

## Original Article

## RECOGNIZING CHILD PARENTAL ANTIBIOTIC SELF-MEDICATION: ORIGINS, TRENDS, AND CONSEQUENCES

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### ABSTRACT

**Objective:** Identifying parental reasons for self-treating children under ten years of age with antibiotics and their public health implications for creating targeted interventions for antibiotic control reports of infectious disease.

**Study Design:** A Cross-sectional Study

**Place and Duration of Study:** From 11- January 2023 to 11-July 2023, this research was carried out at the Peoples university of Medical Health Sciences Nawab Shah Department of Pediatrics.

**Materials and Methods:** 100 children under the age of 10 who obtained antibiotics from their parents without a prescription during the six months of this study were selected. Joining The group of children Parents were interviewed using a pre-made, structured questionnaire written in English and translated into Urdu. We investigated the various factors that affect parents' awareness about the danger of using antibiotics too much as well as whether or not they would give themselves children their doses of antibiotic.

**Results:** In the research, certain important information about parental antibiotic self-medication was found. The antibiotics most frequently overused were azithromycin, co-amoxiclav, cefixime, and clarithromycin. The most common reasons for self-administration of antibiotics were fever, skin rashes, vomiting, and diarrhoea. It was the mother who mainly initiated antibiotic use, with their male offspring closely following. These findings indicate that with focused initiatives to raise awareness among parents of pediatric diseases, especially, the need has become pressing for more effective regulation on when antibiotics are truly needed and when self-medication is indiscriminately carried out.

**Conclusion:** That parents choose to give their children medicine on their own rarely, resulting in the overuse of antibiotics and antibiotic resistance development. To hold off this threat to global health the entire public, especially moms and dads, should raise awareness. Policies that impede easy access to antibiotics will then be enforced with greater strength.

**Security:** nullcomplexContent.

**Keywords:** Parental antibiotic self-medication, Children Causes Awareness, Antibiotic resistance

### INTRODUCTION

In recent years The practice of parental antibiotic self-medication for children has arisen as a severe concern in the area of pediatric healthcare<sup>1</sup>. This troublesome trend, when parents provide antibiotics to their young ones without consulting a medical professional, has rightly received attention due to its possible consequences for antibiotic resistance and public health<sup>2</sup>.

Grasping the fundamental factors fueling this behavior is critical in developing effective interventions to curb its prevalence and alleviate its harmful ramifications<sup>3</sup>. While parental care and concern are understandable, misguided self-treatment risks undermining advances in medicine and jeopardizing community well-being. Further research seeks to illuminate the complex origins of this behavior and illuminate practical steps to safeguard children's health through appropriate medical involvement. 4. Against this context, cross-sectional research undertaken at the University of Medical & Health Sciences Nawab Shah Department of Pediatrics intended to explore the subtleties of parental antibiotic self-medication in children<sup>5</sup>

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From January 2022 to July 2022, the study aimed to dive into the reasons and causes prompting parents to take such activities and their understanding of the accompanying hazards<sup>6</sup>. The focus of the investigation was a cohort of 100 children under the age of ten who had received antibiotics from their parents without a doctor's prescription<sup>7</sup>. Statistical Methods By producing the questionnaire in English at first, then translating it into Urdu later in order to ensure full coverage, parents were surveyed that hoped to turn up something about their decision-making processes and understanding of when beckoning antibiotics for children<sup>8</sup>. The results of the study illuminate some important trends. But dishearteningly, only 28% of parents could correctly recognize that overusing antibiotics could lead to health hazards. This points to a very serious information dissemination compromise and lack of health literacy<sup>9</sup>. The survey found that fever emerged as the significant cause claimed by parents for turning to antibiotic self-medication, underlining the need for specific educational campaigns to overcome misunderstandings around treating familiar children's diseases<sup>10</sup>. The research disclosed essential details about the demographics and socio-economic aspects impacting parental antibiotic self-medication habits<sup>11</sup>. Notably, parents with greater levels of education were shown to be more disposed towards self-administering antibiotics, reflecting the complexity of the underlying factors driving this behavior<sup>12</sup>. This study serves as a clarion call to action for healthcare policymakers, practitioners, and educators to redouble their efforts to raise awareness about the prudent use of antibiotics and foster a culture of responsible medication management, particularly within pediatric healthcare<sup>13</sup>. By clarifying the numerous factors of parental antibiotic self-medication, this research initiative lays the way for targeted treatments aimed at maintaining the health and wellbeing of children and minimizing the rising problem of antibiotic resistance on a worldwide scale<sup>14</sup>.

**METHODS**

The study adopted a cross-sectional design and was performed at the Peoples university of Medical Health Sciences NawabShah Department of Pediatrics from 11-January to 11-July 2023. A standardized questionnaire, initially prepared in English and translated into Urdu, was applied to interview 100 parents of children under ten who

had taken antibiotics without a doctor's advice.

