

Self-medication in adolescents of the state educational network in the city of Picos/Piauí

Automedicação em adolescentes da rede estadual de ensino na cidade de Picos/Piauí

Automedicación en adolescentes de la red de enseñanza en la ciudad de Picos/Piauí

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ABSTRACT

Objective: To analyze the practice of self-medication by adolescents of the Picos-PI state education system.

Method: A descriptive and cross-sectional study with 209 adolescents. The data collection took place in weekly meetings through a questionnaire. **Results:** The most prevalent age group was 17 years (94.9%), 122 (58.4%) female, living with family 129 (61.7%), urban area 179 (85.7%), and Catholics 149 (71.2%). 209 (100%) practice self-medication, fever being the main symptom 120 (57.4%), and the tablet the most consumed pharmaceutical form 168 (57.4%). The main motivation for self-medication was the ease of obtaining drugs outside health facilities 103 (49.3%), and 141 (67.5%) agree that advertisements influence this behavior.

Conclusion: Adolescents practice self-medication with high frequency, which points to the need for strategic actions at the local level to reduce this practice.

Descriptors: Adolescent, Self medication, Adolescent health.

RESUMO

Objetivo: Analisar a prática de automedicação por adolescentes da rede estadual de ensino de Picos-PI. **Método:** Estudo descritivo e transversal, realizado com 209 adolescentes. A coleta de dados ocorreu em encontros semanais por meio de um questionário. **Resultados:** A faixa etária mais prevalente (94) foi de 17 anos (44,9%); 122 (58,4%) do sexo feminino; 129 moravam com a família (61,7%); 179 na zona urbana (85,7%); e 149 católicos (71,2%). 209 (100%) praticam a automedicação, sendo a febre (120) o principal sintoma (57,4%), e o comprimido (168) a forma farmacêutica mais consumida (57,4%). A principal motivação para automedicação foi a facilidade de conseguir medicamentos fora dos estabelecimentos de saúde (103) (49,3%); e 141 (67,5%) concordam que propagandas influenciam esse

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comportamento. **Conclusão:** Os adolescentes praticam automedicação com elevada frequência, o que remete à necessidade de ações estratégicas a nível local com vistas à redução dessa prática.

Descritores: Adolescente, Automedicação, Saúde do adolescente.

RESUMEN

Objetivo: Analizar la práctica de la automedicación por los adolescentes en las escuelas públicas de Picos-PI. **Método:** Estudio descriptivo transversal que incluyó a 209 adolescentes. La recolección de datos se llevó a cabo en las reuniones semanales a través de un cuestionario.

Resultados: El grupo de edad más frecuente fue de 17 años 94 (44,9%), 122 (58,4%) eran mujeres, vivían con la familia 129 (61,7%) en las zonas urbanas 179 (85,7%) y católicas 149 (71,2%). 209 (100%) se dedican a la automedicación, y fiebre es el síntoma principal 120 (57,4%), y la forma de dosificación de la tableta más consumida 168 (57,4%). La principal motivación para la automedicación fue la facilidad de conseguir las drogas fuera de los establecimientos de salud 103 (49,3%), y 141 (67,5%) está de acuerdo en que los anuncios influyen en este comportamiento.

Conclusión: Los adolescentes practican la automedicación con alta frecuencia, que se refiere a la necesidad de iniciativas estratégicas en el ámbito local con el fin de reducir esta práctica.

Descritores: Adolescente, Automedicación, Salud del adolescente.

INTRODUCTION

Self-medication is a practice linked to medicine consumption, without either a prescription or medical direction, which encompasses a variety of therapeutic resources for the relief of signs and symptoms related to physical and emotional discomforts.¹ Regardless of the cultural level, the historical context involved, the economic or social situation, self-medication is a common practice.²

Due to the precariousness of the public health system in several regions of the world, the World Health Organization (WHO) considers self-medication a necessity as a complementary function to the treatment of several diseases. For this reason, it published guidelines for the safe use of drugs that could be used in self-medication. Following such guidelines, medicines must be reliable, effective, safe and easily administered by the individual. Nevertheless, it is known that the free sale of medicines can induce self-medication by facilitating its acquisition.³

Some groups are more vulnerable to this type of exposure to drugs, such as adolescents, which correspond to individuals from 12 to 18 years old.⁴ According to a survey conducted in a city in the South of Brazil, the frequency of self-medication in a teenage population schooling ranges from 12% to 36%, and draws attention to the severity associated with the irrational consumption of drugs, because these substances were consumed concomitantly with some type of illicit drug.⁵

