

**MEDICATION USE DURING PREGNANCY IN PATIENTS ATTENDED AT PUBLIC AND
PRIVATE PRENATAL CARE IN ARACAJU, SERGIPE**

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Abstract

This study aimed to analyze the medications used by pregnant women in public and private prenatal care in Aracaju, Sergipe. We conducted a cross-sectional study at three public health care services and two private services that offered prenatal appointments. This study was based on interview, drugs classification and statistical analysis. At the public service, 15.49% (33) of pregnant women declared self-medication; 52.58% (112) used just one class; 42.25% (90) used class B. At the private service, 19.38% (25) declared self-medication; 44.19% (57) used three classes; 36.43% (47) used class C. Among pregnant women at the public service, we noticed statistical significance between self-medication/gestational age during interview, self-medication/number of prenatal appointments, self-medication/professional performer, information about medications/number of pregnancies, number of used drugs/professional performer. At the private service, between self-medication/occupation, number of used drugs/gestational age during

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interview. Thus, self-medication was not prevalent in this study. Moreover, the highest drugs use occurred in the first trimester of pregnancy, and the predominant outcome was relief of symptoms. Pregnant women at the private service showed more self-medication than those at the public service.

Keywords: Pregnant women. Prenatal care. Self-medication.

USO DE MEDICAMENTOS NA GESTAÇÃO EM PACIENTES ATENDIDAS NO PRÉ-NATAL PÚBLICO E PRIVADO DE ARACAJU, SERGIPE

Resumo

Este estudo teve como objetivo analisar os medicamentos utilizados por gestantes nos serviços de pré-natal público e privado em Aracaju, Sergipe. Trata-se de um estudo transversal, conduzido em três serviços públicos de saúde e em dois privados, que ofereciam consultas de pré-natal. Este trabalho foi baseado em entrevistas, classificação de medicamentos e análise estatística. No serviço público, 15,49% (33) das gestantes declararam automedicação; 52,58% (112) utilizaram apenas uma classe; 42,25% (90) utilizavam classe B. No serviço privado, 19,38% (25) declararam automedicação; 44,19% (57) usaram três classes; 36,43% (47) usavam a classe C. Na entrevista realizada com as gestantes do serviço público, notou-se significância estatística entre automedicação/idade gestacional, automedicação/número de consultas de pré-natal, automedicação/profissional executante, informações sobre medicamentos/número de gestações e número de medicamentos utilizados/profissional executante. No serviço privado, a significância foi entre automedicação/ocupação e número de medicamentos utilizados/idade gestacional durante a entrevista. Assim, a automedicação não era prevalente. Além disso, o maior uso de drogas ocorreu no primeiro trimestre da gravidez e o desfecho predominante foi o alívio dos sintomas. As gestantes do serviço privado apresentaram maior prevalência de automedicação do que as usuárias do serviço público.

Palavras-chave: Gestantes. Cuidado pré-natal. Automedicação.

USO DE MEDICACIÓN DURANTE EL EMBARAZO POR PACIENTES ATENDIDAS EN SERVI- CIOS PRENATALES PÚBLICOS Y PRIVADOS EN ARACAJU, SERGIPE

Resumen

Este estudio tuvo como objetivo analizar los fármacos utilizados por las embarazadas en los servicios de atención prenatal públicos y privados de Aracaju, en Sergipe (Brasil). Se trata de un