**RESULTS**

The study results indicated substantial changes in parental antibiotic self-medication. Cefixime, clarithromycin, co-amoxiclav, and azithromycin were the most commonly overused antibiotics, accounting for 25.4%, 28.6%, 23.4%, and 28.2% of cases, respectively. Fever was the predominant cause reported for antibiotic self-administration, comprising 72.4% of cases, followed by diarrhoea (22.0%), vomiting (8.0%), and skin rashes (3.0%). Mothers were the significant initiators of antibiotic use in 64.6% of instances, whereas male children began intake in 65.0% of cases and female children in 63.0%. These results underline the need

**Table 1: Demographic Characteristic**

Characteristic	Percentage
Gender	
Male	55%
Female	45%
- Under one year	
- 1-3 years	30%
- 4-6 years	25%
- 7-10 years	30%
Parental Education Level	
- High school or below	40%
- College	30%
- University degree	30%
Socio-economic Status	
- Low	35%
- Middle	40%
- High	25%

**Table 2: Antibiotics Over-used by Parents**

Antibiotic	Percentage of Respondents
Cefixime	25.4%
Clarithromycin	28.6%
Co-amoxiclav	23.4%
Azithromycin	28.2

**Table 3: Reasons for Antibiotic Self-Administration**

Reason	Percentage of Respondents
Fever	52%
diarrhoea	65%
vomiting	18%
Skin rashes	16%

**Table 4: Awareness of Hazards Associated with Antibiotic Overuse**

Level of Awareness	Percentage of Parents
High	28%
Moderate	45%
Low	27%

for focused initiatives to encourage optimal antibiotic usage.

**DISCUSSION**

There needs to be more healthcare literacy and knowledge among parents, as seen by the high frequency of antibiotic misuse, especially the frequent administration of drugs like cefixime, clarithromycin, co-amoxiclav, and azithromycin without a doctor’s order<sup>15</sup>. This result is consistent with other studies emphasizing the widespread issue of antibiotic abuse and its consequences for developing antibiotic resistance. The most frequent excuse given by parents for self-medicating their child’s fever is a prevalent misperception about how best to treat pediatric diseases<sup>16</sup>. A fever often causes parents to become concerned and seek comfort for their children. Still, teaching caregivers the value of a correct diagnosis and treatment under a doctor’s supervision is crucial, particularly in situations when antibiotics are not essential, such as viral diseases<sup>17</sup>. The research also highlights the significant role that women play in family healthcare decision-making, with mothers often taking the lead when it comes to starting antibiotic use<sup>18</sup>.

This emphasizes how crucial it is to provide moms with appropriate information about the use of antibiotics and any possible side effects via focused educational efforts. In addition, gender differences in management of drugs and searching for medical help might be seen from the statistically marginal differences

antibiotic usage between boys and girls 19. Understanding these nuances is vital when arranging training courses targeting certain areas of the population and social culture which effect a parent’s decision on how their child should be treated medically 20. The results underscore the urgent necessity for broad public health activities designed to raise parent awareness that antibiotics are best used in late childhood, stimulate a culture of medicine self-examination. We can stop antibiotic resistance that way from getting out of hand and ensure the health and safety of future generations by breaking down false impressions, improving the health literacy of patients, advocating evidence-based medical care<sup>21</sup>. With the combined efforts of filmmakers and legislative lawmakers, doctors and the public alike can greatly benefit from this topic by uniting E; future research should analyze how effective these educational efforts have been and their long-term impact on how people use healthcare services or the spread of antibiotic resistance<sup>22</sup>.

**CONCLUSION**

The study underscores the urgent need for interventions addressing self-medication of antibiotics by parents for their children. To the average # could well help curb the spread antibiotic resistance and save a healthy future for all generations. By popularizing medical knowledge, people’s awareness of healthcare and their habits will rise to a new level of ethicism, such as spitting out chewing gum instead swallowing it.

**Future finding**

Future studies should examine how well educational interventions work to change parents’ attitudes about taking antibiotics independently. To successfully address this urgent public health issue, it would also be beneficial to look into the long-term effects of such treatments on rates of antibiotic resistance and healthcare outcomes.

