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EXPLORING PARENTAL SELF-MEDICATION PRACTICES FOR PEDIATRIC CARE: A CROSS-SECTIONAL OBSERVATIONAL STUDY

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Keywords:

Self-medication, Parental medication practices, Childhood health awareness, Over-the-counter medications, Safety perceptions in paediatric care

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ABSTRACT: The escalating use of medications among children presents a global concern, with self-medication by parents increasingly prevalent. This study investigates the prevalence of self-medication practices among parents of children aged 1 to 12. **Methods:** Over six months, 200 participants who self-medicated their sick children were enrolled. The study, conducted at King Koti District Hospital in Hyderabad, utilized a self-structured questionnaire targeting paediatric patients aged 0-12. **Results:** Most participants were parents aged 20 to 40 years, predominantly fathers (65.5%), with most having two children (36%) aged 2-4 years. Fever was the most commonly reported condition (22.5%). While a significant proportion expressed confidence in selecting over-the-counter (OTC) medications (41.5%), NSAIDs and analgesics were the primary choices. Safety perceptions varied, with 25% considering OTC medications generally safe and 13% entirely safe. **Discussion:** The study highlights parental awareness of risks associated with self-medication, notably allergic reactions (49.5%) and over dosage (57%). It provides insights into parental self-medication practices in paediatric care, emphasizing the need for tailored interventions and educational efforts on safe medication practices for children. **Conclusion:** This study reveals significant trends and concerns regarding parental self-medication practices in paediatric care. The prevalent use of NSAIDs and analgesics underscores awareness of potential risks, while variations in safety perceptions emphasize the importance of targeted education. The study indicates commendable awareness of potential risks associated with self-medication, emphasizing the ongoing need to promote safe and informed medication practices for children.

INTRODUCTION: The act of self-medication involves the use of drugs without a prescription from a medical professional, often done by individuals acting on their own behalf or on behalf of their children.

This is a common practice worldwide, but more commonly observed in developing countries due to insufficient regulatory oversight in drug distribution and inadequate prescription monitoring¹.

Recently, there has been a significant increase in the occurrence of self-medication among children in India. The prevalence of self-medication in India varies widely, ranging from 8.3% to 92%². The prevalence of self-medication practices has been identified as a major public health concern due to its association with the irrational use of drugs and

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subsequent occurrences of adverse drug events³. The tradition of self-medication of drugs has become a critical health concern. The improper usage of self-medication can elevate the risk of adverse reactions, wastage of resources, increased resistance to pathogens, bacterial infections, hypersensitivity, drug-induced illnesses, withdrawal symptoms and sometimes death⁴. In today's world, taking care of our own health has become a form of self-medication⁵. Unfortunately, there is a global issue with Antimicrobial Resistance, particularly in developing nations where antibiotics are readily accessible without a prescription from a healthcare provider. To address this problem, it is crucial to regulate responsible self-medication by providing access to safer drugs, accompanied by clear instructions and consultation with a healthcare professional⁶.

Healthcare professionals, notably physicians and policymakers, show keen interest in the phenomenon of self-medication, particularly when medications transition from prescription-only to over-the-counter status. The acceptance generally lies in acknowledging the crucial role self-medication plays in managing minor illnesses⁷.

Self-medication can be seen as the ability and desire of individuals to be proactive, knowledgeable, and self-sufficient in managing their own health concerns⁸.

Several governments are progressively promoting the practice of self-care for minor ailments, which includes advocating for self-medication. Though reliable self-medication has helped to reduce the travelling time, consultation time and cost of treatment⁹. A variety of factors like easy drug availability, costlier healthcare services and avoidance of frequent visits to healthcare professionals have augmented the practice of self-medication. Thus, it has become common to identify self-medication practice, which has become a prominent challenge for healthcare professionals¹⁰. The initial couple of years in a child's life are crucial for optimal growth and development¹¹. This timeframe is considered a critical window to foster good health, owing to the numerous potential advantages it offers for future health outcomes¹². During this phase, instilling healthy behaviours in young children can help

prevent major health-related diseases such as cardiovascular diseases, obesity, and type 2 diabetes¹³. The parental role in paediatric healthcare is vital and multifaceted. Parents advocate for their children, ensuring they receive proper medical attention, vaccinations and preventive care. They play a pivotal role in monitoring their child's health, managing medications, and following healthcare provider's advice. Additionally, parents provide emotional support, create a healthy environment and foster habits that contribute to the child's overall well-being¹⁴. The involvement of parents in their child's healthcare decisions is often hindered by emotional distress caused by the child's health condition. This vulnerable situation highlights their need for support from professionals. However, the extent and methods healthcare professionals engage parents in these decisions vary¹⁵.

