

# Demand for health services or professionals among Brazilian adolescents according to the National School Health Survey 2015

*Procura por serviços ou profissionais de saúde entre adolescentes brasileiros, segundo a Pesquisa Nacional de Saúde do Escolar de 2015*

Max Moura de Oliveira<sup>I,II</sup>, Silvânia Suely Caribé de Araújo Andrade<sup>III</sup>,  
Sheila Rizzato Stopa<sup>III,IV</sup>, Deborah Carvalho Malta<sup>IV</sup>

**ABSTRACT:** *Introduction:* Knowing the profile of individuals who demand health services or professionals could help in the improvement and reorganization of services. However, this subject is still underexplored among adolescents. This study aimed to describe and identify characteristics related to the demand for health services or professionals by Brazilian students. *Methods:* Using data from the 2015 National School Health Survey, the prevalence and respective 95% confidence intervals (95%CI) of the demand for health services or professionals among students were estimated, and Poisson regression adjusted by age and region of residence was used to identify the associated factors. *Results:* More than half of the students demanded for health services or professionals in the last year, with a higher demand among females. The characteristics associated with the outcome were sociodemographic (female, white, private school), family (maternal schooling of 12 years or more, having meals with parents/guardians and parents' knowledge of the adolescent's activities in their free time), risk behaviors (alcohol consumption and sexual intercourse without a condom) and health-related issues (physical violence, wheezing, toothache, hygiene habits, and attitude to one's own weight). *Conclusion:* Organizing health services in a way that takes the particularities of this population into account may provide a space to deal with subjects related to the risks to which it is exposed.

**Keywords:** School health. Adolescent behavior. Adolescent. Health services.

<sup>I</sup>School of Public Health, Universidade de São Paulo – São Paulo (SP), Brazil.

<sup>II</sup>International Research Center, A. C. Camargo Cancer Center – São Paulo (SP), Brazil.

<sup>III</sup>Department of Noncommunicable Disease Surveillance and Health Promotion, Ministério da Saúde – Brasília (DF), Brazil.

<sup>IV</sup>School of Nursing, Universidade Federal de Minas Gerais – Belo Horizonte (MG), Brazil.

**Corresponding author:** Max Moura de Oliveira. Rua Taguá, 440, Liberdade, CEP: 01508-010, São Paulo, SP, Brasil. E-mail: maxmoura@gmail.com

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**RESUMO: Introdução:** O conhecimento sobre o perfil dos indivíduos que procuram serviços ou profissionais de saúde auxilia na melhoria e na reorganização desses atendimentos, entretanto entre adolescentes este tema ainda é pouco explorado. O objetivo deste estudo foi descrever e identificar características relacionadas à procura por serviços ou profissionais de saúde entre escolares brasileiros. **Métodos:** Por meio dos dados da Pesquisa Nacional de Saúde do Escolar (PeNSE) de 2015, foram estimadas as prevalências, bem como seus respectivos valores do intervalo de confiança de 95% (IC95%), da procura por serviços ou profissionais de saúde pelos escolares; também foi realizada regressão de Poisson ajustada por idade e Região de residência para identificar os fatores associados. **Resultados:** Mais da metade dos estudantes procurou serviços ou profissionais de saúde no último ano, sendo maior a procura entre o sexo feminino. Associaram-se ao desfecho as características sociodemográficas (sexo feminino, cor branca, escola privada), os aspectos familiares (mãe com 12 anos ou mais de escolaridade, realizar refeições com os pais e conhecimento destes sobre o que os jovens fazem no tempo livre), os comportamentos de risco (consumo de álcool e relação sexual sem preservativo) e as questões relacionadas à saúde (sofrer violência física, chiado no peito, dor de dente, hábitos de higiene e atitude em relação ao próprio peso). **Conclusão:** Organizar os serviços de saúde de modo a considerar as particularidades dessa população pode possibilitar um espaço para tratar de assuntos relacionados aos riscos a que os jovens se expõem.