Another factor that raises attention is that at this stage of life mothers contribute a lot to this self-medication since they exert a strong influence on the adolescent's behavior and choices. Nonetheless, this attitude can have serious consequences for health, since they are not aware of these risks or are neglected.⁶

Although it may have a positive aspect related to self-care, the prevalence of self-medication requires action to reduce possible poisoning by drugs and adverse effects, especially

in younger age groups, due to the existence of significant relationships when alcohol and drug self-medication, and also by age-specific body adaptations and changes, which may alter the pharmacokinetic mechanisms of these substances.⁷

Because the adolescent is undergoing transformations and will cause conflicts within himself, sometimes because of either shame or fear of being questioned, he prefers not to seek a Basic Health Unit, and then making the inappropriate use of drugs that can bring health threat. That can still be facilitated by the virtual environment, where there is information about symptoms and treatments widely available, as well as the easiness of purchasing medicines without a prescription and at lower prices.⁸

Based on the aforesaid, the following question was made: what is the frequency of self-medication in adolescents attending the State educational system in Picos city/Piauí State? And, what are the factors related to this behavior?

It is justified to carry out this research due to the magnitude of this public health issue, also due to the significant behavioral vulnerability to which this target public is exposed, and due to the scarcity of scientific reports that concentrate robust data with regards to this topic at both regional and local levels.

Therefore, the relevance of this research can be explained by the fact that with the collected data it might be possible to create educational strategies, and also to promote specific group policies that improve behavior for safe self-medication, as well as it may draw attention from the local scientific community in order to develop more refined studies about this topic.

Given the aforementioned, this study aimed to analyze the practice of self-medication in adolescents from the State educational system in Picos city, Piauí (PI) State.

METHODS

It is a descriptive and cross-sectional study with a qualitative approach. The State High Schools from the municipality of Picos, where the majority of the adolescent population is concentrated, were defined as the location for the research, which are distributed in different local neighborhoods. The definition of these sites converged to ensure sample heterogeneity and homogeneity of results.

Nowadays, the municipality of Picos has 14 public high schools in the urban zone. Therefore, the five schools that had the highest number of students enrolled in this group were chosen according to the scholar data poll provided by the Education State Office from the Piauí State.

The population was composed of all adolescents of both genders, duly enrolled and actively attending to the 3rd year in the schools conducting the study.

As criteria for inclusion of the participants, the following were chosen: within the age group from 12 to 18 years old; and, being regularly enrolled and attending to school. The exclusion criteria were as follows: adolescents in special school attendance situations (attention disorders and hyperactivity, neurological syndromes), with diagnoses previously performed clinically and indicated by the direction of the school.

The Education State Office provided the number of enrolled students and their respective schools. So, the sampling was performed based on the sample calculation of finite populations, considering a 95% confidence level and a sampling error of 5%, and it was distributed as follows:

Table 1 - Initial sample distribution. *Picos* city, *Piauí* State, 2017.

SCHOOL	POPULATION	SAMPLE
1	292	167
2	208	136
3	192	129
4	218	140
5	148	108
TOTAL	1,058	680

Source: Education State Office. *Piauí* State, 2016.

It is worth noting that when making the visit at the sites where the sample was collected, the researcher found through data submitted by school heads that a number of students actually enrolled was lower than that provided by the State Office, due to withdrawals, dropouts, and transfers that had not been communicated yet. Consequently, it was agreed to adjust the sampling criterion to the conventional type, being distributed, in the end, as follows: school 1 (25); school 2 (45); school 3 (45); school 4 (49); and school 5 (45), totaling 209 students.

Data collection was carried out from October to November 2016, in the predefined State schools of the city of *Picos-PI*, where teenagers were approached and invited to participate in the survey in their respective classrooms. In order to do this, the researchers presented themselves to the group, in each classroom, also presented the objectives of the research and were willing to handle any particular doubts.

The data collection instrument was a questionnaire previously structured by the researcher containing health and social data (age, sex, religion, housing, existing illnesses, used treatments, lifestyle), and data on self-medication behavior (motivations, frequency, form of acquisition of the medicine, support network for the use of medicines). A pre-test was performed with two adolescents prior to the effective data collection to ensure the instrument's viability and the time required for its application.