Parents play a vital role in self-medication of their children. When children develop an illness, the first response of the majority of parents is to self-medicate the children to treat their disease. Parents in more significant numbers prefer treating their children's familiar ailments like cold, cough, fever, nausea, vomiting, diarrhoea, *etc.*, without consultation of a healthcare professional. Antipyretics, Anti-inflammatory drugs, Analgesics, and Antiemetic, cold and cough medications are the widely used self-medications¹⁶.

Children's well-being is influenced by various factors, including their access to healthcare services. While advancements have led to better health for children by reducing infectious diseases, recent societal and economic shifts have brought new health challenges. Factors such as changes in family dynamics, geographic mobility, and economic stability have highlighted the growing necessity for healthcare services among children, mainly due to issues like hunger, inadequate housing, violence and neglect¹⁷. The recent Institute of Medicine's report defines access to healthcare as the timely utilization of personal health services to attain optimal health outcomes. Over time, the utilization patterns of paediatric healthcare have varied based on factors such as health insurance status, income, race/ethnicity, family structure and geographical region¹⁸.

Paediatrics is experiencing rapid advancements with diagnostic tools broadening the range of conditions detectable at the bedside. Over the last two decades, incredible progress has solidified the understanding that children aren't merely miniature adults. This evolution has established perinatal and paediatric pathology as an independent subspecialty within pathology, showcasing remarkable connections with foetal medicine, neonatology and paediatrics¹⁹.

The accessibility of healthcare services greatly influences the healthcare experiences for babies, children and young individuals. Poor experiences at a young age may deter further engagement with healthcare, leading to potential avoidance of necessary care. Certain healthcare facilities cater primarily to adults, potentially neglecting the needs of younger patients. Creating more child-friendly environments with necessary facilities could enhance accessibility for children. Various factors affect the initial interaction with healthcare services and access, impacting individuals differently based on their unique needs. For instance, individuals from minority communities or those without parental guidance might face more significant challenges navigating the healthcare system, resulting in disparities in access. Identifying these factors that either facilitate or hinder access enables the formulation of recommendations to improve future access to healthcare services.

A comprehensive review by Smith and Jones (2019) highlights the complexities of parental decision-making in paediatric healthcare. The study underscores the pivotal role parents play in determining their children's treatment plans, including using self-medication practices. Understanding the factors that influence these decisions is crucial for unravelling the dynamics of parental involvement in paediatric care²⁰. Brown and Segal (2020) surveyed parental practices and attitudes towards over-the-counter (OTC) medication use in children. The findings reveal a prevalent reliance on OTC medications as a form of self-medication for managing paediatric ailments. The study emphasizes the need to scrutinize the types of medications parents commonly administer and their perceptions of effectiveness²¹. Williams and Johnson (2021) delve into the role of parental health literacy in self-medication practices for

paediatric care. The study suggests that parents' health literacy levels may influence the decision-making process, potentially impacting the safety and efficacy of self-medication practices. Addressing health literacy gaps becomes imperative in promoting informed decision-making in paediatric healthcare²². Gupta and Patel (2018) contribute valuable insights by exploring cultural influences on parental decision-making in paediatric self-medication.

The qualitative analysis reveals that cultural beliefs and practices significantly shape parents' attitudes towards self-medication. This underscores the importance of considering cultural factors in designing effective interventions and educational programs²³. The World Health Organization (WHO, 2017) provides a foundational framework for understanding medication use. The core components outlined by WHO emphasize the importance of promoting the rational use of medicines. This framework serves as a backdrop for evaluating parental self-medication practices, aiming to ensure that such practices align with established principles of safe and effective medication use²⁴.

This study addresses the gap in understanding parental self-medication practices for children aged 1-12. By assessing the generality of self-medication, parental knowledge, and associated practices, the research seeks to provide valuable insights into this pervasive health phenomenon. The objectives include probing the prevalence of self-medication, evaluating parental understanding of these practices, and identifying potential factors influencing self-medication in paediatric care. Through these efforts, the study aims to contribute to informed healthcare practices and interventions in paediatric self-medication.

METHODOLOGY:

Study Site: This survey-based observational cross-sectional study was conducted at a district hospital in Hyderabad, Telangana, from September to December 2023.

Study Design: The study used a cross-sectional survey-based design to gather information.

Study Population: The study included 200 participants between the ages of 1 and 12.

Data Collection: The process of gathering information involved using a self-designed comprehensive form that captured a range of details on the demographics of the child and their guardian. It also delved into the child's medical history and explored the parent's knowledge and attitude towards over-the-counter (OTC) drugs. To gain a deeper understanding of the parent's self-medication practices and sources for information on OTC drugs, the form was designed to elicit detailed responses on these aspects.

