

## Analysis of habits and behaviors related to medication use in Children up to 12 years of age

### *Análise de hábitos e comportamentos relacionados ao uso de medicamentos em crianças de até 12 anos de idade*

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**ABSTRACT:** People who use medications without guidance represent a significant risk factor for the development of adverse effects in the pediatric population. However, the literature still lacks studies evaluating this phenomenon. In this context, the objective was to identify habits and behaviors related to medication use in children up to twelve years old. For this purpose, the methodology employed was a descriptive cross-sectional study, using a questionnaire on the Google Forms platform for parents and guardians to respond. Subsequently, the data were analyzed using the SPSS software version 19. As a result, it was observed that caregivers often rely on doctors for medication guidance, and some children receive prescribed medications intended for another child, mainly due to similar symptoms or illnesses. The majority of children did not experience adverse reactions to medications, but a small percentage reported allergic reactions, skin rashes, and drowsiness. Furthermore, easy access to medications, lack of healthcare services, inappropriate medication use, and medication storage at home are highlighted. Based on the observed practices, it can be concluded that safe medication practices in pediatric populations are important, as well as the role of healthcare professionals in guiding parents.

**KEYWORDS:** Medicalization; Self Medication; Pediatrics.

**RESUMO:** As pessoas que usam medicamentos sem orientação representam um fator de risco significativo para o desenvolvimento de efeitos adversos na população pediátrica. No entanto, a literatura ainda carece de estudos que avaliem esse fenômeno. Nesse contexto, o objetivo foi identificar os hábitos e comportamentos relacionados ao uso de medicamentos em crianças de até doze anos. Para isso, a metodologia empregada foi um estudo descritivo transversal, utilizando um questionário na plataforma Google Form para pais e responsáveis responderem. Posteriormente, os dados foram analisados por meio do programa SPSS versão 19. Como resultado, foi observado que os cuidadores frequentemente dependem dos médicos para orientação sobre medicamentos, além de que algumas crianças recebem medicamentos prescritos para outra criança, principalmente devido a sintomas ou doenças semelhantes. A maioria das crianças não apresentou reações adversas aos medicamentos, mas uma pequena porcentagem relatou reações alérgicas, erupções cutâneas e sonolência. Destaca-se, ainda, o fácil acesso a medicamentos, a falta de serviços de saúde, o uso inadequado de medicamentos e o armazenamento de medicamentos em casa. Com base nas práticas observadas, pode-se concluir que as práticas seguras de medicação em populações pediátricas são importantes, assim como o papel dos profissionais de saúde na orientação dos pais.

**PALAVRAS-CHAVE:** Medicalização; Automedicação; Pediatria.

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## INTRODUCTION

Medicationization is a phenomenon present in individuals' lives, significantly affecting school-aged children<sup>1</sup>. The use of medications without proper guidance is a significant risk factor for the development of adverse effects and/or drug interactions<sup>2</sup>. However, studies evaluating this phenomenon, particularly in the pediatric population, are still scarce in the literature. Typically, children are excluded from clinical trials due to susceptibility to harmful reactions, given the physiological differences compared to adults<sup>3,4,5</sup>. Therefore, measuring these behaviours, such as the number of professionals responsible for prescription and administration of medications, the frequency with which medication is guided by a healthcare professional, reasons for drug administration, use of natural remedies, among others, can contribute to the adoption of safer practices in paediatric medication use.

## OBJECTIVE

To identify medicine use-related habits and behaviors within the pediatric population.

## METHODOLOGY

This study is part of the Research Project, approved by the Research Ethics Committee of the State University of Londrina (UEL), (CAAE 54380921.2.0000.5231) "Access and use of medications in pediatrics", in which a descriptive cross-sectional study was developed, conducted with caregivers of children under twelve years of age residing in two municipalities in the northern region of Paraná, Brazil. Only children who used any medication or medications in the 15 days prior to data collection were considered for this study. Data were collected through the completion of a questionnaire developed and made available through the Google Forms platform during the first semester of 2022. The dissemination took place in partnership with educational institutions in the two researched municipalities, as well as through coverage in newspapers of the local press. Data analysis was performed using the SPSS Software version 19.

## RESULTS

Of the 597 children evaluated, 251 had used some medication in the 15 days prior to data collection. Among the behaviours of the parents or guardians, the majority of children had medications prescribed by only one professional (61.3%) (Table 1).

**Table 1** - How many different healthcare professionals were responsible for prescribing medications for child 1?

How many different healthcare professionals were responsible for prescribing medications for child 1?	n	%
5	0	0
4	1	0,4
3	10	4,1
2	38	15,7
1	149	61,3
0	45	18,5
Total	243	100

Regarding the administration of medications, 59.6% was carried out by a single person (Table 2).