After knowing all about the research objectives, the instrument was given to the adolescents and they should answer at home, so it would not interfere with the normal class schedule, and also to provide greater privacy. A maximum deadline of one week for the return of the instrument was established, at which time the researcher returned to the schools to collect them. Nevertheless, this period was reduced to three days due to reports of forgetfulness by most adolescents.

The collected data were typed and analyzed using the Statistical Package for the Social Sciences (SPSS) version 20.0 and organized into tables. The descriptive analysis was based on the descriptive statistics, as follows: absolute and relative frequency calculation.

The present study was approved by the Ethics Committee from the *Universidade Federal do Piauí (UFPI)* - *Picos* campus, which received approval through the Legal Opinion No. 1.888.474 and rigorously complied with all ethical principles.

RESULTS

The results were presented according to the sample selected to respond to the items proposed in the study, after pre-defined inclusion and exclusion criteria, corresponded to 209 (100%) adolescents, within the age group of 17 years old 94 (44.9%), with 87 (41.6%) males and 122 (58.4%) females, as described in **Table 2**.

Considering the housing aspects, it was identified that the majority (129.7%) lived with a full family group (parents and siblings), while 51 (24.4%) said they lived only with one of the parents. It is also noteworthy that 14 (6.7%) reside with other people who are not family, and among the reasons presented were the following: early marriage; moving to study at the home of family friends; and colleagues of the same age group and with similar life goals.

In addition to the data presented here, and considering the local regional characteristics, since the city of *Picos* is a reference for a macro-region of *Piauí* State, and that the secondary education is generally offered with greater number of places in the urban zone, it was verified that 179 (85.7%) are from urban areas, while 30 (14.3%) are from rural areas (**Table 2**).

Religion can have influences on the therapeutic method used for some symptoms or illnesses, among them the continued use of medicines, since each religion has its perception of cure. For this reason, religious belief was investigated in the sample and it was obtained that 149 (71.2%) said they were Catholic, and in the counterpoint 15 (7.1%) reported without religion (**Table 2**).

Also regarding the socio-demographic component, there was a concern to identify the behavioral patterns regarding the use of tobacco and alcohol, since they are substances that can modify pharmacokinetic patterns of the medicines. It was found that the highest frequencies of response were non-use of tobacco and alcohol, 204 (97.6%) and 142 (68%), respectively.

Nonetheless, the data that is most urgent is that the adolescents who had had contact with tobacco were 5 (2.4%) and those who either already tried or still drink alcohol was 67 (32%), consonant presented in **Table 2**.

Table 2 - Distribution of socio-demographic characteristics of adolescents. *Picos* city, *Piauí* State, 2016.

Variable	n	%
Age (years)		
16	23	11.0%
17	94	44.9%
18	92	44.1%
Sex		
Female	122	58.4%
Male	87	41.6%
Living with		
Whole family	129	61.7%
Only one parent	51	24.4%
Relatives, except parents	15	7.2%
Other people, except relatives or parents	14	6.7%
Origen		
Urban area	179	85.7%
Rural area	30	14.3%
Religion		
Catholic	149	71.2%
Evangelic	42	20.1%
Does not have religion	15	7.1%
Other religions	2	1.0%
Jehovah's witness	1	0.6%
Smoking		
No	204	97.6%
Yes	5	2.4%
Alcoholic intake		
No	142	68.0%
Yes	67	32.0%

Source: Made by the authors.

From the data presented in **Table 3**, it can be seen that 199 (95.2%) of the adolescents do not use drugs continuously for the treatment of pre-existing diseases, which can be explained by the lower proportion of chronic life.

Nevertheless, special attention should be directed to the data where it is presented that 199 (95.2%) frequently use medicines without these being prescribed by a health professional both scientifically and legally qualified for this purpose. When asked about the practice of self-medication, 209 (100%) answered that they had already used this alternative, and the main dosage forms consumed were: tablets 168 (80.4%); syrups 117 (56%) and liquid forms (drops) 104 (49.8%).

Concerning the main biological needs for self-medication, 120 (57.5%) reported fever as the most frequent sign/symptom, followed by cold 103 (49.3%) and pain 99 (47.4%). It is necessary to point out that some of the other reasons cited encourage greater reflection, especially in the population group studied, with emphasis on contraception by 24 (11.5%) and muscular hypertrophy by 13 (6.2%; **Table 3**).