estudio transversal, realizado en tres servicios de salud pública y dos privados, que ofrecieron consultas prenatales. Este trabajo se basó en entrevistas, la clasificación de fármacos y el análisis estadístico. En el servicio público, el 15,49% (33) de las embarazadas declaró automedicarse; el 52,58% (112) utilizó una sola clase; y el 42,25% (90) utilizó la clase B. En el servicio privado, el 19,38% (25) declaró automedicarse; el 44,19% (57) utilizó tres clases; y el 36,43% (47) utilizó la clase C. Los resultados de las entrevistas con las gestantes del servicio público mostraron que hubo significación estadística entre automedicación/edad gestacional, automedicación/número de consultas prenatales, automedicación/profesional ejecutante, información sobre medicamentos/número de embarazos, y número de medicamentos utilizados/profesional ejecutante. En el servicio privado, se encontró significancia entre automedicación/ocupación, y número de fármacos consumidos/edad gestacional durante la entrevista. Por lo tanto, la automedicación no era frecuente. Además, el mayor uso de fármacos ocurrió en el primer trimestre del embarazo; y el resultado principal fue el alivio de los síntomas. Las mujeres embarazadas del servicio privado se automedicaban más que las usuarias del servicio público.

Palabras clave: Mujeres embarazadas. Atención prenatal. Automedicación.

INTRODUCTION

The thalidomide tragedy in the 1960's brought a constant concern about medication use among pregnant women¹. This drug causes congenital defects, the thalidomide embryopathy². On the other hand, due to ethical conflicts, randomized clinical trials are not performed with medications at pregnant women, because tested drugs could cause teratogenicity and/or death of conceptus. Many drugs publish information on side effects in pregnant women and fetus after studies performed in animals or by case reports^{3,4}.

Due to the changes in women's organism during pregnancy, drugs used by pregnant women have an altered pharmacokinetics. Thus, absorption, distribution, metabolism and elimination of the drug become different from expected for a not pregnant woman⁵.

Medication use during pregnancy has increased in the recent years, either by prescription or self-medication – the latter is common in developing countries, where health system commonly presents flaws, and it might increase maternal mortality and damage the fetus^{6,7}. This usually occurs when women are unaware of their condition or due to physiological changes explained by conception^{3,4,8}.

Given the concern about teratogenesis and the evaluation of medications by their risk to pregnancy, the North American agency Food and Drug Administration (FDA) classified

them by risk group in 1979: A (without evidence of risk in pregnant women), B (experiments in animals did not detect risks; there is no proper studies in pregnant women), C (experiments in animals showed some side effects in the fetus, but the product's benefit can justify potential risk during pregnancy; there are no proper studies in pregnant women), D (evidence shows risk in human fetus; benefit can justify potential risk) and X (contraindicated in pregnancy because studies showed abnormalities in fetus or evidence of risk to fetus)⁹.

According to the World Health Organization (WHO), self-medication is an essential part of the health care system and, because it is common among Brazilian women during fertile period, it becomes a potential public health problem, since the drugs used may have consequences for pregnant women and/or the fetus¹⁰.

Therefore, this study aimed to determine the profile of medication use by pregnant women in at public and private services of Aracaju – Sergipe (SE).

MATERIAL AND METHODS

This was a cross-sectional study conducted at three public health care services and two private services that offered prenatal appointments in Aracaju/SE between January 2016 and December 2018.

Patients classified as low gestational risk, who attended these services and accepted to subject themselves to research by prior signature of an informed consent form were electable. The legal guardian signed the consent form for those under 18 years old. Data were collected by an interview with a structured questionnaire, which registered sociodemographic data (age, marital status, schooling and occupation), information about prenatal care (initiation of prenatal care, gestational age during interview, number of appointments realized until that moment, health professional, number of pregnancies, parity and number of abortions) and medications used during pregnancy (type, prescription origin, trimester of use, symptoms relief, adverse reactions and interruption). Marital status was grouped into “with union”, a pregnant couple who were married or in a stable relationship, and into “without union”, corresponding to single, widowed or divorced patients.

Since this is a retrospective study and information about medication use depended on the subjects' memories, the steps set by Jong-van den Berg et al. were followed to minimize bias recall. First, an interview was applied, and then it was suggested common symptoms on pregnancy (headache, nausea, vomit, abdominal pain in colic, dysuria, vaginal discharge, among others) that could stimulate use of some medication¹¹.

