BJPS

Brazilian Journal of
Pharmaceutical Sciences

http://dx.doi.org/10.1590/s2175-97902022e19645

Article

Use of medication and associated factors in adults living in Rio Branco, Acre
Use of medication in adults

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We analyzed use of medication and associated factors in adults aged 18–59 years living in Rio Branco, Acre. This is a cross-sectional and population-based study that used a probabilistic sample of the population from rural and urban areas of the city of Rio Branco, Acre. The Prevalence Ratio (PR) was calculated with 95% confidence intervals and associations were estimated by Poisson regression. This study found a 29.4% prevalence ratio of use of medication among individuals aged from 18 to 59 years (685 adults: 473 women and 212 men; producing estimates for 211,902 adults: 110,769 women and 101,133 men). After adjusted analysis, their use was associated with: age (50–59 years, PR: 2.36; 95%CI: 2.29–2.43); women (PR: 1.25; 95%CI: 1.23–1.27); up to elementary school (PR: 1.13; 95%CI: 1.11–1.15); and poor or very poor self-rated health (PR: 1.47; 95%CI: 1.43–1.51). The health conditions associated with use of medication were: number of comorbidities, hypertension, diabetes, insomnia, depression, number of health complaints and use of health services. The most frequently used drugs were those belonging to the following ATC categories: alimentary tract and metabolism, cardiovascular system, nervous system, and the musculoskeletal system.

Keywords: Use of medication. Pharmacoepidemiology. Public health.

INTRODUCTION

Use of medication, nowadays, is a constant subject in government management, as families' expenditure and the individual's everyday life must be considered in parallel by assessing how drugs affect family budgets (Costa, Francisco, Barros, 2016; Luz *et al*., 2017). A study on medication costs showed that such products are a major burden on healthcare costs in Brazil and that their annual expenses increased 172.0% (R$ 34.6 billion) from 2006 to 2013 (Luz *et al*., 2017).

Studies have shown that use of medication can be influenced by several factors, such as: morbidity profile, demographic structure, socioeconomic, behavioral and cultural factors, characteristics of the pharmaceutical market, and government policies directed to the pharmaceutical sector (Oliveira, Xavier, Araújo, 2012). Use of medication is higher with increasing age in women, in persons with higher purchasing power, and in those with more chronic diseases (Costa, Francisco, Barros, 2016).

The world population is aging and at the same time there has been a reduction in communicable diseases and growing incidence of chronic noncommunicable diseases (CNCD) and degenerative diseases such as diabetes mellitus, neoplasms, and hypertension and, consequently, increased use of medication (Mendes, 2011). However,

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the misuse of medication poses risks and is one of the main factors responsible for high expenses in health care and patient harm such as: poor outcomes, severe adverse events, increased antimicrobial resistance, medication interactions, and intoxication (Holloway, 2011).

The literature presents scarce population-based studies covering pharmacoepidemiology in adults in Brazil's North region as well as in the country as a whole (Costa *et al*., 2011). As such, to contribute to the knowledge of the pharmacoepidemiology field, this study analyzed the use of medication and associated factors in adults aged from 18 to 59 years living in Rio Branco, Acre.

MATERIAL AND METHODS

This study is part of the "Study of Chronic Diseases (EDOC)", a population-based survey with household adults aged between 18 to 59 years (EDOC-A) in rural and urban areas of Rio Branco, Acre, Brazil, from April to September 2014, in which one of the aspects investigated was use of medication (with or without prescription). Pregnant women and individuals with cognitive impairments that made communication or understanding the questions impossible were excluded. This study included all individuals who responded to the evaluation on use of medication.

The survey used cluster sampling plan in two stages: census enumeration area (CEA) and household. The selection of CEAs was made with probability proportional to their number and private households in the 2010 Population Census (DC2010) of the Brazilian Institute of Geography and Statistics (IBGE, 2011). Households were selected by systematic sampling with random starts and different intervals per survey. In households selected for EDOC-A all adult residents were interviewed.