**Palavras-chave:** Saúde escolar. Comportamento do adolescente. Adolescente. Serviços de saúde.

## INTRODUCTION

The demand for health services is influenced both by the characteristics and needs of individuals and by the offer of services, ease of access, financial resources and availability and linkage of health professionals<sup>1</sup>. The demand for health services can occur directly, such as medical visits and hospitalizations, or indirectly, such as for conducting preventive and diagnostic exams<sup>1-3</sup>. Although the use of health services is a widely explored topic among Brazilian adults and elderly people, even in surveys with national coverage<sup>4</sup>, investigations among adolescents are still infrequent.

Among the studies with local, in the study carried out in Niterói, in 2001, which approached the relationship between adolescents and health services (n = 457), it was demonstrated that of the 210 adolescents who reported the need for care in a health service, 166 (79.1%) reported having actually sought the service in the last 3 months, and differences were observed according to school type (public and private) and sex<sup>5</sup>. In Pelotas, in 2012, 23.0% of adolescents reported using some health service in the last 30 days prior to the survey<sup>6</sup>.

Since 2012, the National School Health Survey (PeNSE) has included the theme of the demand for health services and/or professionals<sup>7</sup>. Analyzing these data, Oliveira et al. emphasized, for the first time, with a national coverage among students in the 9<sup>th</sup> year of Primary Education, that the search for a health service or professional in the last 12 months prior to the survey was 48.0%. The authors identified that, in addition to individual and behavioral characteristics, family and health-related aspects were associated with the demand for health

services by schoolchildren<sup>8</sup>. In the analysis of the data referring to the demand for health services in the 2015 edition of PeNSE, it is expected that this percentage has increased, adopting as reference an increase in the supply of services through the expansion of the coverage of the Family Health Strategy, which has grown from 53.75% in January 2012 to 63.72% in December 2015<sup>9</sup>.

It is important to monitor the demand for health services in order to identify determinants and conditions related to health risk behaviors for adolescents, in order to contribute to the development of public health policies and encourage the adoption of preventive measures<sup>10-14</sup>. In 2015, in addition to the representative sample of students from the 9<sup>th</sup> year of Primary Education, PeNSE had a second sample, representative of students aged from 13 to 17 years. This study allowed us to evaluate the use of services of schoolchildren with this age group. The objectives were to describe and identify characteristics related to the demand for health services or health professionals by Brazilian students.

## METHODS

This is a cross-sectional study using PeNSE data from 2015, made publicly available on the website of the Brazilian Institute of Geography and Statistics (IBGE)<sup>(1)</sup>. PeNSE is a triennial school-based survey conducted by IBGE in partnership with the Ministry of Health, with support from the Ministry of Education<sup>7,15-17</sup>.

In 2015, the samples were representative for both 9<sup>th</sup> grade students (Sample 1) and 6<sup>th</sup> grade students from elementary school to the 3<sup>rd</sup> year of high school, which is representative of students aged 13 to 17 years (Sample 2)<sup>7,15,17</sup>. The analyzes in this study were performed using data from Sample 2.

The sample plan of Sample 2 was defined in five geographic strata, referring to each Greater Region of the country, aiming to represent Brazil and its Major Regions. The sample of each geographic stratum was allocated proportionally to the number of schools according to the type (private and public) of the schools registered in the 2013 School Census. Sample 2 was composed of 10,926 valid interviews with students in the 6<sup>th</sup> to 9<sup>th</sup> grades (old 5<sup>th</sup> to 8<sup>th</sup> grade) of Primary Education and in the 1<sup>st</sup> to 3<sup>rd</sup> year of Secondary Education (morning, afternoon and evening shifts) of public and private schools, with at least 15 students enrolled in the chosen series<sup>15</sup>.

For the strata, the sample was selected in three stages: by IBGE agencies, by the size and by the eligible classes in the selected schools. All students in the selected classes that were present on the day of the interview were included in the sample<sup>15</sup>.

