promotion of Rational Use of Medicines, found that the prevalence of self-medication in the Brazilian population was 16.1%, higher in the Northeast region (23.8%) (Arrais, 2016).

Despite major advances over the years, notably the shift in focus to health care medicine, there are many challenges to be faced, such as the effective promotion of the rational use of medicines in the country. Thus, the present study aims to identify self-medication in the adult population of Florianópolis and to partially fill this gap.

METHODS

A cross-sectional population-based study using data from the EpiFloripa study was conducted in 2009-10. The reference population study was composed by all adults, aged 20 to 59 years, who were residents in the urban area of the municipality of Florianópolis, located in the south of Brazil.

The outcome of the present study was self-medication. The information on self-medication was relative to the 15 days prior to the interview - a period adopted as standard in research on the topic and obtained through the following question: "In the last 15 days, did you use any medication?" And "Who indicated the use of the medication?. With the response of the indication it was possible to identify if the medicine was indicated by a prescriber (doctor or dentist) or it is self-medication.

Self-medication was investigated according to population strata defined by the independent variables: Socioeconomic conditions (monthly income per capita in the month prior to the interview and schooling); Demographic (sex, age and skin color); Health service utilization standard (time since last consultation with a health professional) Self-reported health conditions and morbidity (diabetes, spine disease or back pain, arthritis or rheumatism, fibromyalgia, cancer, respiratory disease, cardiovascular disease , stroke or ischemia, and elevated blood pressure).

All statistical analyzes were performed in the Stata® 11.0 program, considering the effect of complex sample design and individual weights. The bivariate and multiple analyzes were performed through Logistic Regression. The statistical significance was verified by the p-value of the Wald test.

RESULTS

The response rate was 85.3% (n = 1,720). Most of the sample consisted of women (55.8%), people aged 20-29 years and who reported white color / race (89.2%). Just over 48% reported having up to two chronic diseases.

Approximately 72.0% of the individuals did not have a medical consultation in the last 30 days prior to the interview. In this group, the prevalence of self-medication was slightly more than 37.0%. Among the individuals who reported not having a health plan (57.3%), the prevalence of self-medication was 30.9%, lower than in the group reported having a health plan (42.7%) where the prevalence of self-medication was of 40.0% (Table 1).

Table 1 – Prevalence of self-medication according to socio-demographic and health-related variables among Florianópolis adults, Brasil, 2008.

Variables	n (%)	Prevalence IC_{95}%
Sex		
Male	761 (44.2)	33.9 (29.7-38.0)
Female	959 (55.8)	35.3 (31.8-38.9)
Age (years)		
20-29	540 (31.4)	40.7 (35.9-45.4)
30-39	392 (22.8)	35.6 (29.9-41.2)
40-49	438 (24.5)	37.1 (32.2-42.0)
50-59	350 (20.3)	
Race/Color		
White	1,534 (89.2)	34.9 (31.7-38.1)
Brown	99 (5.8)	33.0 (21.7-44.3)
Black	79 (4.6)	31.8 (19.9-43.6)
Asian	4 (0.2)	44.8 (0.96-2.8)
Indigenous	4 (0.2)	0.3 (0.5-1.1)
Cronic diseases		
0	592 (34.5)	35.6 (31.3-39.8)
1 till 2	835 (48.6)	35.6 (30.9-40.3)
3 or more	291 (16.9)	30.2 (23.3-37.2)
Access to medicines		
Yes	1,606 (95.7)	34.8 (31.6-38.1)
No	72 (4.3)	34.9 (23.4-46.4)
Familiar income *(tercile)*		
Tercile 1	564 (33.5)	33.0 (28.7-37.3)
Tercile 2	562 (33.4)	38.1 (33.6-42.5)
Tercile 3	559 (33.2)	33.0 (28.5-37.5)
Health Insurance		
No	30.9 (27.6-34.2)	
yes	40.0 (35.3-44.7)	
Medical appointment in the last 30 days		
yes	481 (28.01)	27.8 (23.1-32.3)
No	1,236 (71.9)	37.4 (34.1-40.7)
Visit of the community health agent in last 12 months		
Yes	489 (28.7)	33.5 (28.8-38.2)
No	1,215 (71.3)	35.2 (31.5-39.0)
Total	1,720	34.6 (31.5-37.8)

Table 2 presents the proportion of people who self-medicated with the socio-demographic variables and the use of health services among adults. In the adjusted analysis of the factors associated with self-medication, the prevalence odds were shown to have significant influence only with age, health plan and medical consultation.