A prevalence of 15% renal function alteration in adults was considered for EDOC study sample size calculation (Cueto-Manzano *et al*., 2014), with a 95% confidence level and 3% absolute error, assuming a random and simple sampling plan of proportions (Cochran, 1977). Considering that the sampling plan is clustered by CEA, a sampling plan effect of 1.95 was set to determine the sample size, which received a 20% increase to compensate for the non-expected responses. This procedure resulted in a sample of 652 adults. Dividing this sample size by the mean number of adults per household obtained in the DC2010 and defining the selection of 11 households by CEA, a size of 40 was obtained for the CEA sample. The effective sample was 685 adults, which is a sufficient sample size to evaluate use of medication.

Sampling weights were calculated by inverting the inclusion probabilities at each stage and were subsequently calibrated for population data by sex and age group with means of a post-stratification estimator to address typical biases of household surveys and to correct non-differential answers (Silva, 2004). Population data used to calibrate sample weights were estimated for July 1, 2014 using the linear trend method that IBGE applies to its population estimates by municipality (Madeira, Simões, 1972). The present study included all adults who participated in the survey (685 adults: 473 women and 212 men), producing estimates for 211,902 adults (110,769 women and 101,133 men). Further details on the EDOC sampling plan, calculation and calibration of sampling and subsampling weights can be found in a previous publication (Amaral *et al.*, 2019).

Participants' information was obtained through standardized interviews conducted by selected and trained interviewers. Interviews were conducted in each household, using a specific form, structured into thematic blocks with socioeconomic, demographic, lifestyle and health conditions information.

Data collection also included the evaluation of weight and height to define body mass index (BMI). The determination of BMI resulted from the calculation of the ratio of weight (kg) by squared height (m²). For analysis, BMI was classified as Eutrophic <25.0 kg/m²; overweight 25 to 29.9 kg/m²; and obese ≥30 kg/m² (World Health Organization, 2000).

Blood pressure (BP), expressed in mmHg, was obtained with a Beurer® BM35 upper arm blood pressure monitor. BP was measured three times, once after five minutes of initial rest and twice at two-minute intervals, recording their mean according to the VI Brazilian Guidelines on Arterial Hypertension. Arterial hypertension was defined as diastolic blood pressure (DBP) ≥90 mmHg and/or systolic blood pressure (SBP)

≥140 mmHg and/or current use of antihypertensive drugs (Sociedade Brasileira de Cardiologia, Sociedade Brasileira de Hipertensão, Sociedade Brasileira de Nefrologia, 2010).

In addition, venous blood was collected from fasting patients to check blood glucose, total cholesterol and fractions, and triglycerides. The presence of diabetes was defined according to American Diabetes Association (ADA) criteria as fasting plasma glucose ≥126 mg/dl, as well as the use of oral hypoglycemic drug or insulin (Oliveira, Vencio, 2014).

Dyslipidemia has been defined as the presence of abnormal levels of one or more of the following blood lipid components: total cholesterol≥200 mg/dl; LDL-C≥160 mg/dl; triglycerides≥150 mg/dl; and HDL-C<40 mg/dl in men and 50 mg/dl in women, besides the record of use of medication to reduce these values. For individuals younger than 20 years, the cutoff points are: total cholesterol≥170 mg/dl, LDL-C≥130 mg/dl; triglycerides≥130 mg/dl and/or HDL-C≤45 mg/dl (Xavier *et al*., 2013).

The dependent variable analyzed in the study was "use of medication", obtained from the question: "Have you used any medication in the last thirty days before the interview?" Those who responded positively were asked to present the prescription, bottle and/or packaging of the medication in use to identify the active ingredient, and only those who presented it were analyzed. A separate analysis of those with prescription and self-medication was not performed.

The pharmacological classification of the drugs by their active ingredients was held according to the Anatomical Therapeutic Chemical (ATC) Code, a classification system for active substances recommended by the World Health Organization (WHO) (World Health Organization Collaborating Centre for Medication Statistics Methodology, 2013). According to the ATC, drugs are divided into 14 groups according to the organ or system in which they operate and their therapeutic, pharmacological and chemical properties. The main anatomical group (ATC 1st level) and the therapeutic subgroup (ATC 2nd level) were used for classification.