The students answered a self-administered structured questionnaire in a smartphone. After the data collection, the sample weights were calculated so that the sample was representative for Brazil, the five Regions, and the federation units. For more details, please refer to the 2015 PeNSE report<sup>15</sup>.

<sup>(1)</sup><https://www.ibge.gov.br/home/estatistica/populacao/pense/2015/default.shtm>

The search for health services or health professionals was described using the indicator “Percentage of schoolchildren who searched for a health service or professional in the 12 months prior to the survey: no and yes”, which is the dependent variable.

The independent variables potentially associated with the outcome were:

- sociodemographic characteristics of the students: sex (female or male); age (in years); race/skin color (white, black, yellow, brown and indigenous); school type (public or private); Region of residence (Southeast, North, Northeast, South or Midwest);
- family characteristics of the students: maternal schooling (illiterate, incomplete/ complete primary education, incomplete/ complete secondary education, incomplete/ complete higher education); living with at least one of the parents in the same residence (neither parent, only the mother or the father, both parents); meal with parents or guardians in the week prior to the survey (no [never or once] or yes [two or more times]); missed class without parental or guardian permission in the last 30 days prior to the survey (no or yes); parents’ knowledge of the adolescent’s activities in their free time in the last 30 days prior to the survey (never; rarely/sometimes; most of the time/ always);
- risk behaviors: current smoking (no or yes); current abusive alcohol use (no or yes); current drug use (no or yes); sexual behavior in the last intercourse (did not have intercourse, had sexual intercourse with a condom, had sexual intercourse without a condom);
- health-related issues: had been injured (no or yes); physical violence in the last 12 months (no or yes); feeling alone: (never/ rarely, sometimes, most of the time/ always); chest wheezing (no or yes); toothache (no or yes); a habit of washing hands (no or yes); attitude towards body weight (doing nothing, trying to lose weight, trying to gain weight, trying to maintain weight); self-assessment of health status (very good, good, regular, bad, very bad).

The prevalence, as well as their respective 95% confidence intervals (95%CI), of the demand for health services or health professionals among schoolchildren were estimated according to the independent variables. The magnitudes of the associations were estimated using the prevalence ratios (RPs) by the Poisson regression model. The first category of each variable was used as reference. Initially, a bivariate analysis was performed. Then, the variables that were associated with significance level  $p \leq 0.20$  were selected for the multiple model.

Data analyses were performed using Stata software version 14.0 (Stata Corp., College Station, USA) using the survey command for complex sampling. PeNSE was approved by the National Commission for Ethics in Research of the Ministry of Health, under Opinion No. 1.006.467, dated March 30<sup>th</sup>, 2015.

## RESULTS

The demand for health services or professionals in the last 12 months among students aged 13 to 17 years was 56.7% (95%CI 55.2 – 58.3). Regarding the sociodemographic characteristics,

the demand was higher for females (61,1%; 95%CI 59.2 – 63.0), for adolescents aged 16 years (63.6%; 95%CI 60.9 – 66.2), white skin color / race (60.4%; 95%CI 58.4 – 62.3), private school students (69.9%; 95%CI 67.5 – 72.2) and residents of the Southeast Region (59.6%; 95%CI 57.1 – 62.2). In relation to family characteristics, there was an increase in demand among youngsters with high maternal schooling, reaching 65.3% (95%CI 62.4 – 68.0) for children of mothers with higher education, who live with both parents (58.5%; 95%CI 56.4 – 60.6), who have meals with their guardians (57.6%; 95%CI 56.0 – 59.3), who did not miss classes without permission from their guardians (57.7%; 95%CI 55.8 – 59.5) and among those whose parents had knowledge of what they did on their free time (60.3%; 95%CI 58.8 – 61.8), as shown in Table 1.