The motivations to adopt the self-medication behavior were also asked, and in this variable, the easiness of obtaining medicines outside health facilities was presented by 103 (49.3%) of adolescents. But, personal socialization networks

had some influence on this motivational aspect, where the family members were responsible for influencing this behavior for 31 (14.8%) of the sample and 6 (2.9%) for friends.

An important fact that cannot be disregarded is the place or source of the acquisition of these drugs, since in the Brazilian reality the commercial pharmacies can sell certain types of active principles without prescription. **Table 3** shows that the commercial pharmacy is the main place of purchase corresponding to 127 (60.8%) of the responses, followed by the homemade pharmacy 74 (35.4%).

One factor that seems to influence self-medication is the advertisements that tend to show the benefits of the drugs, making the population get certain types of drugs with ease. From the application of the questionnaire, it was identified that the advertisements would have influences on the self-medication for 141 (67.5%) of the adolescents, while 68 (32.5%) said no (**Table 3**). The following media were mentioned, as follows: television 101 (48.4%), radio 3 (1.4%), internet 37 (17.7%).

Table 3 - Distribution of behavioral aspects related to drug consumption and self-medication by adolescents. *Picos* city, *Piauí* State, 2016.

Variable	n	%
Continued use of drugs to treat diseases		
No	199	95.2%
Yes	10	4.8%
Restricted use of medications prescribed by a health professional		
No	199	95.2%
Yes	10	4.8%
Self-medication		
Yes	209	100%
No	-	-
Pharmaceutical forms*		
Tablets	168	80.4%
Syrups	117	56.0%
Liquid forms (drops)	104	49.8%
Herbal tea	66	31.6%
Capsule	56	26.8%
Honey mixture	43	20.6%
Ointment	39	18.7%
Injectables	1	0.5%
Main needs for self-medicating*		
Fever	120	57.4%
Cold	103	49.3%
General pain	99	47.4%
Nausea	30	14.3%
Contraception	24	11.5%
Muscular hypertrophy	13	6.2%
Weight Loss	1	0.5%
Motivations for self-medication		
Ease of getting medicines out of health facilities	103	49.3%
No prescription required	69	33.0%
Influence of family members	31	14.8%
Friends' recommendation	6	2.9%

Variable	n	%
Place or source of medicine purchase		
Commercial pharmacy	127	60.8%
Homemade pharmacy	74	35.4%
Friends	5	2.4%
Relatives	3	1.4%
Influence of advertisements for self-medication		
Yes	141	67.5%
No	68	32.5%

Source: Made by the authors.

*The values exceed the number of the sample, because in this variable more than one item could be marked.

As shown here, it has been noted that the consumption of medicines through self-medication is alarmingly frequent among adolescents, becoming a public health concern due to the risks that this practice can cause. It is important to emphasize that public policies aimed at the adolescent public, both locally and nationally, need to be sensitive to these results, so that educational and inspection strategies can be better implemented.

DISCUSSION

Adolescence is a favorable phase of physical, psychological, and behavioral discoveries and transformations. Furthermore, it is during this period that they are constructing their viewpoint, imposing themselves before society and also on family matters.⁹ In this context, many decisions they make might affect their health status, such as: sexual protection, illicit drug use, and indiscriminate drug use, among others.

Through a literature review, conducted in the South of the country, it was possible to identify that the prevalence of medication use in adolescence is high, around 30% to 55%, and that the indexes of the last two decades only increased, driven mainly due to the behavior of self-medication.¹⁰ Therefore, when considering this issue and knowing that this practice increases the risks of behavioral changes, addiction, intoxications and other undesirable side effects, this study was aimed at this population.

It should be remembered that self-medication can be characterized by the selection of medications used to ameliorate symptoms or illnesses identified by the individual, in which case a self-diagnosis is made by the person who considers this natural practice and as a self-care resource, and the demand is discarded of a health professional, qualified to prescribe the medication correctly.¹¹

Herein, the sample was composed of 209 properly registered adolescents and attending the state schools of *Picos-PI*, with the aim of verifying and demonstrating the frequency with which the young people self-medicate, where a positive and at the same time disturbing response was obtained, since it is known that there is a risk related to inappropriate self-medication.

It was observed that the age group that stood out was the adolescents with 17 years old 94 (44.9%). It can be compared to the study carried out in the city of *Vitoria-ES*, which highlighted the prevalence of self-medication among

adolescents within the age group of 17 years old (27.1%),¹² which is opposed to the results of a survey carried out in a municipality from the Brazilian Southern region, in which the highest frequency of self-medication was in 15 years old adolescents (31.5%).⁵

Regardless of the age group with the highest prevalence, it is urgent that public policies directed to this public consider the statistics presented on the problem so that effective strategies of control or harm reduction associated with the practice of self-medication are performed.