The independent variables were age, gender, marital status, occupation, color/ethnicity, education, smoking, frequency of alcohol consumption, number of comorbidities, self-reported comorbidities (cardiovascular disease: congestive heart failure, acute myocardial infarction, arrhythmia and cerebrovascular accident; respiratory tract disease, musculoskeletal disorders, insomnia and depression), assessed comorbidities (hypertension, diabetes and dyslipidemia), number of complaints (headache, back ache, stomach ache, dizziness, sudden heart palpitations), use of health service, and self-rated health.

The data were analyzed with use of the descriptive and exploratory method to evaluate the distribution and characterize the studied population. Qualitative variables were described in absolute numbers and proportions. To analyze the differences between categorical variables, Pearson's chi-square test was used.

Crude and adjusted analysis was performed to obtain prevalence ratios (PR) and their respective 95% confidence intervals (95%CI) in the assessment of the association between use of medication and independent variables. The Poisson regression model was used for multivariate analysis, with the entry of independent variables obeying a hierarchical model (distal, intermediate and proximal levels) to control possible confounding factors (Figure 1). The adjustment was initially performed within each level of the model, including variables with $p<0.10$ in the bivariate analysis. The variables that reached $p<0.05$ remained in the final model.

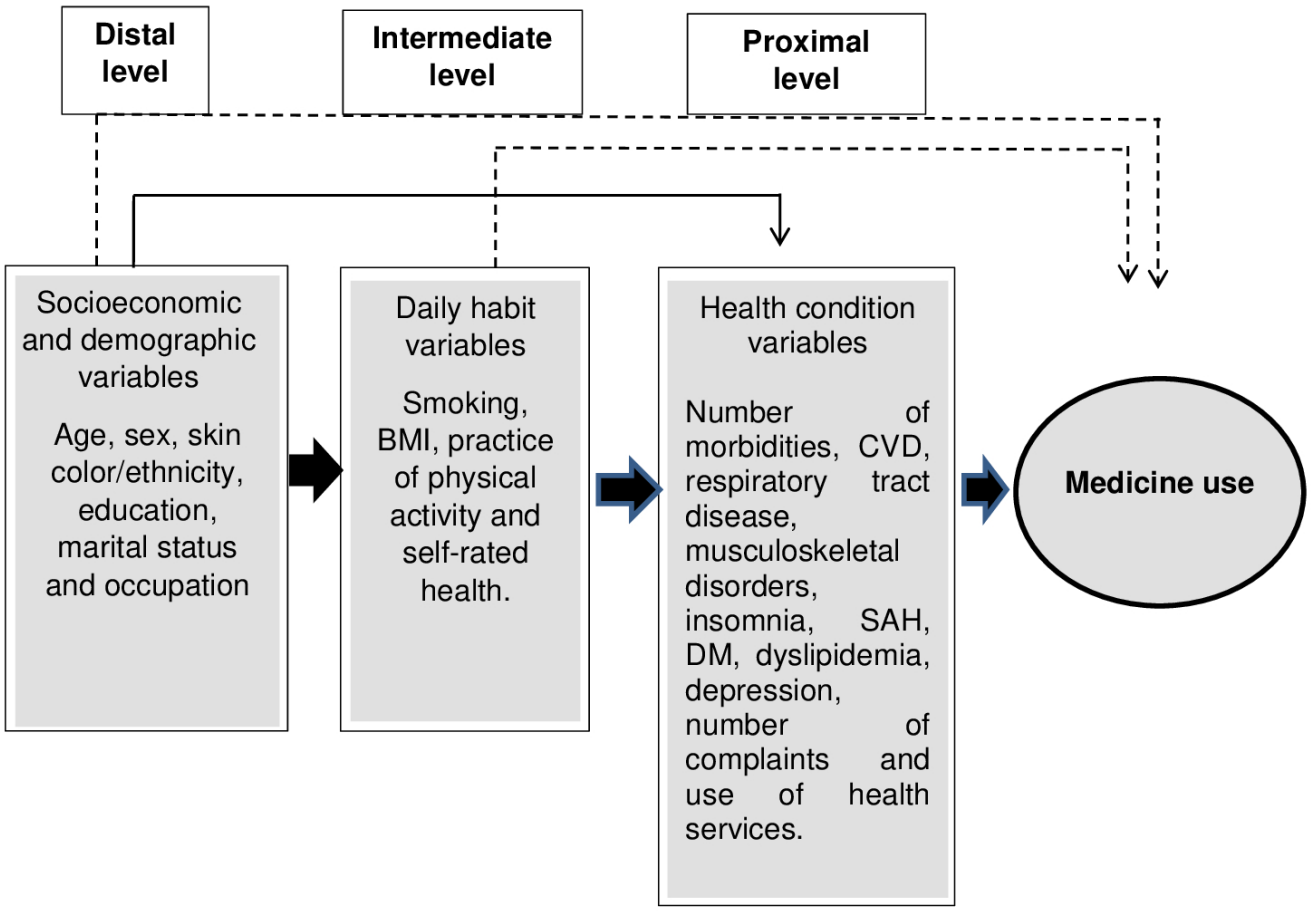

FIGURE 1 - Model of independent variables on Medicine use by hierarchical levels

In the data analysis, the effect of the sample design and the calibrated weights of the observations were considered. The results of the observations were presented by 'n', and those considering the weights calibrated for extrapolation for the population by the N expanded 'N'. In all analyses, the effect of the sample design (complex sample) and the weights of the observations were taken into account using the "proc survey" procedures of the SAS® statistical package version 9.4.