Table 2 – Multivariable regression analysis between self-medication and socio-demographic variables and use of health services among adults of Florianópolis, Brasil, 2008.

Variables	OR crude (p-value)	OR adjusted (p-value)
Sex		-
Male	1.00	
Female	1.07 (0.515)	
Age (years)		
20-29	1.00	1.00
30-39	0.80 (0.113)	0.80 (0.103)
40-49	0.86 (0.237)	0.91 (0.455)
50-59	0.37 (<0.001)	0.40 (<0.001)
Race/Color		-
White	1.00	
Brown	0.92 (0.726)	
Black	0.87(0.596)	
Asian	1.51(0.458)	
Indigenous	0.66 (0.610)	
Cronic diseases		-
0	1.00	
1 till 2	1.00 (0.993)	
3 or more	0.78 (0.200)	
Access to medicines		-
Yes	1.00	
No	0.99 (0.990)	
Familiar income (tercile)		-
Tercile 1	1.00	
Tercile 2	1.24 (0.08)	
Tercile 3	0.99 (1.00)	
Health Insurance		
No	1.00	1.00
Yes	1.49 (<0.01)	1.34 (0.005)
Medical appointment in the last 30 days		
Yes	1.00	1.00
No	1.54 (0.01)	1.40 (0.008)
Visit of the community health agent in last 12 months		
Yes	1.00	
No	1.08 (0.538)	

DISCUSSION

The prevalence of self-medication found in this study was similar to that found in other studies. A study conducted in Piauí, the prevalence of self-medication found in 2010 was 96.9% (Duarte et al., 2013). A study conducted in Brazil, with the general population, in 2013 verified a prevalence of 16.1% (Arrais et al, 2016). However, this large variation in prevalence may be associated with different forms of measurement, recall periods and populations investigated (Amaral et al., 2018).

When comparing the prevalence between men and women the difference found was not significant in this study. A study conducted in Portugal, with individuals over 16 years of age, when analyzing self-medication in the last six months, also did not find statistical difference (Amaral et al., 2018). The same was presented in low-income adults in São Paulo, where no difference was found between the sexes (Schimid & Bernal, 2010). However, other studies had results in which the prevalence was higher in both men and women. This is the case of the results found in India in 2014, and in Sri Lanka in 2011, which indicate that self-medication is higher among men (Selvaraj, et al, 2014; Wijesinghe, et al., 2012).

Analyzing self-medication with sociodemographic variables, there is an association with age, being greater for individuals in the age group of 40-49 years (91.0%), similar to the results found in adults in São Paulo, where prevalence (43.4%) was in the range of 40-47 years (Schimid & Bernal, 2010). It also justifies that older adults were those who practiced less self-medication, probably because they did not depend on this practice for their therapeutic treatments. In a review of the literature it was found that the low prevalence of self-medication in older adults is possibly explained by the greater use of health services by this population (Domingues, et al., 2015).

Although scarce studies include skin color in their analyzes, in this study, no association was found with self-medication. However, PNAUM finds a higher prevalence of self-medication among individuals who declare to be indigenous and yellow in color, but did not present hypotheses for this result (Arrais, et al., 2016). In some studies, specific groups were exclusion criteria, as in the case of indigenous people in a systematic review (Domingues, et al., 2015).