Regarding risk behaviors, the demand was higher among adolescents who consume alcohol (62.4%; 95%CI 52.3 – 62.5), who use drugs (63.2%; 95%CI 60.0 – 64.7) and who had sexual intercourse without a condom (60.4%; 95%CI 57.0 – 64.1); there was no difference for current smoking. Regarding health issues, the demand was greater among those who suffered some injury (60.8%; 95%CI 57.4 – 64.1) or physical violence (63.7%; 95%CI 61.0 – 66.3) and those who felt alone at times (59.8%; 95%CI 57.9 – 61.7), as well as those who reported chest wheezing (66.2%; 95%CI 63.8 – 68.5) and toothache (59.5%; 95%CI 56.6 – 62.2). On the other hand, the demand was lower among those who did not do anything in relation to their own body weight (51.2%; 95%CI 48.8 – 53.5) and among those who assessed their health status as very good (54.1%; 95%CI 51.5 – 56.6) (Table 1).

Table 2 presents the results of the bivariate and multiple regression analyzes, adjusted for age and Region of residence. Adolescents whose mothers had completed secondary education (PR = 1.19;  $p = 0.003$ ) or higher education (PR = 1.21;  $p = 0.002$ ), had meals with their parents (PR = 1.09;  $p < 0.015$ ) and those whose guardians, most of the times or always, have knowledge about what they do in their free time (PR = 1.19;  $p < 0.001$ ) were associated with a greater demand for health services or health professionals. Also, adolescents who reported current alcohol consumption (PR = 1.10;  $p < 0.001$ ), practicing unprotected sexual intercourse (PR = 1.09;  $p = 0.018$ ), suffering physical violence (PR = 1.09;  $p = 0.007$ ), chest wheezing (PR = 1.15;  $p < 0.001$ ), toothache (PR = 1.07;  $p = 0.018$ ), the habit of washing hands (PR = 1.09;  $p < 0.001$ ), as well as those trying to lose (PR = 1.09;  $p = 0.005$ ), gain (PR = 1.10;  $p = 0.004$ ) or maintain weight (PR = 1.16;  $p < 0.001$ ), were also related to greater demand for services or health professionals.

On the other hand, being male (PR = 0.86;  $p < 0.001$ ), having black (PR = 0.86;  $p < 0.001$ ) and yellow skin color / race (PR = 0.87;  $p = 0.029$ ) and being a public school student (PR = 0.87;  $p < 0.001$ ) were factors associated with lower demand for health services or professionals.

## DISCUSSION

More than half of the Brazilian students aged 13 to 17 years sought a health service or professional in the last 12 months. This prevalence was higher than that observed in the

Table 1. Prevalence and 95% confidence interval of the demand for a health service or professional in the last 12 months, according to the characteristics of the students aged 13 to 17 years. National School Health Survey, Brazil, 2015.

Variables	% (95%CI)
<b>Sex (n = 10,813)</b>	
Female	61.1 (59.2 – 63.0)
Male	52.4 (50.4 – 54.3)
<b>Age (years) (n = 10,813)</b>	
13	51.8 (48.6 – 55.1)
14	53.9 (50.8 – 57.0)
15	57.5 (54.6 – 60.4)
16	63.6 (60.9 – 66.2)
17	56.7 (53.1 – 60.2)
<b>Race/skin color (n = 10,806)</b>	
White	60.4 (58.4 – 62.3)
Black	52.2 (48.6 – 55.7)
Yellow	53.3 (47.5 – 59.1)
Brown	55.8 (53.2 – 58.3)
Indigenous	52.2 (44.9 – 59.4)
<b>School type (n = 10,813)</b>	
Private	69.9 (67.5 – 72.2)
Public	54.8 (53.1 – 56.4)
<b>Region of residence (n = 10,813)</b>	
North	53.8 (51.0 – 56.5)
Northeast	53.7 (50.5 – 56.9)
Southeast	59.6 (57.1 – 62.2)
South	56.5 (53.3 – 59.7)
Midwest	56.4 (53.3 – 59.5)
<b>Maternal schooling (n = 8,484)</b>	
Illiterate	48.6 (43.7 – 53.5)
Primary Education	56.0 (53.3 – 58.7)
Secondary Education	62.2 (59.7 – 64.6)
Higher Education	65.3 (62.4 – 68.0)
<b>Living with at least one of the parents at the same house (n = 10,807)</b>	
Neither parent	54.9 (50.7 – 59.1)
Only with the mother or father	54.3 (52.2 – 56.3)
Both parents	58.5 (56.4 – 60.6)
<b>Meal with parents or guardians (n = 10,802)</b>	
No	53.7 (51.1 – 56.4)
Yes	57.6 (56.0 – 59.3)
<b>Missing classes without permission from parents or guardians (n = 10,799)</b>	
No	57.7 (55.8 – 59.5)
Yes	54.2 (51.7 – 56.7)
<b>Knowledge of parents or guardians about their children's activities in their free time (n = 10,790)</b>	
Never/rarely	48.8 (46.0 – 51.7)
Sometimes	51.7 (48.2 – 55.2)
Most times/always	60.3 (58.8 – 61.8)