The research project was approved by the Research Ethics Committee of Universidade Federal do Acre, under CAAE: 17543013.0.0000.5010. The interviewees signed the Informed Consent Form to participate in the original survey, guaranteeing the right to refuse and maintain confidentiality of the informed data, whose ethical precepts were ensured by compliance with Resolution of the National Health Council (CNS) No. 466/12.

RESULTS AND DISCUSSION

The prevalence of use of medication was 29.4% among individuals aged from 18 to 59 years. At the first level, according to the anatomical therapeutic chemical classification (ATC 1st level), the most prevalent groups were alimentary tract and metabolism, cardiovascular system, followed by nervous and musculoskeletal systems and anti-infective drugs for systemic use. At the second level (ATC 2nd level), the main therapeutic subgroups were agents acting on the renin-angiotensin system, medicines for acid related disorders, diuretics, antiepileptics, and anti-inflammatory and anti-rheumatic products. Analgesics were consumed by 3.1% and antidepressants by 2.4% of the population (Table I).

TABLE I - Prevalence of medicine used according to the Anatomical Therapeutic Chemical (ATC) Classification System by the population aged 18 to 59 years from Rio Branco, Acre, Brazil, 2014

	Therapeutic class	**n**	**N**	**%**
A	Alimentary tract and metabolism	88	22,341	10.5
	A02 – Drugs for acid related disorders	44	10,721	5.1
	A10 – Drugs used in diabetes	21	5,891	2.8
	A11 – Vitamins	26	6,939	3.3
C	Cardiovascular system	107	22,345	10.5
	C03 – Diuretics	46	9,482	4.5
	C07 – Beta blocking agents	24	5,697	2.7
	C09 – Agents acting on the renin-angiotensin system	72	15,847	7.5
J	Antiinfectives for systemic use	23	6,361	3.0
	J01 – Antibacterials for systemic use	18	4,629	2.2
M	Musculoskeletal system	40	8,932	4.2
	M01 – Antiinflammatory and antirheumatic products	31	7,055	3.3
N	Nervous system	68	18,540	8.7
	N02 – Analgesics	20	6,601	3.1
	N03 – Antiepileptics	30	8,113	3.8
	N06 – Psychoanaleptics	22	5,197	2.4

Groups and subgroups of the drugs used. N: expanded n from sampling weights and design; %: proportion from N.