Differently from what was found in the PNAUM study, in 2016, there was a positive association for the practice of self-medication and among people with chronic diseases (Arrais, et al., 2016). Reusing old recipes is also a self-medication practice and may justify the positive association mentioned, since the person does not see a need for a new prescription for a regularly consumed drug (Arruda, et al., 2011). However, adults with chronic diseases were the ones who practiced the least in the study conducted in the Federal District, probably because they did not depend on this practice for

their therapeutic treatments (Domingues, et al., 2017). Individuals who consume drugs continuously become intimidated about the ingestion of drugs without medical guidance, both for fear of side effects and adverse reactions (Oliveira, et al., 2013). It is expected that people in chronic conditions will need periodic medical guidance and, consequently, use medications that need medical prescription to be dispensed (Domingues, et al., 2017).

As pointed out in the national study of drug use, the economic classification did not present a significant association with the practice of self-medication (Arrais, et al., 2016). This can be explained by the fact that the most consumed drugs are low cost, easily accessible and frequent prescription. Other studies indicate that the higher the economic class (Domingues, et al., 2017). and the schooling of the participants, the greater the use of their financial resources to acquire the drug (Araújo, et al., 2015). Economic factors have contributed to the growth and spread of self-medication in the world. These factors relate, among others, to a great availability of products; symbolization of the health which the medicinal product may represent; irresponsible advertising; quality of health care and poor access to health services in poorer countries (Wijesinghe, et al., 2012).

Self-medication was more frequent among people with health insurance (34.0%). The same result was found in the population of Teresina and according to the socioeconomic profile, the most plausible hypothesis for self-medication is not the difficult access to health services, but the ease of access to medicines (Mendes, et al., 2014). Another hypothesis raised to explain this phenomenon would be the fact that people who have health plans could be reusing more of the old prescriptions or due to the purchasing power linked to the purchase of the drug (Galato, et al, 2012). But not all studies show this significant association.

In a study conducted in Brazil in 2014, there was an increase in the number of medical visits, an increase in the probability of medical prescription, and indirectly contributing to the reduction of self-medication (Mendes, et al., 2014). Self-medication represents a substitute for medical care, since it would contribute to reducing the unnecessary use of health services (Duarte, et al., 2011). This substitution can be considered, since the World Health Organization says that self-medication is a form of self-care, however, the same institution defends the responsible use of medicines (Who, 2014). In the unfeasibility of access to health services, the population ends up resorting to drugs in pharmacies or through relatives and other forms of sharing to ease symptoms, in the search for self-care (Vernize & Silva, 2016).

The users' dissatisfaction with the health service was pointed out as the main justification for self-medication in Belém do Pará (Silva, et al., 2013). Some authors consider that the existence of a negative association between self-medication and the use of health services would be an indicator that the consumption of non-prescription drugs replaces formal health care (Vitor et al., 2008). One of the main reasons for the high prevalence of self-medication is the difficulty in accessing health services, where people want to quickly resolve minor health problems, opinions of friends and family that do not present technical and scientific evidence for counseling and and the ease of access to drugs (Silva, et al., 2013). Since there is no efficient service to the entire population, the dissemination of knowledge about the main minimize possible health risks (Vernizi & Silva, 2016). Many transformations in the health area to increase the offer of services, mainly in the area of primary care, with the Family Health Strategy, and in the area of pharmaceutical assistance to ensure free access and rational use of medicines by professionals and the community in general, may be improving and / or increasing access to medical services, consequently promoting less self-medication (Vieira & Zuchi, 2013; Arrais, et al., 2016). One of these strategies is the community health agents, who are indispensable professionals to promote the rational use of medicines, since the visits of the same ones, also have the objective of verifying the stocks of medicines in the home (Laste, et al., 2012). In the present study, no association was found between visits by community health agents and self-medication.

The challenges and limitations encountered are related to the type of cross-sectional study. Thus, with the use of self-reported data, in which memory bias and lack of standardization of studies can occur regarding the different recall periods used to investigate the use of medications. These limitations do not invalidate the findings that self-medication is a very common practice.

In conclusion, the adult population, which resides in the urban area of Florianópolis, Brazil, is adept at the practice of self-medication. Especially for adults who are elderly, have health insurance and have not had a medical visit in the past 30 days. However, individuals with chronic diseases tend not to adopt this practice.

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