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Table 1. Continuation.

Variables	% (95%CI)
Current smoking (n = 10,810)	
No	56.7 (55.1 – 58.3)
Yes	57.5 (52.3 – 62.5)
Current alcohol abuse (n = 10,802)	
No	54.4 (52.7 – 56.1)
Yes	62.4 (60.0 – 64.7)
Current drug use (n = 10,809)	
No	56.4 (53.3 – 56.9)
Yes	63.2 (56.4 – 61.3)
Sexual behavior in last intercourse (n = 10,798)	
Did not have intercourse	55.1 (53.5 – 56.6)
With condom	58.8 (56.2 – 61.4)
Without condom	60.4 (57.0 – 63.7)
Having had an injury (n = 10,769)	
No	56.2 (54.5 – 57.9)
Yes	60.8 (57.4 – 64.1)
Having suffered physical violence in the last 12 months (n = 10,781)	
No	55.3 (53.6 – 57.1)
Yes	63.7 (61.0 – 66.3)
Feeling alone (n = 10,801)	
Never/rarely	52.3 (49.8 – 54.8)
Sometimes	59.8 (57.9 – 61.7)
Most of the time/Always	56.0 (52.2 – 59.8)
Chest wheezing (n = 10,773)	
No	54.2 (52.5 – 56.0)
Yes	66.2 (63.8 – 68.5)
Toothache (n = 9,727)	
No	56.2 (54.4 – 58.1)
Yes	59.5 (56.6 – 62.2)
Habit of washing hands (n = 10,786)	
No	53.0 (50.8 – 55.2)
Yes	58.8 (57.1 – 60.5)
Attitude towards body weight (n = 10,765)	
Does nothing	51.2 (48.8 – 53.5)
Losing weight	61.4 (58.9 – 63.8)
Gaining weight	59.0 (56.0 – 62.0)
Maintaining weight	60.9 (57.7 – 63.9)
Self-assessment of health status (n = 10,795)	
Very good	54.1 (51.5 – 56.6)
Good	58.6 (56.4 – 60.8)
Regular	57.0 (54.4 – 59.7)
Bad	59.8 (53.2 – 66.2)
Too bad	61.0 (54.8 – 66.8)
Total	56.7% (55.2 – 58.3)

%; prevalence; 95%CI: 95% confidence interval.

Table 2. Prevalence ratio and adjusted prevalence ratio with the respective 95% confidence intervals of the characteristics associated with the demand for a health service or professional in the last 12 months, among students aged 13 to 17 years. National School Health Survey, Brazil, 2015.