Concerning the gender, 122 (58.4%) were female. Similar studies also obtained this prevalence as shown in a study performed in *Barbalha-CE*, which obtained a percentage of 36 (60%),¹³ whereas in a study carried out in the capital of *Ceará State*, 131 (66.5%) were found.¹⁴

In research carried out in the city of *Arroio do Meio-RS*, it can be seen that women tend to have the habit of self-medication because they are considered to be the most concerned with maintaining health within the family context.¹⁵ It is also worth noting that women stand out in this context due to the use of birth control contraceptives, which accompany a tendency of early sexual initiation in many Brazilian social strata and regions, also due to the fact that the woman is more symptomatic for several types of diseases, as well as hormonal changes.⁹

Considering the importance that the family exerts and if it would influence the moment of choice in the use of medicines, we questioned then to know with whom the adolescents reside and obtained the following result: 129 (61.7%) stated to reside with the whole family. A relevant study on the importance of the family, held in Coimbra city, Portugal, points out that the role of the family is crucial in social development,¹⁶ the literature further adds that adolescents inserted in a socially adjusted family context have greater competences to decide on healthy behaviors and less exposure to health risk situations, such as self-medication.¹⁷

Another questioning was whether the adolescents lived with only one of their parents, and 51 (24.4%) reported that yes, where the divorce was one of the influencers. A Portuguese study indicates that divorce may be one of the causes of learning difficulties both in childhood and adolescence, compared to other adolescents who have a structured family.¹⁸ In a study carried out in *Americana-SP*, it was observed that every five adolescents interviewed four resided only with the mother, reporting the divorce of the parents.⁹

In the network of the adolescent's social support, the religious aspect must be considered. And in this regard, a bibliographic study carried out in order to know the influence of religion on the life of young people, showed that those who profess some religiosity can better define their life choices.¹⁹

In the sample of this study, 149 (71.2%) were Catholics, which was considered a relevant piece of data. The literature shows that religion has a support for moral and doctrinal education, and it is understood that educational activities health issues, such as self-medication risks and their harm, can be better either assimilated or put to practice by these adolescents.²⁰

A particular data from the sample that stood out is related to alcohol and tobacco consumption, being represented by 5 (2.4%) who had tobacco and 67 (32%) with alcoholic beverage. A similar study carried out in *Porto Velho-RO* showed that 17.7% had been counted on at least once in their lives, and alcohol accounted for 39.2%.²¹ In a study of national impact, focused on alcohol consumption among the adolescents, it was noticed that 23% of young people within the age group from 11 to 15 years old consumed alcoholic beverages at least once in the last 30 days.²²

It should be noted, however, that the association between these substances and drug use may lead to chemical dependence, as well as to potentiate risks for drug overdoses or overdoses, since alcohol and the substances present in the cigarette can interfere dramatically with the therapeutic effects of medications.²³

It was verified that among 199 (95.2%) of the research participants, they have already used non-prescription medicines from a health professional. In a similar study carried out in a Public Higher Education Institution it was obtained that 142 (98%) acquired medicines without the medical requisition or of another health professional.²⁴ In the sample of a public school in the urban area of the South mesoregion in the *Ceará* State 50% of the participants had already consumed some type of medicine free from medical prescription.²⁵

In Brazil, it is common to purchase some medicines without the need for medical prescription according to safety criteria established by the *Agência Nacional de Vigilância Sanitária (ANVISA)* [National Agency of Sanitary Surveillance]. Nonetheless, it is important to note that when these substances are available to adolescents the risk of inappropriate use may increase, since irrational use is common in this age group.