The sample was calculated based on Costa, Coelho and Santos¹², which included 1,091 pregnant patients aged ≥ 18 years old and observed an 84% frequency of medications

use. With the aid of the program StatCalc from EpiInfo 7, and considering a margin of error of 5% and confidence interval of 95%, a minimum sample of 174 patients was determined. An addition of 10% for eventual lost determined a total sample of 191 patients.

The medications were classified according to the FDA criteria. Association between two or more drugs was classified according to higher risk component.

The data were analyzed and interpreted by descriptive and inferential statistics. Categorical variables were presented by simple and relative frequencies and numeric variables by means and standard deviation. The Chi-Square Test and Fisher's Exact Test were used to associate categorical variables. Pearson's correlation coefficient was used for numeric variables. The statistical significance level adopted was $p < 0.05$ and all statistical tests were two-tailed. The Statistical Package for the Social Sciences (IBM SPSS 25.0) was used for analysis.

This study was initiated after submission and approval by the Research Ethics Committee of the Federal University of Sergipe (Reference number: 49154215.3.0000.5546).

RESULTS

During the study, we interviewed 342 pregnant women, 213 at a public service and 129 at an antenatal care private service.

The pregnant women's mean age was 25.85 and 29.51 at public and private services, respectively. Both groups showed similar socioeconomic variables, with most women reporting being married or in a stable relationship, > 9 years of schooling and unemployed. Both services also showed similarities regarding obstetric characteristics, except for the number of prenatal appointments, since most pregnant women at the private service had < 6 appointments (**Table 1**).

Table 1 – Frequency distribution of socioeconomic and obstetric variables in pregnant women attended at public and private prenatal care services. Aracaju, Sergipe, Brazil – 2016-2018

(continua)

VARIABLE	Public Service		Private Service	
	N	%	N	%
Socioeconomic and obstetric variables				
Age				
< 25 years old	98	46.01	30	23.26
≥ 25 years old	115	53.99	99	76.74
Marital Status				
With union	172	80.75	112	86.82
Without union	41	19.25	17	13.18
Schooling				
≤ 9 years	69	32.39	9	6.98
> 9 years	144	67.61	120	93.02

Table 1 – Frequency distribution of socioeconomic and obstetric variables in pregnant women attended at public and private prenatal care services. Aracaju, Sergipe, Brazil – 2016-2018

(conclusão)

VARIABLE	Public Service		Private Service	
	N	%	N	%
Occupation				
Yes	96	45.07	38	29.46
No	117	54.93	91	70.54
Initiation of prenatal				
Before 2 nd trimester	149	69.95	119	92.25
After 2 nd trimester	64	30.05	10	7.75
Gestational age during interview				
Before 2 nd trimester	18	8.45	10	7.75
After 2 nd trimester	195	91.55	119	92.25
Number of prenatal appointments				
< 6	105	49.30	66	51.16
≥ 6	108	50.70	63	48.84
Health professional				
Physician	186	87.32	128	99.22
Other professionals	27	12.68	1	0.78
Pregnancies				
< 3	141	66.20	100	77.52
≥ 3	72	33.80	29	22.48
Parity				
< 3	192	90.14	125	96.90
≥ 3	21	9.86	4	3.10
Abortion				
< 3	210	98.59	127	98.45
≥ 3	3	1.41	2	1.55

Source: Elaborated by the authors.

According to medication use, we observed in the private sector a higher proportion of pregnant women informed about it and a higher use of drugs per trimester. Besides, this service had approximately four times more women who used three or more medications during pregnancy, especially those in class C (36.43%). In the public sector, the most used was class B (42.25%) (**Table 2**).