The variables age, gender and education showed a statistically significant difference for medicines use ($p<0.05$). The prevalence of use of medication increased progressively with age, rising from 15.0% in the 18–29 age group to 62.0% in the 50–59 age group, resulting in a prevalence four times higher in the latter. Prevalence of use was 10% higher in women than in men, with the same difference being observed in participants with education levels up to elementary school compared to those who had high school or higher (Table II).

TABLE II - Prevalence and gross prevalence ratio of medicine use according to socioeconomic and demographic variables of the adult population in Rio Branco, AC, Brazil, 2014

Variables	Medicine use						p-value	PR_{Gross*} (95%CI)
	Yes			No				
	n	N	%	n	N	%		
Age							<0.001	
18–29	41	13,452	15	176	74,281	85		1
30–39	44	15,340	26	115	43,374	74		1.70 (1.66–1.75)
40–49	66	17,695	44	79	22,347	56		2.88 (2.81–2.96)
50–59	99	15,797	62	65	9,616	38		4.05 (3.95–4.16)
Sex							<0.001	
Male	70	24,311	24	142	76,821	76		1
Female	180	37,973	34	293	72,796	66		1.43 (1.40–1.45)
Marital status							0.300	
Married	120	29,431	31	196	65,548	69		
Single	96	26,759	27	195	73,656	73		
Others	33	5,884	38	41	9,500	62		
Occupation							0.230	
Yes	118	31,952	27	221	85,658	73		
No	130	29,911	32	216	64,381	68		
Color/Ethnicity							0.870	
White	50	12,202	31	79	27,655	69		
Brown	178	44,248	29	315	109,066	71		
Others	22	5,835	31	41	12,896	69		
Education[a]							0.040	
High school and higher education	91	23,210	24	201	72,622	76		1
Up to elementary school	155	37,979	34	224	74,266	66		1.40 (1.37–1.42)
Smoking[a]							0.040	
Nonsmoker	120	30,973	26	248	88,606	74		1
Smoker	45	11,487	28	92	29,150	72		1.09 (1.07–1.15)
Former smoker	83	19,241	38	92	31,144	62		1.47 (1.45–1.50)
Alcohol consumption[a]							0.400	
Yes	56	17,106	27	119	47,022	73		
No	186	43,163	31	298	96,524	69		
Practice of physical activity[a]							0.020	

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TABLE II - Prevalence and gross prevalence ratio of medicine use according to socioeconomic and demographic variables of the adult population in Rio Branco, AC, Brazil, 2014

Variables	Medicine use						p-value	PR_{Gross*} (95%CI)
	Yes			No				
	n	N	%	n	N	%		
Yes	54	16,081	23	126	54,433	77		1
No	194	45,770	33	308	94,440	67		1.43 (1.40–1.46)
Total	250	62,284	29.4	435	149,618	70.6		

p-value: Pearson's chi-squared test.
* Gross PR only for variables with p<0.10;
[a] The differences in relation to the total are due to the lack of information in the variable.
N: expanded n from sampling weights and design; %: proportion from N.

The following health conditions resulted in increased prevalence of use of medication in the population: smoking (current or past), physical inactivity, obesity, number of comorbidities—especially the presence of multimorbidity (3 or more)—, all comorbidities evaluated, except for diseases of the respiratory tract and dyslipidemia, the sum of health-related physical complaints, use of health services, and poor or very poor self-rated health (Table III).