Variables	PR (95%CI)	p-value	PR <sub>a</sub> (95%CI)*	p-value
<b>Sex</b>				
Female	Reference		Reference	
Male	0.86 (0.82 – 0.89)	< 0.001	0.86 (0.82 – 0.91)	< 0.001
Age (in years)	1.04 (1.02 – 1.06)	< 0.001	-	-
<b>Race/skin color</b>				
White	Reference		Reference	
Black	0.86 (0.80 – 0.93)	< 0.001	0.86 (0.79 – 0.94)	< 0.001
Yellow	0.88 (0.79 – 0.99)	0.033	0.87 (0.78 – 0.99)	0.029
Brown	0.92 (0.87 – 0.98)	0.006	0.96 (0.90 – 1.01)	0.129
Indigenous	0.86 (0.75 – 1.00)	0.048	1.00 (0.85 – 1.17)	0.988
<b>School type</b>				
Private	Reference		Reference	
Public	0.78 (0.75 – 0.82)	< 0.001	0.87 (0.82 – 0.93)	< 0.001
<b>Region of residence</b>				
North	Reference		-	-
Northeast	1.00 (0.92 – 1.08)	0.977	-	-
Southeast	1.11 (1.04 – 1.19)	0.002	-	-
South	1.05 (0.97 – 1.13)	0.197	-	-
Midwest	1.05 (0.97 – 1.13)	0.205	-	-
<b>Maternal schooling</b>				
Illiterate	Reference		Reference	
Primary Education	1.15 (1.03 – 1.29)	0.011	1.09 (0.97 – 1.22)	0.167
Secondary Education	1.28 (1.15 – 1.42)	< 0.001	1.19 (1.06 – 1.34)	0.003
Higher Education	1.34 (1.20 – 1.50)	< 0.001	1.21 (1.07 – 1.38)	0.002
<b>Living with at least one of the parents at the same house</b>				
Neither parent	Reference		-	-
Only with the mother or father	0.99 (0.91 – 1.08)	0.782	-	-
Both parents	1.07 (0.98 – 1.16)	0.154	-	-
<b>Meal with parents or guardians</b>				
No	Reference		Reference	
Yes	1.07 (1.02 – 1.13)	0.010	1.09 (1.02 – 1.16)	0.015
<b>Missing classes without permission from parents or guardians</b>				
	Reference		-	-
Yes	0.94 (0.89 – 0.99)	0.027	-	-
<b>Knowledge of parents or guardians about their children's activities in their free time</b>				
Never/rarely	Reference		Reference	
Sometimes	1.06 (0.97 – 1.16)	0.202	1.01 (0.91 – 1.13)	0.202
Most times/always	1.23 (1.16 – 1.32)	< 0.001	1.19 (1.10 – 1.28)	< 0.001

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Table 2. Continuation.

Variables	PR (95%CI)	p-value	PR <sub>a</sub> (95%CI)*	p-value
<b>Current smoking</b>				
No	Reference		-	-
Yes	1.01 (0.92 – 1.11)	0.771	-	-
<b>Current alcohol abuse</b>				
No	Reference		Reference	
Yes	1.15 (1.10 – 1.20)	< 0.001	1.10 (1.05 – 1.16)	< 0.001
<b>Current drug use</b>				
No	Reference		-	-
Yes	1.12 (1.02 – 1.23)	0.013	-	-
<b>Sexual behavior in last intercourse</b>				
Did not have intercourse	Reference		Reference	
With condom	1.07 (1.02 – 1.11)	0.002	1.01 (0.95 – 1.07)	0.821
Without condom	1.10 (1.03 – 1.17)	0.007	1.09 (1.01 – 1.17)	0.018
<b>Having had an injury</b>				
No	Reference		-	-
Yes	1.08 (1.02 – 1.15)	0.013	-	-
<b>Having suffered physical violence in the last 12 months</b>				
No	Reference		Reference	
Yes	1.15 (1.10 – 1.21)	< 0.001	1.09 (1.02 – 1.16)	0.007
<b>Feeling alone</b>				
Never/rarely	Reference		-	-
Sometimes	1.14 (1.08 – 1.21)	< 0.001	-	-
Most of the time/Always	1.07 (0.99 – 1.15)	0.078	-	-
<b>Chest wheezing</b>				
No	Reference		Reference	
Yes	1.22 (1.17 – 1.28)	< 0.001	1.15 (1.09 – 1.20)	< 0.001
<b>Toothache</b>				
No	Reference		Reference	
Yes	1.06 (1.00 – 1.12)	0.057	1.07 (1.01 – 1.14)	0.018
<b>Habit of washing hands</b>				
No	Reference		Reference	
Yes	1.11 (1.06 – 1.16)	< 0.001	1.09 (1.03 – 1.15)	< 0.001
<b>Attitude towards body weight</b>				
Does nothing	Reference		Reference	
Losing weight	1.20 (1.13 – 1.27)	< 0.001	1.09 (1.03 – 1.17)	0.005
Gaining weight	1.15 (1.08 – 1.23)	< 0.001	1.10 (1.03 – 1.18)	0.004
Maintaining weight	1.19 (1.12 – 1.26)	< 0.001	1.16 (1.09 – 1.23)	< 0.001
<b>Self-assessment of health status</b>				
Very good	Reference		-	-
Good	1.08 (1.02 – 1.15)	0.009	-	-
Regular	1.05 (0.99 – 1.12)	0.097	-	-
Bad	1.11 (0.98 – 1.25)	0.101	-	-
Very bad	1.13 (1.02 – 1.25)	0.023	-	-