Inclusion Criteria: Parents of children aged 1 to 12 who gave self-medication to their child were included.

Exclusion Criteria: Participants who refused to participate, caregivers other than parents, and incomplete forms were excluded.

Data Analysis: The collected data was analysed using Microsoft Excel, and illustrative statistics such as frequency and percentage were used.

Ethical Considerations: Informed consent was obtained from all participants, and the study was approved by the institutional ethics committee (AUCP/IEC/2023/PharmD/01). The confidentiality of participant and patient information was maintained throughout the study.

RESULTS:

TABLE 1: PARENT AGE GROUP

Age Group	Frequency	Percentage (%)
20- 30	94	47%
31- 40	93	46.5%
41- 52	13	6.5%

TABLE 2: RELATIONSHIP TO CHILD

Relationship to Child	Frequency	Percentage (%)
Father	131	65.5%
Mother	56	28%
Brother	9	4.5%
Sister	4	2%

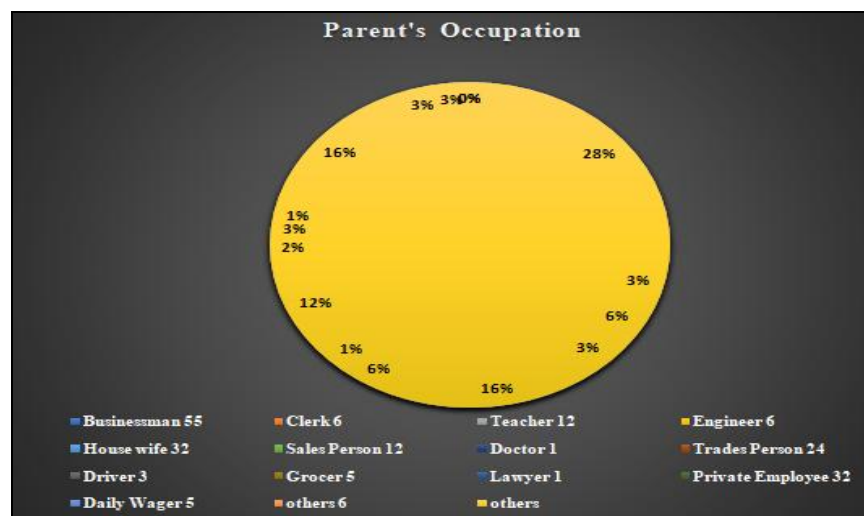


FIG. 1: OCCUPATION OF PARENT

TABLE 3: EDUCATION LEVEL OF PARENTS

Education Level	Frequency	Percentage %
Primary Education	2	1%
Secondary Education	48	24%
Higher Secondary Education	34	17%
Graduation	83	41.5%
Post-Graduation	33	16.5%

TABLE 4: NO. OF CHILDREN IN A FAMILY

No. of children	Frequency	Percentage (%)
1	50	25%
2	72	36%
3	55	27.5%
4	19	9.5%
5	4	2%

TABLE 5: CHILD AGE GROUP

Age Group	Frequency	Percentage (%)
0-1 years	12	6%
2-4 years	68	34%
5-8 years	79	39.5%
9-12 years	41	20.5%

TABLE 6: IMMUNIZATION STATUS

Immunization status	Frequency	Percentage (%)
Polio	15	7.5%
Tetanus	2	1%
Influenza	9	4.5%
Not known	74	37%

TABLE 7: CONFIDENCE LEVEL IN CHOOSING OTC MEDICATIONS

Confidence Level	Number of responses	Percentage (%)
Very confident	8	4%
Confident	72	36%
Somewhat Confident	83	41.5%
Not very confident	37	18.5%
Not confident at all	0	0%

TABLE 8: PREVIOUS USE OF OTC FOR CHILDREN

Drugs used	Responses	Percentage (%)
NSAID's	132	66%
Antihistamines	82	41%
Analgesics	95	47.5%
Antibiotics	54	27%

TABLE 9: PERCEPTION OF SELF MEDICATION

Perception	Number of responses	Percentage (%)
Yes, completely safe	51	13%
Generally safe	99	25%
Not sure	50	12.5%
Not at all safe	0	0%

TABLE 10: COMFORT LEVEL IN CHOOSING OTC MEDICATIONS

Comfort level	Number of responses	Percentage (%)
Very Uncomfortable	0	0%
Uncomfortable	42	21%
Neutral	98	49%
Comfortable	48	24%
Very comfortable	12	6%