TABLE III - Prevalence and crude PR of medicine use according to health conditions of the adult population in Rio Branco, Acre, Brazil, 2014

Variables	Drug use						p-value	PR_{Gross*} (95%CI)
	Yes			No				
	n	N	%	n	N	%		
BMI							0.001	
Eutrophic (<25)	91	24792	29	165	60220	71		1
Overweight (25 to 29.9)	82	18967	26	161	53425	74		0.89 (0.88–0.91)
Obese (> or =30)	67	15572	42	74	21895	58		1.42 (1.39–1.46)
Number of morbidities							<0.001	
None	26	7743	11	161	63325	89		1
1 or 2	96	25433	30	187	60683	70		2.71 (2.64–2.79)
3 or more	128	29109	53	87	25610	47		4.88 (4.75–5.02)
Morbidities								
Cardiovascular diseases	23	6042	62	13	3705	38	<0.001	2.23 (2.15–2.30)
Respiratory diseases	42	9724	31	63	21913	69	0.770	-

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TABLE III - Prevalence and crude PR of medicine use according to health conditions of the adult population in Rio Branco, Acre, Brazil, 2014

Variables	Drug use						p-value	PR_{Gross*} (95%CI)
	Yes			No				
	n	N	%	n	N	%		
Osteomuscular diseases	32	5351	71	10	2168	29	<0.001	2.56 (2.46–2.65)
Hypertension*	108	23548	60	59	15986	40	<0.001	2.58 (2.54–2.63)
Diabetes*	25	6854	66	9	3517	34	0.001	2.39 (2.33–2.45)
Dyslipidemia*	190	45805	32	301	96793	68	0.100	-
Insomnia*	96	23314	48	78	25541	52	<0.001	1.98 (1.94–2.02)
Depression*	43	10769	59	27	7524	41	<0.001	2.20 (2.14–2.25)
Number of complaints							<0.001	
None	24	5215	14	84	31630	86		1
Up to 3 complaints	71	18413	26	152	52451	74		1.84 (1.78–1.90)
4 or more complaints	155	38657	37	199	65536	63		2.62 (2.54–2.71)
Health service use in the past 6 months							<0.001	
No	66	16413	18	212	75290	82		1
Yes	180	44672	38	216	71401	62		2.15 (2.11–2.19)
Self-rated health							<0.001	
Very good, good	62	15330	17	204	75553	83		1
Fair	122	31498	33	199	63935	67		1.96 (1.92–2.00)
Poor, very poor	66	15457	63	29	8937	37		3.76 (3.66–3.86)

BMI: body mass index;
* The differences in relation to the total are due to the lack of information in the Lost information.
** Gross PR presented only for variables with p<0.10;
p-value: Pearson's chi-squared test
N: expanded n from sampling weights and design; %: proportion from N.

In the multivariate analysis adjusted by hierarchical level the variables that maintained statistical significance at intermediate level were: age, sex, education and self-rated health (p<0.05). In model 03 (final model), the previous variables remained, plus the following variables: number of comorbidities, comorbidities (hypertension, diabetes, insomnia and depression), number of complaints and use of health services in the last six months. It is worth noting that even with inclusion of the proximal variables, there was no loss of significance in the distal variables formed by the socioeconomic variables (Table IV).

TABLE IV - Hierarchical adjusted models of medicine use according to independent variables of the adult in Rio Branco, AC, Brazil, 2014

Variables	PR_{Adjust} (95%CI) Model 01	PR_{Adjust} (95%CI) Model 02	PR_{Adjust} (95%CI) Model 03
Age			
18–29	1	1	1
30–39	1.69(1.65–1.73)	1.76(1.71–1.80)	1.53(1.49–1.58)
40–49	2.88(2.81–2.95)	2.63(2.57–2.70)	2.16(2.10–2.22)
50–59	3.96(3.88–4.06)	3.46(3.37–3.55)	2.36(2.29–2.43)
Sex			
Male	1	1	1
Female	1.34(1.31–1.36)	1.38(1.36–1.41)	1.25(1.23–1.27)
Education			
High school and higher education	1	1	1
Up to elementary school	1.16(1.14–1.18)	1.08(1.06–1.10)	1.13(1.11–1.15)
Number of morbidities			
None			1
1 or 2			1.65(1.61–1.70)
3 or more			1.87(1.80–1.93)
Morbidities			
Hypertension			1.55(1.52–1.58)
Diabetes			1.56(1.52–1.60)
Insomnia			1.19(1.17–1.21)
Depression			1.19(1.16–1.22)
Number of complaints			
None			1
Up to 3 complaints			1.28(1.23–1.32)
4 or more complaints			1.35(1.31–1.14)
Health service use in the past 6 months			
No			1
Yes			1.72(1.68–1.75)
Self-rated health			
Very good, good		1	1
Fair		1.67(1.64–1.71)	1.19(1.16–1.21)
Very poor, poor		2.68(2.61–2.74)	1.47(1.43–1.51)

