

Parents Using Medicine without a Doctor's Prescription: A Safe Habit?

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Abstract

This study, conducted at a tertiary care hospital in Karachi, Pakistan, delves into the alarming phenomenon of parental antibiotic misuse without medical consultation, posing a significant threat to antimicrobial resistance (AMR). A cross-sectional analysis involving 26 participants, predominantly educated mothers, reveals concerning trends. While 61.5% resort to over-the-counter/basic medicines for child ailments, 7.7% admit to administering antibiotics. Shockingly, 46.2% procure medications without prescriptions, and 15.4% advocate for antibiotics in young children. Significantly, 46.2% acknowledge the immunosuppressive impact of antibiotics, while 30.8% reserve antibiotic use for severe illnesses. These findings underscore the need for comprehensive guidelines regulating antibiotic prescription, particularly for pediatric cases. Collaboration between healthcare professionals and pharmacists is crucial for disseminating awareness about the hazards associated with self-medication. This study underscores the imperative to address this public health concern through targeted interventions and education initiatives.

Keywords: medicine; antibiotics; prescription; parents; unsafe.

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Introduction

Parents' inclination toward antibiotics perceived as crucial for treating infections poses a significant concern due to their potential contribution to antimicrobial resistance (AMR)¹. This study explores the escalating trend of antibiotic prescriptions in primary care, particularly for children, influenced by the fear of hospitalization. Effective prescription and usage of antibiotics are paramount to mitigate AMR, emphasizing the need for precise dosage and duration to combat diverse infections^{2,3}.

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AMR, intensified by frequent antibiotic use, particularly in treating common childhood ailments like respiratory infections and the flu, jeopardizes children's immune systems and overall well-being (3). The World Health Organization (WHO) has underscored the global threat of AMR, emphasizing its impact on public health and the environment^{1,4}. Notably, school-aged children, particularly those between 3 to 6 years, receive antibiotics excessively, often driven by parental expectations for swift recovery⁵.

Effective communication between doctors and parents is pivotal, especially when parental expectations influence antibiotic prescriptions for children. This communication should extend beyond prescriptions to encompass holistic guidance on symptom management and contingency plans, particularly when parents anticipate antibiotic pres-

criptions^{2,6}. However, research reveals a concerning “knowledge-practice dissonance” among doctors, marked by guilt and frustration, contributing to antibiotic prescriptions even when viral infections are suspected⁶.

Parental expectations for antibiotic prescriptions may derive from a lack of awareness, with many parents favoring antibiotics for perceived quicker recovery and symptom management. Educational interventions have shown positive outcomes in improving parents’ understanding of antibiotic use⁷. Clear communication and involvement in treatment decisions positively impact child health and parental satisfaction, fostering a collaborative approach^{6,8}.

Prescribing behavior is not only influenced by parental expectations but also by the prescribing practices of colleagues. Consistency in medical responses, beliefs, and practices is crucial, emphasizing recommending lab tests for accurate diagnoses and advising treatments accordingly^{1,5}. Parental expectations for antibiotic prescriptions often stem from a desire for reassurance regarding the severity of their child’s illness, highlighting the crucial role of effective communication^{6,8}.

While children are frequently prescribed antibiotics for infections that may not warrant such treatment, emerging antibiotic resistance poses a grave risk, especially for infections causing hospitalization and mortality in children^{9,10}. Self-medication is a life-threatening practice and directly impacts antimicrobial resistance. Parents using antibiotics without an authentic prescription is hazardous to the safety and well-being of the children. Each infection, regardless of similar symptoms, could have very different implications on the health and recovery of the child. Using antibiotics in the event of any infection without a professional medical prescription is illegal in most developed countries and impossible in some, as the medicines are not available over the counter. However, many developing countries, including Pakistan, have weak law enforcement, which makes purchasing antibiotics over the counter easy⁹. This study aims to probe parents’ antibiotic use without

descriptions in Pakistan, evaluating their knowledge of the associated harmful effects on children.

Methodology and Results

This cross-sectional study was conducted at a tertiary care hospital in Karachi, Pakistan in 2020, engaging parents, teachers, educators, and healthcare providers attending an awareness session. A purposive sampling strategy yielded 26 participants, predominantly females. A pre-designed self-administered questionnaire related to the parent’s knowledge and understanding regarding antibiotic use without a doctor’s prescription and its harmful effects on children’s health was developed. The questionnaire was adapted from Menard et al. 2022 study. The English language was used to create the questionnaire. Content validity of the questionnaire was done through subject matter experts. The reliability of the questionnaire was 0.73, obtained using the Cronbach alpha technique. The questionnaire includes variables related to participants’ socio-economic and demographic characteristics and parental knowledge about and use of over-the-counter medicine or antibiotics. Descriptive statistics were calculated. STATA version 16 was used to analyze the data.

Results revealed that 92.3% were parents, with 46.2% having at least a graduate education. Nearly half reported a monthly household income between 50000 to 100000 PKR, and 46.2% had 3-6 family members in their household.

Regarding child health, 53.9% reported their child falling ill quarterly, and 61.5% treated their children with over-the-counter or basic medicines at home. However, only 7.7% self-administered antibiotics to their children, and 15.4% believed antibiotics should be given to young children. Alarmingly, 46.2% claimed medicines were available without any prescription (Table 1).

Table 1. Parental knowledge about antibiotics and over the-counter medicine use (n=26)

Characteristic	n (%)
How often does your child get ill?Quarterly	14 (53.9)
In case of any non-serious illness what do you do? Treat with overthe counter/basic medicines at home	16 (61.5)
Have you ever given antibiotics at home to your kids by yourself?Yes	2 (7.7)
Do you think antibiotics should be given to young children?Yes	4 (15.4)
Are medicines available without any prescription?Yes	12 (46.2)

Further insights into parents' knowledge revealed that 46.2% believed antibiotics lower immunity, and 30.8% reserved antibiotic use for serious illnesses. A significant portion (53.9%) considered the role of parents as caregivers during a child's illness, with 46.2% advocating for treating children at home (Figure 1 and 2).