PR: prevalence ratio; PR<sub>a</sub>: adjusted prevalence ratio; 95%CI: 95% confidence interval; \*model adjusted by age and Region of residence.

study with data from PeNSE 2012, which estimated a prevalence of 48.0%<sup>8</sup>, but similar to the findings of a systematic review on the use of health services in Brazil<sup>4</sup>. Studies that address this issue are relevant because they guide health services to adapt their work processes to meet the specific demands of each phase of the individual's life cycle.

Female students showed greater demand for health services or professionals. The findings are similar to the aforementioned study<sup>8</sup>, as well as to the studies that evaluated the adult population<sup>4,18-20</sup>. The demand for healthcare among females has been attributed to the concern with self-care<sup>4,20-22</sup>, and these findings indicate that such a practice occurs since adolescence. The fact that men seek health services with a lower frequency can result in late diagnoses, which could hamper the control and treatment of diseases<sup>23</sup>. It is necessary to go beyond the common sense that men are strong beings, who hardly gets sick and, consequently, seek health services less frequently<sup>21</sup>.

Adolescents of white race/skin color, who studied in private schools and had mothers with higher level of schooling presented a high association with the demand for health services or professionals. Considering such characteristics as income proxy, the effects are similar to those presented by studies among adults<sup>24</sup>. Research indicates that individuals belonging to lower income groups seek less health services regardless of age<sup>25-28</sup>. Data from the National Household Sample Survey (PNAD) indicate an increase in the use of health services and point to a reduction in the inequalities of access to primary health care<sup>29-30</sup>, but such inequalities persist, mainly in relation to income. These differences may relate the demand for care, which is higher among people with lower income<sup>31-34</sup>.

The relationship with the family, evidenced by the association of the meals with parents or guardians and their knowledge about the students' activities on their free time, was important in the demand for health services. These characteristics are relevant in several studies among adolescents<sup>8,35,36</sup>. The family has a protective role with adolescents, not only in stimulating the search for health services or professionals, but also in relation to safe sexual practices<sup>37</sup> and non-consumption of alcohol, tobacco and other drugs<sup>38</sup>, for example.

Adolescents who reported current alcohol use sought health services more frequently. In the study that dealt with the alcohol consumption pattern of adult users of Primary Health Care (PHC) services in the city of Bebedouro, São Paulo, it was identified that 78% of the users were abstinent or were in a low risk use situation, and 22% made problematic use of alcohol. According to the authors, PHC is a space not only for identifying alcohol-related harm, but also for implementing strategies to reduce it, especially among individuals who are more susceptible to morbidity and mortality related to alcohol use<sup>39</sup>.