Table 2 – Frequency distribution of medication use, trimester of medication use, medication use outcome, and FDA risk medication in pregnant women who attended public and private prenatal care services. Aracaju, Sergipe, Brazil – 2016-2018

(continua)

VARIABLES	Public Sector		Private Sector	
	N	%	N	%
Medication use				
Self-medication				
Yes	33	15.49	25	19.38
No	180	84.51	104	80.62

Table 2 – Frequency distribution of medication use, trimester of medication use, medication use outcome, and FDA risk medication in pregnant women who attended public and private prenatal care services. Aracaju, Sergipe, Brazil – 2016-2018

(conclusão)

VARIABLES	Public Sector		Private Sector	
	N	%	N	%
Information about medications				
Yes	127	59.62	110	85.27
No	86	40.38	19	14.73
Number of used medications				
< 3	170	79.81	15	11.63
≥ 3	43	20.19	114	88.37
Trimester of medication use				
1 st trimester	192	55.53	272	44.05
2 nd trimester	107	31.05	224	36.33
3 rd trimester	47	13.42	121	19.62
Medication use outcome				
Relief of symptoms				
Yes	308	89.02	580	94.00
No	38	10.98	37	6.00
Adverse reactions				
Yes	15	4.34	29	4.70
No	331	95.66	588	95.30
Interruption				
Yes	126	36.42	38	6.16
No	220	63.58	579	93.84
FDA* Pregnancy Categorization				
FDA Pregnancy Risk Categories				
Class A	13	6.10	5	3.88
Class B	90	42.25	31	24.03
Class C	48	22.54	47	36.43
Class D	10	4.69	40	31.01
Class X	1	0.47	0	0.00
None	51	23.94	6	4.65
Number of medication classes used				
1 class	112	52.58	19	14.73
2 classes	37	17.37	29	22.48
3 classes	13	6.10	57	44.19
4 classes	0	0.00	18	13.95
5 classes	0	0.00	0	0.00

Source: Elaborated by the authors.

*FDA: Food and Drug Administration.

Among public service patients, we observed an association between self-medication and gestational age ($p = 0.010$), self-medication and number of prenatal appointments ($p < 0.001$) and self-medication and health professional ($p = 0.036$) (**Table 3**), information about medications and number of pregnancies ($p = 0.027$) (**Table 4**) and number of used drugs and health professional ($p = 0.013$) (**Table 5**). In the private sector, we observed an association

between self-medication and occupation ($p = 0.024$) (**Table 3**) and between number of used drugs and gestational age ($p = 0.017$) (**Table 5**).

Table 3 – Association between self-medication and socioeconomic and prenatal variables in pregnant women attended in public and private sectors. Aracaju, Sergipe, Brazil – 2016-2018

CHARACTERISTICS	Reported self-medication (public sector)				p value*
	Yes (n)	Yes (%)	No (n)	No (%)	
Age¹					
< 25 years old	15	45.5	83	46.1	0.945
≥ 25 years old	18	54.5	97	53.9	
Marital Status²					
With union	30	90.9	142	78.9	0.107
Without union	3	9.1	38	21.1	
Schooling¹					
≤ 9 years	6	18.2	63	35.0	0.058
> 9 years	27	81.8	117	65.0	
Occupation¹					
Yes	12	36.4	84	46.7	0.274
No	21	63.6	96	53.3	
Initiation of prenatal¹					
Before 2 nd trimester	20	60.6	129	71.7	0.203
After 2 nd trimester	13	39.4	51	28.3	
Gestational age during interview²					
Before 2 nd trimester	7	21.2	11	6.1	0.010*
After 2 nd trimester	26	78.8	169	93.9	
Number of prenatal appointments¹					
< 6	26	78.8	79	43.9	< 0.001*
≥ 6	7	21.2	101	56.1	
Health professional¹					
Physician	20	60.6	140	77.8	0.036*
Other professionals	13	39.4	40	22.2	
Pregnancies¹					
< 3	19	57.6	121	67.2	0.283
≥ 3	14	42.4	59	32.8	
Parity²					
< 3	31	93.9	161	89.4	0.542
≥ 3	2	6.1	19	10.6	
Abortion²					
< 3	32	97.0	178	98.9	0.398
≥ 3	1	3.0	2	1.1	
CHARACTERISTICS	Reported self-medication (private sector)				p value*
	Yes (n)	Yes (%)	No (n)	No (%)	
Age¹					
< 25 years old	7	28.0	23	22.1	0.532
≥ 25 years old	18	72.0	81	77.9	
Marital Status²					
With union	21	84.0	91	87.5	0.742
Without union	4	16.0	13	12.5	