Model 01: Distal level (age, sex, education);
Model 02: Intermediate level (variables from the previous level plus self-rated health adjusted for physical activity, BMI and smoking variables);
Model 03: Proximal level (variables from the previous level plus number of morbidities, morbidities, number of complaints, and health service use in the past 6 months);
BMI: body mass index

In Rio Branco, Acre, the prevalence of use of medication in the adult population was lower compared to other national and international studies. Our main hypothesis for this decrease is the young age group of the adult population of the present study (Carrera-Lasfuentes *et al*., 2013; Costa, Francisco, Barros, 2016; Francisco *et al*., 2014; Kantor *et al*., 2015). The analyses found an association between use of medication and the following variables: age, gender, education, number of comorbidities, comorbidities (hypertension, diabetes, insomnia and depression), number of physical health complaints, use of health services in the last six months, and self-rated health.

The most commonly used pharmacological groups for treating diseases of adults in Rio Branco, Acre, were agents acting on the renin-angiotensin system, diuretics and drugs used for diabetes. This profile resembles that found in a survey conducted in the United States (Kantor *et al*., 2015), which globally evaluated patterns concerning use of medication in adults aged between 20 and 65 years, from 1999 to 2012, and detected a prevalence of 59.0% for 2011 and 2012, and 51.0% for 1999 and 2000. The study showed an approximate 8% increase in the use of prescription drugs over the period. Therefore, the prevalence ratio by age group were 35.0% for 20–39 years, and 65.0% for 40–64 years (Kantor *et al*., 2015). These findings are similar to those observed in Rio Branco.

In Spain, a population-based study assessing the characteristics of use of medication in those older than 16 years with a recall period of two weeks, found a prevalence of 35.3% in the age group 16–24 years, 49.7% among those aged 25–34 and 55.6% in those aged 35–44 (Carrera-Lasfuentes *et al*., 2013). These results differ from those found in the present study, where younger age groups presented a low prevalence ratio.

Regarding gender, the findings of the present study corroborated other investigations (Carrera-Lasfuentes *et al*., 2013; Costa, Francisco, Barros, 2016; Francisco *et al*., 2014; Kantor *et al*., 2015), which found that women have a higher prevalence of use of medication compared to men. A study conducted a health survey in Campinas (SP) with 957 adults between 20-59 years and evaluated the use of medication in the three days before the survey. The prevalence found was 44.0% and 57.0% for the age groups between 20–29 and 30–59 years, respectively, being higher in women (Costa, Francisco, Barros, 2016). Another study also conducted in Campinas (SP) with 2,413 individuals aged 20 years or older assessed the use of medication according to a recall period of three days before the interview and found a prevalence of 45.4% for men and 68.0% for women (Francisco *et al*., 2014).

Some of the factors that favor higher use of medication among women include: childbearing age, use of contraceptives, and specific programs offered by health services such as prenatal care. In addition, compared to men, women tend to take better care of health and seek health services more often (Vosgerau *et al*., 2011).

Data from the 2015 National Survey on Access, Use and Promotion of Rational Use of Medication (PNAUM) revealed low education among users of medication (Costa *et al*., 2017). According to this study, the region of Rio Branco, Acre, presented higher use of medication associated with adults who studied until elementary school, which may indicate that low education compromises the degree of therapeutic understanding and accentuates practices of indiscriminate use of medication.