On the other hand, smoking and drug use did not remain associated with the demand for health services or professionals in the multiple model. The hypothesis for this is that adolescents who consume tobacco products and try drugs also make use of alcohol. The use of these individual substances alone is rare, as described above<sup>39</sup>.

Adolescent sexual life begins earlier and earlier, associated with unprotected sex and to a largest number of partners throughout life<sup>40</sup>. In the present study, the practice of sexual intercourse without a condom was associated with the outcome. An explanatory hypothesis

is that adolescents who do not use condoms may have later concerns about a sexually transmitted infection or even an unwanted pregnancy due to non-use or inappropriate condom use<sup>41</sup>. Health services should be able to accommodate adolescents seeking health care, and to seize this opportunity to address this issue.

Travassos et al. argue that the demand for health services is higher among those who have health needs or who are ill<sup>1</sup>. They also highlight aspects such as the disease's severity and urgency. PeNSE data corroborate the study cited, since the adolescents interviewed who sought health services were also those who reported health problems/conditions, such as asthma, wheezing, physical violence in the last few days and toothache, as well as those who were trying to lose, gain or maintain weight. The individual's behavior towards the disease<sup>26,42-44</sup> and the search for health promotion and prevention practices are health needs described as determinants of access and use of health services<sup>42,43</sup>. There is evidence of increased demand for health services in the case of accidents, injuries and rehabilitation; on the other hand, there was a decrease in the demand for prevention actions<sup>25</sup>. The habit of washing hands before meals and after going to the bathroom was associated with the demand for health services. The promotion of these practices is a component that has broad implications on the general health of individuals<sup>42</sup> and is indicative of healthy habits<sup>43</sup>.

The choice of adjusting for age was made due to evidence of the increase in the demand for health services and professionals with the increase in the age of adolescents<sup>8,44</sup>. Regarding the Region of residence, adequacy was necessary, because in Brazil, despite the reduction of inequality in the last decades, there is still an unbalanced distribution of health services (which are concentrated in the Southeast)<sup>45,46</sup>.

Contrary to what was verified among students from Niterói, Rio de Janeiro, in 2001<sup>5</sup>, health self-assessment did not remain associated with the outcome studied. However, it is emphasized that both the cited study and this study used other variables in the multiple model.

As a limitation of this study, it is noteworthy that PeNSE is representative of adolescents who attended school and who were present on the day of questionnaire application. School absenteeism itself may be related to the demand for health services or professionals. This is a cross-sectional study and, by its very nature, it is not possible to infer whether the demand for health services was the cause or the consequence of some of the associated variables<sup>17</sup>. In addition, the high prevalence of demand for health services may be due to the greater time investigated (360 days); however, long recall periods result in a greater likelihood of individuals forgetting to mention the demand for health services<sup>4</sup>.

A strong point that can be highlighted in the present study is the possibility of evaluating and monitoring the indicator of service use among adolescents, since this population has been historically at the margin of the health system. It is also worth noting that demand for health services increased by almost 10% for this population group, with one hypothesis being the expansion of the Family Health Strategy<sup>9,47</sup> and the Health in School Program<sup>48,49</sup>, which enabled spaces aimed at meeting demands and at health education.

## CONCLUSION

Studies on the demand for health services and professionals by adolescents are relevant since they are infrequent and can contribute to the organization of care<sup>25</sup> and to the planning of programs and policies for this population. In addition, they can guide the Health in School Program (PSE) to address issues such as health promotion and integral education (promotion, prevention, diagnosis and recovery and training), with a view to comprehensive health care for children, adolescents and young people in basic public education, through the intersectoral articulation of public health and education networks and other social networks.

As well as among adults, female adolescents, private school students with more educated mothers, who present risk behaviors, and who reported suffering from a health problem sought more health services. Another important point was the general increase in demand when compared to results from the survey's previous edition.

It is important to take into account the characteristics of these adolescents, both regarding the organization of health services and the adequate training of professionals in health care, allowing a space of approach to deal with subjects related to the risks to which these adolescents are exposed.

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