Table 3 – Association between self-medication and socioeconomic and prenatal variables in pregnant women attended in public and private sectors. Aracaju, Sergipe, Brazil – 2016-2018

(conclusão)

CHARACTERISTICS	Reported self-medication (private sector)				p value*
	Yes (n)	Yes (%)	No (n)	No (%)	
Schooling²					
≤ 9 years	4	16.0	5	4.8	0.070
> 9 years	21	84.0	99	95.2	
Occupation¹					
Yes	13	52.0	78	75.0	0.024*
No	12	48.0	26	25.0	
Initiation of prenatal²					
Before 2 nd trimester	22	88.0	97	93.3	0.406
After 2 nd trimester	3	12.0	7	6.7	
Gestational age during interview²					
Before 2 nd trimester	2	8.0	8	7.7	1.000
After 2 nd trimester	23	92.0	96	92.3	
Number of prenatal appointments¹					
< 6	10	40.0	42	40.4	0.972
≥ 6	15	60.0	62	59.6	
Health professional²					
Physician	24	96.0	101	97.1	0.582
Other professionals	1	4.0	3	2.9	
Pregnancies²					
< 3	22	88.0	78	75.0	0.162
≥ 3	3	12.0	26	25.0	
Parity²					
< 3	25	100.0	100	96.2	1.000
≥ 3	0	0	4	3.8	
Abortion²					
< 3	25	100.0	102	98.1	1.000
≥ 3	0	0	2	1.9	

Source: Elaborated by the authors.

*Significant to 5%

T1:Chi-square test

T2:Fisher's exact test

Table 4 – Association between information about medications and socioeconomic and prenatal variables in public and private sectors. Aracaju, Sergipe, Brazil – 2016-2018

(continua)

CHARACTERISTICS	Information about medications (public sector)				p value*
	Yes (n)	Yes (%)	No (n)	No (%)	
Age¹					
< 25 years old	58	45.7	40	46.5	0.904
≥ 25 years old	69	54.3	46	53.5	
Marital Status¹					
With union	105	82.7	67	77.9	0.386
Without union	22	17.3	19	22.1	
Schooling¹					
≤ 9 years	35	27.6	34	39.5	0.067
> 9 years	92	72.4	52	60.5	

Table 4 – Association between information about medications and socioeconomic and prenatal variables in public and private sectors. Aracaju, Sergipe, Brazil – 2016-2018

(continua)

CHARACTERISTICS	Information about medications (public sector)				p value*
	Yes (n)	Yes (%)	No (n)	No (%)	
Occupation¹					
Yes	60	47.2	36	41.9	0.438
No	67	52.8	50	58.1	
Initiation of prenatal¹					
Before 2 nd trimester	94	74.0	55	64.0	0.116
After 2 nd trimester	33	26.0	31	36.0	
Gestational age during interview¹					
Before 2 nd trimester	11	8.7	7	91.9	0.893
After 2 nd trimester	116	91.3	79	8.1	
Number of prenatal appointments¹					
< 6	58	45.7	47	54.7	0.198
≥ 6	69	54.3	39	45.3	
Health professional¹					
Physician	94	74.0	66	76.7	0.651
Other professionals	33	26.0	20	23.3	
Pregnancies¹					
< 3	91	71.7	49	57.0	0.027*
≥ 3	36	28.3	37	43.0	
Parity¹					
< 3	112	88.2	80	93.0	0.246
≥ 3	15	11.8	6	7.0	
Abortion²					
< 3	125	98.4	85	98.8	1.000
≥ 3	2	1.6	1	1.2	