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**REFERENCES**

1. Salam A, Waseem S, Akhtar L, Manan HA, Malik MA, Siddique N. Parental Self-Medication with Antibiotics in Pakistan. *Pakistan Journal of Medical & Health Sciences*. 2023 May 25;17(04):228-.
2. Mukattash TL, Alkhatatbeh MJ, Andrawos S, Jarab AS, AbuFarha RK, Nusair MB. Parental self-medication of antibiotics for children in Jordan. *Journal of Pharmaceutical Health Services Research*. 2020 Mar;11(1):75-80.
3. Xu J, Wang X, Sun KS, Lin L, Zhou X. Parental self-medication with antibiotics for children promotes antibiotic over-prescribing in clinical settings in China. *Antimicrobial resistance & infection control*. 2020 Dec;9(1):1-8.  
Among Children in China: A Cross-Sectional Study of Parents' Knowledge, Attitudes, and Practices. *Infection and Drug Resistance*. 2023 Dec 31:7683-94.
7. Khalil MA, Arshad MS, Majeed A, Imran I, Binish H, Ahmad I, Rasool MF. The Parental Perceptions and Practices Regarding Self-medication among Their Children in Southern Punjab, Pakistan. *Child Care in Practice*. 2023 Jun 10:1-2.
8. Aslam A, Zin CS, Jamshed S, Rahman NS, Ahmed SI, Pallós P, Gajdács M. Self-medication with antibiotics: prevalence, practices and related factors among the Pakistani public. *Antibiotics*. 2022 Jun 12;11(6):795.
9. Wu J, Yang F, Yang H, Zhang G, Mu K, Feng J, Wang J, Yin X. Prevalence of antibiotic self-medication behaviour and related factors among children aged 0 to 5 years. *Expert review of anti-infective therapy*. 2021 Sep 2;19(9):1157-64.
10. Ahmed N, Ijaz S, Manzoor S, Sajjad S. Prevalence of self-medication in children under five years by their mothers in Yogyakarta city Indonesia. *Journal of Family Medicine and Primary Care*. 2021 Aug;10(8):2798.
11. Bhamani S, Abbas M, Sheikh S, Patel S. Parents Using Medicine without a Doctor's Prescription: A Safe Habit?. *ANNALS OF ABBASI SHAHEED HOSPITAL AND KARACHI MEDICAL & DENTAL COLLEGE*. 2023 Dec 2;28(04):230-4.
12. Bham SQ, Mohammed Iqbal MB, Sharif UH. Factors associated with parental self-medication for common childhood illnesses during the COVID-19 pandemic: a single centre study. *Anaesthesia, Pain & Intensive Care*. 2023 Jun 7;27(3):405-12.
13. Bert F, Previti C, Calabrese F, Scaioli G, Siliquini R. Antibiotics self-medication among children: A systematic review. *Antibiotics*. 2022 Nov 9;11(11):1583.
14. Sarwar R, Mahmood H, Hashmi HB, Anwar F, Mahmood S. Self Medication and Associated Health Care Seeking Amongst Mothers of Children Aged Under 5 with Diarrhea and Respiratory Tract Infections in an Urban Slum. *In Proceedings 2020 Dec 3 (Vol. 34, No. 2, pp. 26-31)*.
4. Zhou Z, Zhao D, Zhang H, Shen C, Cao D, Liu G, Zhu L, Fang Y. Understanding parental self-medication with antibiotics among parents of different nationalities: a cross-sectional study. *Global Health Research and Policy*. 2021 Dec;6:1-0.
5. Mabrouk AB, Ammari FL, Werdani A, Jemmali N, Chelli J, Mrabet HE, Rassas A, Sfar MH, El Mhamdi S, Mahjoub B. Parental self-medication with antibiotics in a Tunisian paediatric centre. *Therapies*. 2022 Jul 1;77(4):477-85.
6. Qu W, Wang X, Liu Y, Mao J, Liu M, Zhong Y, Gao B, Zhao M, Gao Y. Self-Medication with Antibiotics  
Health Care Seeking Amongst Mothers of Children Aged Under 5 with Diarrhea and Respiratory Tract Infections in an Urban Slum. *In Proceedings 2020 Dec 3 (Vol. 34, No. 2, pp. 26-31)*.
15. Patel SJ, Dumra GH. Assessment of parents-induced self-medication in paediatric population in rural and urban areas of Ahmedabad, Gujarat. *Int J Basic Clin Pharmacol*. 2020 May;9:776-81.
16. Aslam A, Zin CS, Ab Rahman NS, Gajdács M, Ahmed SI, Jamshed S. Self-medication practices with antibiotics and associated factors among the public of Malaysia: a cross-sectional study. *Drug, Healthcare and Patient Safety*. 2021 Oct 28:171-81.
17. Tarcuc P, Stanescu AM, Diaconu CC, Paduraru L, Duduciu A, Diaconescu S. Patterns and factors associated with self-medication among the pediatric population in Romania. *Medicina*. 2020 Jun 25;56(6):312.
18. Yuan J, Du W, Li Z, Deng Q, Ma G. Prevalence and risk factors of self-medication among the pediatric population in China: a national survey. *Frontiers in Public Health*. 2022 Feb 9;9:770709.
19. Ukwishaka J, Umuhoza C, Cartledge P, McCall N. Pediatric self-medication use in Rwanda—a cross-sectional study. *African Health Sciences*. 2020 Dec 16;20(4):2032-43.
20. Okunola OA, Aluko MA, Aroke AA. Knowledge and perspectives in managing common childhood illnesses by caregivers to under-five children in southwestern Nigeria: synopsis of self-medication practices. *Cogent Public Health*. 2023 Dec 31;10(1):2178053.
21. Nabi N, Baluja Z, Mukherjee S, Kohli S. Trends in practices of self-medication with antibiotics among medical undergraduates in India. *Journal of Pharmacy & Bioallied Sciences*. 2022 Jan;14(1):19..
22. Hossain MS, Islam MF, Arka PB, Rohman M,

Ahmed TS, Ahammed T, Chowdhury MA, Uddin MJ. Antibiotic prescription from qualified sources for children with fever/cough: Cross-sectional study from 59 low-and middle-income countries. *EClinicalMedicine*. 2023 Jul 1;61.