The frequency of self-medication was extremely high in this study 209 (100%), thus disregarding the results published in a Portuguese study that showed that 50.5% reported self-medication with a frequency of fewer than 3 months,²⁶ and more similar to the group survey conducted in the *Pernambuco* State, where the prevalence was 80.4%.⁷

Self-medication is more frequent in countries or regions with low levels of educational and economic development, a reality in which the *Piauí* State is in the Brazilian scenario.²⁷ The authors reinforce that in childhood and adolescence the practice of self-medication is a cultural phenomenon performed by the parents or direct caregivers, due to the scarcity of health services with ample capacity of care to solve health problems considered simpler.²⁶

After emphasizing that self-medication is practiced as common sense, it was sought to investigate which pharmaceutical forms are most used. In the present study, the following stand out: tablets 168 (80.4%); syrups 177 (56%); liquid forms (drops) 104 (49.8%). In research carried out in students of a Public Higher Education Institution from the *Recife* city, it can be shown that the most used pharmaceutical forms were tablets with 32.7%, drops 24% and syrups with 4.7%.²⁸ It is emphasized that these are probably the most consumed forms due to the low

commercialization of parenterally administrable medicines in the national market.

The sample of this study was characterized as being the main reasons for the use of medications when symptoms of fever 120 (57.5%), cold 103 (49.3%) and pain 99 (47.4%) were presented. In a study carried out in the *Vale do Paraíba Paulista*, symptoms of pain 13 (22%) and fever (45%) were reported.²⁹ However, in a study carried out in *Tocantins State*, there was a similarity to the aforesaid study, where the causes were fever (60%), cold (74%) and pain (76%).²⁴

When looking for the motivations for self-medication, it is worth noting that the ease of getting medication outside the health facility 103 (49.3%) was the most common reason. In addition to this, access by relatives 31 (14.8%) and by friends' recommendation 6 (2.9%). A national study related to the motivations of the practice for self-medication, the difficulty of attending health services 85 (45.9%) was more frequently cited by adolescents.¹⁴ In a similar study, it was shown that: 10% stated that the motivations include free access to medication; 25% due to medical unavailability; and 4% from friends' recommendations.³⁰ Some authors emphasize that family and friends represented the most prominent influencing agent.¹³

It is also reflected that the basic health units do not offer or make very timid the specialized care to the adolescent clientele, which causes distancing of this target public of the health services and potentiates some vulnerabilities, putting at risk the maintenance of the health of this clientele.³¹

On the sites of acquisition of these drugs they scored commercial pharmacy with 127 (60.8%) of responses and home pharmacy 74 (35.4%). In research carried out in a municipality from the *São Paulo* State highlighted the home pharmacy with 76%, due to which parents tend to prevent in case their children present some type of symptoms, having a security that does not need to move to a health unit waiting for medical prescription to make an acquisition.³²

With the knowledge that the influence for self-medication encompasses not only family and friends, but also the media that is present in the mass media transmitting advertisements on medicines, in this study 141 (67.5%) of the adolescents are influenced by advertisements, with television being most commonly reported by them.

Similar results were found in a study carried out in *São Paulo* where 95% of the participants reported that access to information and drug advertisements influenced their self-medication.³³ According to a study carried out in *Rio Grande do Norte* State, drug advertisements stimulate consumption among viewers, especially in age groups where the audiovisual language is more attractive, as in the case of adolescence.³⁴

Hence, it was possible to verify that the profile found for the adolescents of this research with regards to self-medication, in most variables, it does resonate to the other investigations performed in Brazil. It is reiterated that educational and intervention measures can be carried out in the short, medium

and long term, from a language that is easily attractive to adolescents, so that the self-medication high prevalence can decrease and the risks may be minimized.

CONCLUSIONS

It is concluded through the results obtained in this study, which is mainly characterized by the following: adolescents in the age group of 17 years old, female, living with the complete family in the urban area, Catholics, and without high-risk behaviors regarding the consumption of alcohol and tobacco. Concerning the characteristics of self-medication, there was a predominance of medicine usage without a prescription, and also frequent self-medication with the following dosage forms: tablets; syrups and liquid forms, which were justified by the appearance of fever, cold and pain symptoms.

From a behavioral viewpoint, it was found that commercial drugstores were the places required for access to medicines, and that the advertisements had a significant influence on the acquisition of active principles.

The following examples show some limitations found during this study: access to the target audience due to dispersion in several places of data collection, resistance imposed by the directors in some schools, and the difficulty in obtaining the participation of the adolescents due many refused to participate, for fear of disclosing personal information. It also underlines the fact that the research was carried out only in public schools, thus preventing the generalization of data, or the comparison with the reality of more wealthy social classes in the private school system.

Hence, this study shows its relevance, and it is important to emphasize that it is an unpublished study in the city of *Picos*. Moreover, it is envisaged that the data presented will be used to promote strategic actions towards the adolescent's health at the local level, as well as to serve as a support for the creation of proposals for university extension programs to the target audience.

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