CHARACTERISTICS	Information about medications (private sector)				p value*
	Yes (n)	Yes (%)	No (n)	No (%)	
Age¹					
< 25 years old	23	20.9	7	36.8	0.146
≥ 25 years old	87	79.1	12	63.2	
Marital Status²					
With union	97	88.2	15	78.9	0.278
Without union	13	11.8	4	21.1	
Schooling²					
≤ 9 years	7	6.4	2	10.5	0.620
> 9 years	103	93.6	17	89.5	
Occupation¹					
Yes	80	72.7	11	57.9	0.190
No	30	27.3	8	42.1	
Initiation of prenatal²					
Before 2 nd trimester	102	92.7	17	89.5	0.641
After 2 nd trimester	8	7.3	2	10.5	
Gestational age during interview²					
Before 2 nd trimester	8	7.3	2	10.5	0.641
After 2 nd trimester	102	92.7	17	89.5	
Number of prenatal appointments¹					
< 6	44	40.0	8	42.1	0.863
≥ 6	66	60.0	11	57.9	

Table 4 – Association between information about medications and socioeconomic and prenatal variables in public and private sectors. Aracaju, Sergipe, Brazil – 2016-2018
(conclusão)

CHARACTERISTICS Yes (n)	Information about medications (private sector)				p value*
	Yes (n)	Yes (%)	No (n)	No (%)	
Health professional²					
Physician	106	96.4	19	100.0	1.000
Other professionals	4	3.6	0	0.0	
Pregnancies²					
< 3	84	76.4	16	84.2	0.563
≥ 3	26	23.6	3	15.8	
Parity²					
< 3	106	96.4	19	100.0	1.000
≥ 3	4	3.6	0	0.0	
Abortion²					
< 3	108	98.2	19	100.0	1.000
≥ 3	2	1.8	0	0.0	

Source: Elaborated by the authors.

*Significant to 5%

T1: Chi-square test

T2: Fisher's exact test

Table 5 – Association between used drugs and studied variables in public and private sectors. Aracaju, Sergipe, Brazil – 2016-2018
(continua)

CHARACTERISTICS	Information about medications (public sector)				p value*
	Yes (n)	Yes (%)	No (n)	No (%)	
Age¹					
< 25 years old	77	45.3	21	48.8	0.677
≥ 25 years old	93	54.7	22	51.2	
Marital Status¹					
With union	137	80.6	35	81.4	0.905
Without union	33	19.4	8	18.6	
Schooling¹					
≤ 9 years	56	32.9	13	30.2	0.735
> 9 years	114	67.1	30	69.8	
Occupation¹					
Yes	77	45.3	19	44.2	0.896
No	93	54.7	24	55.8	
Initiation of prenatal¹					
Before 2 nd trimester	116	68.2	33	76.7	0.277
After 2 nd trimester	54	31.8	10	23.3	
Gestational age during interview²					
Before 2 nd trimester	15	8.8	3	7.0	1.000
After 2 nd trimester	155	91.2	40	93.0	
Number of prenatal appointments¹					
< 6	81	47.6	24	55.8	0.339
≥ 6	89	52.4	19	44.2	
Health professional¹					
Physician	134	78.8	26	60.5	0.013*
Other professionals	36	21.2	17	39.5	
Pregnancies¹					
< 3	114	67.1	26	60.5	0.416
≥ 3	56	32.9	17	39.5	

Table 5 – Association between used drugs and studied variables in public and private sectors. Aracaju, Sergipe, Brazil – 2016-2018

(conclusão)