**Table 2** - How many individuals/caregivers administer medications to the child daily?

How many individuals/caregivers administer medications to the child daily?	n	%
5	0	0
4	0	0
3	4	1,6
2	95	38,8
1	146	59,6
Total	245	100

Approximately 71.0% of caregivers administered medications without guidance from a healthcare professional (Table 3). More than 46% of caregivers justified that

they had previously used the medication on the child, and 7% already had the medication at home (Table 4).

**Table 3** - How often was medication administered to the child without guidance from a healthcare professional (doctor, pharmacist, other)?

How often was medication administered to the child without guidance from a healthcare professional (doctor, pharmacist, other)?	n	%
Never	42	16,9
Rarely	177	71,4
Monthly	14	5,6
Daily	4	1,6
Weekly	11	4,4
Total	248	100

**Table 4** - Reasons for administering medication without a prescription from a healthcare professional.

Reasons for administering medication without a prescription from a healthcare professional.	n	%
Has the medication at home; Used it with another child	1	0,4
Has the medication at home; Knows someone who gives it to the child; The child has used the medication before or used it with another child	5	2,0
Has the medication at home; The child has used the medication before; Used it with another child	23	9,3
Has the medication at home; The child has used the medication before	36	14,5
Has the medication at home	18	7,3
Used it with another child	4	1,6
Knows someone who uses the medication for the child; The child has used the medication before, used it with another child	1	0,4
Knows someone who uses the medication for the child	1	0,4
The child has used it before; Used it with another child	15	6,1
The child has used it before	114	46
Others	30	12
Total	248	100

Additionally, 25.0% of caregivers relied solely on the doctor to indicate the medication, followed by 9.0% who trusted both the doctor and the dentist, 7.0% on the doctor and the pharmacist, and 5.0% on the mother, father, and doctor.

In the surveyed population, 49.2% were treated with

natural remedies, especially homemade syrups (32.3%), teas (28.6%), and propolis and honey (25.3%), among the mentioned products. It is also worth noting that 31% of children had their medications used by other siblings (Table 5), mainly due to similar symptoms or the same illness (Table 6).

**Table 5** - Have you ever administered a medication prescribed for one child to another child?

Have you ever administered a medication prescribed for one child to another child?	n	%
No	167	69
Yes	75	31
TOTAL	242	100

**Table 6** - What is the reason for administering a medication prescribed for one child to another child?

What is the reason for administering a medication prescribed for one child to another child?	n	%
Viral infection	1	1,3
Rhinitis	3	4
Respiratory tract issues	1	1,3
Cough	2	2,7
Similar symptoms to the other child or same illness	32	42,7
Already had at home	1	1,3
Advice from other mothers	1	1,3
Throat infection/sore throat	3	4
Cold and flu	14	18,7
Fever	8	10,7
Bronchitis	2	2,7
Used it before	1	1,3
Allergy	4	5,3
Anti-inflammatory	1	1,3
Amoxicillin	1	1,3
TOTAL	75	100

Considering the difficulties in administration, 86.7% of the children did not experience any difficulties. Among those who had difficulties (13.3%), the most common ones were related to timing (during the night or school hours) and the child’s refusal to take the medication orally. Additionally, 90.3% of the children had no adverse reactions after using the medications, and among the 9.7% who experienced reactions, the main ones were allergic reactions, skin rashes, and drowsiness.

**DISCUSSION**

These results reflect issues present in the country, such as easy access to medications and difficulty accessing healthcare services<sup>6</sup>, lack of warnings on packaging, absence of education leading to inappropriate medication use<sup>7</sup>, lack of knowledge about medication action, which influences the possibility of overdose, toxicity, and adverse reactions<sup>8</sup>, as well as stockpiling medications at home,

especially antipyretics, analgesics, and antibiotics<sup>9</sup>. As observed in the present study, there is a tendency to seek a doctor’s help for medication prescriptions, even though the pharmacist is considered a reliable source of medication information<sup>7</sup>. Furthermore, a considerable amount of medication use, either self-administered or based on third-party recommendations, was observed. This practice, if used inappropriately, can increase the risk of adverse effects, exacerbate conditions, and/or mask diseases and drug interactions<sup>10</sup>.

**CONCLUSION**

Finally, it is believed that these results may contribute to the appropriate management of medication use in the paediatric population and assist healthcare professionals in guiding parents towards safer behaviours in administering medication to children.

**Authorship contribution in the text:** Eloah S. Marcilio, Giulia B. G. Silva, and Mariana W. Nieddermeyer conceived the research, collected data, and conducted data analysis. Eloah S. Marcilio wrote the article. Edmarlon Giroto supervised the entire project and analyzed the data. All authors read and approved the final manuscript.

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