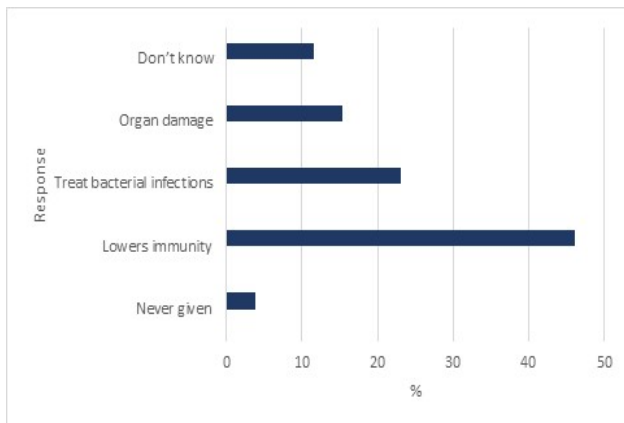


Fig 1. Participants' response to antibiotics effect on some one's body (n=26)

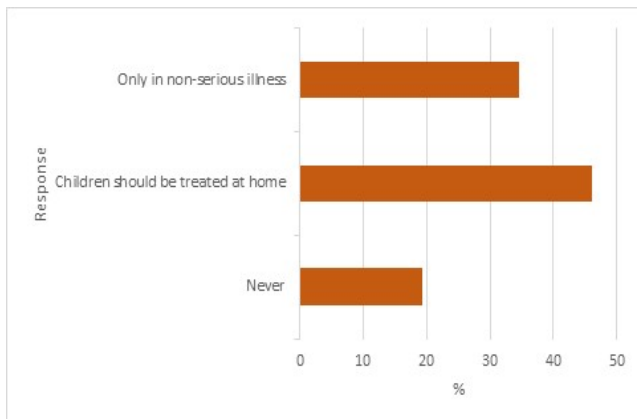


Fig 2. Participants' response on treating children at home (n=26)

Parents play an essential role in making decisions regarding their children's health and access to healthcare. Parents using medicine without a doctor's advice is an unsafe practice. Many parents use antibiotics to treat their children's illnesses, which causes antimicrobial resistance, harms their bodies, and even lowers immunity. Globally, an increase is seen in treating children at home and giving medications without a doctor's consultation. This trend mainly increased during the COVID-19 pandemic^{4,5}. Children, especially younger ones, are prone to infections and illnesses; they often get ill. Most parents in low-middle-income countries (LMICs) treat their children at home with basic medicine or remedies. A study in Kenya reported that 19% of the parents treated their children at home with either herbal or Western medicine for complaints such as colds, headaches, abdominal pain, and injuries^{9,10}. This is two times less compared to this study, which reported that 61.5% of parents treated their ill children with over the counter or basic medicines at home.

Providing any medicine to children without a doctor's consultation can lead to further issues. It can also cause detrimental effects on someone's body, including organ damage. However, there is a scarcity of literature related to this. There are a lot of case reports in pediatrics, but few proper studies have been done on kids. Doctors from "The American College of Physicians" advised that antibiotics to children should only be given in severe illnesses when required on the doctor's recommendation⁶. However, only 23.1% of parents in this study responded that they give medicine/antibiotics on the doctor's advice. The prevalence of antimicrobial resistance is increasing worldwide. Antimicrobial resistance predicts fatal outcomes in children who develop bloodstream infections^{3,4}. The parental role is vital in every matter of children, including health. Parents should take care of their children's health and make sure that they consult with the doctor before giving any medicine, including antibiotics. Antimicrobial resistance in certain infections will cause not only cause a burden on healthcare systems and their pockets, especially

in LMICs like Pakistan. Therefore, parents should avoid using self-medications/antibiotics and treat their children with the consultation of a doctor.

This is one of the studies in Pakistan that determines the parental knowledge and understanding regarding the use of over-the-counter medication and its harmful effects on children's health. This study also follows an awareness session regarding the topic. Moreover, not only parents but teachers and healthcare providers were also engaged in the study to bring diversity.

The limitation of the study includes a small sample size. Very few participants were interviewed about this important topic in a country like Pakistan where over-the-counter medicine practices are prominent. Moreover, the study was conducted only in a single center. Therefore, the results are not generalizable. The self-reported questionnaire might have caused the "wish bias" that cannot be eliminated due to its inherent nature.

Conclusion

This study underscores the imperative for comprehensive guidelines on antibiotic prescriptions, especially for children, to curb the rising threat of antimicrobial resistance. Effective communication between doctors and parents is critical, necessitating collaborative efforts to raise awareness about the hazards of self-medication. The study also illuminates the need for educational interventions targeting parents, emphasizing the appropriate use and potential adverse effects of antibiotics. Addressing the "knowledge-practice dissonance" among doctors and promoting consistency in prescribing practices are vital steps toward rational antibiotic use.

The escalating prevalence of self-medication and weak law enforcement in LMICs necessitate urgent public health campaigns to mitigate the risks associated with antibiotic misuse. Governments and healthcare systems should focus on strengthening enforcement measures and enhancing public awareness to curb over-the-counter antibiotic availability. In conclusion, a holistic approach

involving education, communication, and stringent regulatory measures is imperative to safeguard the efficacy of antibiotics, protect public health, and ensure a sustainable future in the face of antimicrobial resistance.

Conflict of Interest

Authors have no conflict of interest and no grant funding from any organization.

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