CHARACTERISTICS	Information about medications (public sector)				p value*
	Yes (n)	Yes (%)	No (n)	No (%)	
Parity²					
< 3	153	90.0	39	90.7	1.000
≥ 3	17	10.0	4	9.3	
Abortion²					
< 3	169	99.4	41	95.3	0.104
≥ 3	1	0.6	2	4.7	
CHARACTERISTICS	Information about medications (private sector)				p value*
	Yes (n)	Yes (%)	No (n)	No (%)	
Age²					
< 25 years old	3	20.0	27	23.7	1.000
≥ 25 years old	12	80.0	87	76.3	
Marital Status²					
With union	14	93.3	98	86.0	0.691
Without union	1	6.7	16	14.0	
Schooling²					
≤ 9 years	1	6.7	8	7.0	1.000
> 9 years	14	93.3	106	93.0	
Occupation²					
Yes	8	53.3	83	72.8	0.138
No	7	46.7	31	27.2	
Initiation of prenatal²					
Before 2 nd trimester	14	93.3	105	92.1	1.000
After 2 nd trimester	1	6.7	9	7.9	
Gestational age during interview²					
Before 2 nd trimester	4	26.7	6	5.3	0.017
After 2 nd trimester	11	73.3	108	94.7	
Number of prenatal appointments¹					
< 6	8	53.3	44	38.6	0.274
≥ 6	7	46.7	70	61.4	
Health professional²					
Physician	15	100.0	110	96.5	1.000
Other professionals	0	0.0	4	3.5	
Pregnancies²					
< 3	11	73.3	89	78.1	0.743
≥ 3	4	26.7	25	21.9	
Parity²					
< 3	15	100.0	110	96.5	1.000
≥ 3	0	0.0	4	3.5	
Abortion²					
< 3	15	100.0	112	98.2	1.000
≥ 3	0	0.0	2	1.8	

Source: Elaborated by the authors.

*Significant to 5%

T1: Chi-square test

T2: Fisher's exact test

DISCUSSION

Women attended at private services are getting pregnant later nowadays and show higher schooling, which represents an advance of state trend to development, therefore,

that women firstly care about their professional qualification and then, with a stronger basis, to build a family. However, the public service has more working pregnant women, which may indicate less requirement when searching for a job, related to this group's lower schooling. The percentage of pregnant women in marital union is similar in both services.

This study found a high use of at least one medication in both services, which resembles Cameroon, since they have 73.2% of pregnant women using at least one medication during the first trimester¹³. This demonstrates a high medication use during pregnancy in developing countries. We observed a considerable difference between the use of class C and D medications in patients from public service compared to private service, with a greater medication use of these classes in patients from private service. This probably happens because public services offer free dispensed medications in accordance with the National Relation of Essential Medicine (Relação Nacional de Medicamentos Essenciais – RENAME), which lists essential medications provided by public health care network to treat prevalent diseases in Brazil. Therefore, medication use is more inaccessible to a pregnant woman at the public service.

The mean of medications used by pregnant women was higher at the private service (4.78) than at the public (1.62). The results resemble the study by Haas et al. at the United States, in which clinical centers showed a mean of 3.74 medications/pregnant woman¹⁴. Pregnant women attended at the private service are wealthy and, since most private services lack prenatal attending protocol and/or there is fear of failing at prenatal attending by an assistant professional, we observed an excessive medication use.

We found a higher medication use at the first trimester at public and private services, which resembles other Brazilian Northeastern cities, such as Natal/RN (43.6%) and Mossoró/RN (55.9%)^{15,16}. These results differ from the South (18.4%) and Southeast (21.5%) regions^{17,18}. In Addis Adaba, Ethiopia, the first trimester was the gestational age with less medication use (14.9%)¹⁹. High drug use in that period is concerning because it is the phase with higher risk of fetal adverse effect, such as congenital malformations. Besides, it is in this phase that women experiences a lot of discomfort, such as nauseas and vomit, which stimulates the highest medication use.

The data related to guidance on the risk of drug use in pregnancy in this study show a pattern similar to those of the Northeast region, ranging from 55.6% to 62.2%, but superior to those found in the Southeast and South regions, between 27.7% and 43%^{15,16,17,18}. The high number of guided women at private antenatal care compared to public prenatal care called our attention. The appointment is probably longer at the private service and the prenatal physician is more attentive. The wealthiest the patient the better prenatal attention is a questioned fact.