With regard to health-related behavior, smoking, physical inactivity and being overweight lost statistical significance in the adjusted analysis; however, due to their relevance to the subject, as they are important risk factors for the development of chronic diseases that lead to medication use, the variables were maintained in the model adjustment. Obesity is a challenge for prevention of chronic diseases throughout the life course. Changes in the population such as economic growth, industrialization, mechanized transportation, an increasingly sedentary lifestyle, nutritional transition to processed foods and high-calorie diets, all contribute to increased prevalence (Hruby, 2015). A study conducted in Brazil found that people classified as physically active buy less drugs compared to sedentary individuals (Turi *et al*., 2015).

The presence of comorbidities is an almost determining condition for use of medication. In this study, the increase in the number of comorbidities was associated with higher use of medication. Adults who reported three or more comorbidities were almost 5 times more likely to consume drugs, a fact corroborated by other studies (Costa, Francisco, Barros, 2016; Costa *et al*., 2011; Francisco *et al*., 2014).

A survey conducted in five low- and middle-income countries (Ghana, Jordan, Kenya, the Philippines, and Uganda) in 2010 to quantify access to essential drugs for people with chronic diseases found insufficient availability of essential medication for hypertension and diabetes. The study highlighted the importance of consumer awareness on generic drugs for global efforts to improve the treatment of chronic diseases (Vialle-Valentin *et al*., 2015). It is noteworthy that the current programs for access to essential drugs in Brazil (Brazil, 2001) are strengthened and consolidated, which justifies the findings of this study, wherein both comorbidities remained associated with use of medication even after adjustment.

It should be noted that, in this study, insomnia, depression and self-reported comorbidities resulted in a higher prevalence of use of medication. Depression is characterized by feelings of sadness and low self-esteem that can result in suicide (Abelha, 2014). It affects 4.4% of the world population (approximately 300 million people) and in Brazil it reaches 5.8% of the population (World Health Organization, 2017). Older adults and women are the most affected (Cunha, Bastos, Duca, 2012). Moreover, in a population-based study with 1,720 adults aged 20 to 59 years in Florianópolis (SC), the prevalence of depression was higher among people with chronic diseases (Boing *et al*., 2012).

Self-rated health is an important health predictor (Carrera-Lasfuentes *et al*., 2013; Vosgerau *et al*., 2011). In Rio Branco, health problems (physical complaints), negative self-rated health and health service use remained significantly associated with use of medication. The data suggest that the higher the number of complaints, the greater the demand for health services and the worse the self-rated health (Francisco *et al*., 2014). It is noteworthy that a study conducted in southeastern Bahia found an increase in the prevalence of use of medication according to the worsening of self-rated health (Medeiros, 2013), corroborating the findings of this article.

The limitations of this study are related to the recall period used to identify use of medication in the study population. The literature presents no standard for studies on use of medication proposing three, fifteen or even thirty days (Kantor *et al*., 2015; Medeiros, 2013; Vosgerau *et al*., 2011; World Health Organization Collaborating Centre for Medication Statistics Methodology, 2013). However, the longer the period, the greater the possibility of memory bias related to sporadic use of medication. However, it is worth noting that standardized procedures were adopted to collect information during the interview, as well as requests for presenting the packaging or prescription of the medication in use to minimize the effects of memory. The cross-sectional design of the study implies the simultaneous collection of exposure and outcome data, making it impossible to assess causality, which was not the objective of this research. In addition, the collection period could affect use of medication, since some comorbidities are seasonal. The fact that the survey was conducted with use of home interviews may have influenced the sample's representativeness, which showed a greater number of women than men. To avoid this bias, the interviewers returned to the subject's house at different days and schedules, and the statistical treatment of the sample also served to work around this bias. The present results are based on a previously calculated sample obtained from probability sampling of Rio Branco's population, in an effort to provide evidence about medication consumption and related factors in the adult population.

CONCLUSION

This study observed a growing prevalence over the age groups surveyed and use of medication after adjustment was associated with age, sex, education, number of comorbidities, hypertension, diabetes, insomnia, depression, number of complaints, health service use in the last six months and negative self-rated health. Cross-sectional studies play an important role in collecting up-to-date information about this population, and they can aid in planning healthcare services and future research.

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Received for publication on 18th October 2019
Accepted for publication on 16th June 2020