Self-medication showed a similar rate to that of the Northeast region – 6.2% to 12.2% – and Malang, Indonesia – 11.7%^{15,16,20}. A better socioeconomic condition possibly facilitates the purchase of medication, which is more remote in the public service, since many pregnant women only use free medicines.

According to the FDA pregnancy categorization, the drugs of categories A and B are more present at the public service and categories C and D at the private (67.44%). Brum et al. and Menezes et al. found respectively 46.6% and 81.8% of category A medications used during pregnancy^{16,17}. This study also found a very low percentage of class X medicines at private and public services. However, Zhang et al. found that 7.5% of pregnant women use category X in China, a significant number for contraindicated drugs in pregnancy²¹.

At the public service, most self-medicated pregnant women were less than three months pregnant during interview (short pregnancy time implicates more unfamiliarity with the condition and a greater attempt of resolution), with less than six prenatal appointments (less prenatal may relate to a greater sensation of self-sufficiency into symptoms resolution) and who attended other professionals (the quality of information given to pregnant women by an assistant professional at prenatal is questionable). Pregnant women with less than three pregnancies were those who searched more information about drugs. Women with less pregnancies tend to feel less secure about everything involving pregnancy and, therefore, searches for more information about what is adequate or not to her condition. However, in a cohort study in Pelotas, Brazil, an association between self-medication and parity was statistically significant, which showed 25% more self-medication in a group with three pregnancies²². Finally, pregnant women attended by physicians were the ones with less drug use during pregnancy. In this case, professional care may have influenced in less medication use due to pregnant women's information about their clinical condition, which reduced their anguish and softened their doubts, while those more self-medicated reinforce the hypotheses of bad quality prenatal assistance, since the woman does not have her complaints listened correctly.

We did not verify association between self-medication and other studied variables (age, marital status, schooling, occupation, initiation of prenatal, number of pregnancies, parity and number of abortions), between information about medication and other studied variables (age, marital status, schooling, occupation, initiation of prenatal, gestational age during interview, number of prenatal appointments, health professional, parity and number of abortions) and between quantity of used drug and other studied variable (age, marital status, schooling, occupation, initiation of prenatal, gestational age during interview, number of prenatal appointments, number of pregnancies, parity and number of abortions).

In the private sector, there was an association between self-medication and occupation and between number of used drugs and gestational age. Therefore, pregnant women without occupation were probably more self-medicated because of more free time. They show more anxious symptoms and, consequently, more search to heal a suffering. Self-medication was also associated with occupation in an antenatal clinic at Mwanza, Tanzania²³. Those with more than three months of pregnancy during interview were those who used three drugs or more during pregnancy. Pregnant women with higher gestational age experienced more alterations due to pregnancy physiology and had more contact with medications to end it. We did not observe an association between self-medication and other studied variables, between information about medication and any studied variable, or between number of used drug and other studied variables.

CONCLUSION

Most pregnant women used at least one medication at both services. Few patients reported self-medication. Most women received information about medication use. The first gestational trimester was the period of higher self-medication. Most medications relieved symptoms, did not cause adverse reaction and did not need interruption. The highest self-medication rate and number of used drugs by pregnant women was at the private service, compared to the public service. At the public service, predominated medication use of class B and at the private, of class C.

PARTICIPATION

1. Project design, analysis and interpretation of data: Jucyara Natália Araújo de Oliveira, Rafaella Castro Gama and Júlia Maria Gonçalves Dias.
2. Writing of the article and critical review of its intellectual content: Jucyara Natália Araújo de Oliveira, João Eduardo Andrade Tavares de Aguiar, Rafaella Castro Gama and Júlia Maria Gonçalves Dias.
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4. Responsible for all aspects of the study, ensuring accuracy and integrity in any of its sections: Jucyara Natália Araújo de Oliveira and Júlia Maria Gonçalves Dias.

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Received: 22.2.2021. Approved: 9.2.2022.