TABLE 11: AWARENESS OF RISKS WITH SELF-MEDICATION

Awareness of risk	Number of responses	Percentage (%)
Allergic reactions	99	49.5%
Overdose	114	57%
Interactions with other drugs	44	22%
Masking health conditions	13	6.5%

TABLE 12: FREQUENCY OF RESEARCHING RISKS

Frequency	Number of responses	Percentage (%)
Always	40	20%
Often	6	3%
Occasionally	80	120%
Rarely	10	5%
Never	2	1%

TABLE 13: SPECIFIC MEDICATIONS USED

Medications Used	Number of responses	Percentage (%)
Pain		
Analgesics	115	57.5%
Cold and allergy		
Antihistamines	44	22%
Expectorants	16	8%
Leukotriene receptor	99	49.5%
Fever		
Analgesics	61	30.5%
NSAID's	70	35%
Antibiotics	54	27%
Adrenergic bronchodilators	7	3.5%

TABLE 14: OPTING FOR SELF-MEDICATION BEFORE CONSULTING HEALTH CARE PROVIDER

SM before consulting HC	Number of responses	Percentage (%)
Rarely	109	54.5%
Occasionally	55	27.5%
Frequently	46	23%

TABLE 15: FACTORS INFLUENCING SELF-MEDICATION

Factors influencing SM	Frequency	Percentage (%)
Previous experience	62	31%
Severity of symptoms	60	30%
Convenient	70	35%
Lack of access	18	9%

TABLE 16: REASONS FOR CHOOSING SELF-MEDICATION

Reasons for Choosing SM	Frequency	Percentage (%)
Familiarity with meds	48	24%
Quick access to relief	73	36.5%
Cost-effectiveness	62	31%
Busy schedule	17	8.5%

TABLE 17: INFORMATION SEEKING SOURCES

Sources used	Frequency	Percentage (%)
Internet resources	23	11.5%
Healthcare providers	121	60.5%
Family and friends	146	73%
Books and printed materials	3	1.5%
Social media platforms	7	3.5%

TABLE 18: SOURCES USED WHEN CHILD WAS SICK

Sources used	Frequency	Percentage (%)
Parenting websites/forums	5	2.5%
Medical websites	51	25.5%
Consultation with HC	79	39.5%
Family recommendation	58	29%

TABLE 19: RELIABILITY OF INFORMATION FROM HEALTH CARE PROVIDER

Reliability	Number of responses	Percentage (%)
Not reliable	0	0%

Slightly reliable	56	28
Mod reliable	53	26.5
Reliable	84	42
Highly reliable	7	3.5

DISCUSSION: Out of 200 parents who participated in the survey, 94 (47%) were between the ages of 20-30 years, 93 (46.5%) were between the age of 31-40 years, and 13 (6.5%) were between the ages of 41-52 years. In terms of the relationship of the parent with the child, out of 200 participants, the highest number of participants were fathers at 131 (65.5%). In comparison, mothers were 56 (28%) participants, brothers were 9 (4.5%) participants, and sisters were the least at 4 (2%) participants.

Regarding the occupation of the parents, out of 200 participants, 55 (27.5%) were businessmen, 32 (16%) were homemakers, 32 (16%) had private jobs, 24 (12%) were tradespeople, 12 (6%) were teachers and sales assistants, and the most minor participants were engineers 6 (3%), clerks 6 (3%), and lawyers 1 (0.5%). In terms of the educational level of the participants, out of 200 respondents, 83 (41.5%) were graduates, 48 (24%) had secondary education, 34 (17%) studied till higher secondary level, 33 (16.5%) were postgraduates, and 2 (1%) participants had a primary level of education.

Regarding the number of children, out of 200 participants, 72 (36%) respondents had two children, 55 (27.5%) had three children, 50 (25%) had one child, 19 (9.5%) had four children, and 4 (2%) participants had five children. Regarding the age group of the children, 12 (6%) were in the 0-1 year age group, 68 (34%) patients were in the 2-4 age group, 79 (39%) patients belonged to the 5-8 age group, and 41 (20.5%) patients were in the 9-12 age group.

In terms of the medical condition of the child, out of 200 participants, the highest number of patients, 45 (22.5%), were suffering from fever, 26 (13%) from dengue, 25 (12.5%) participants from malaria and cough, 19 (8.5%) participants suffered from viral rhinitis, 10 (5%) participants from headache, and the least number of participants suffered from jaundice 9 (4.5%), typhoid 6 (3%), toothache, pneumonia. Regarding the child's immunization status, out of 200 participants who took part in the survey, 15 (7.5%) were polio vaccinated, 2 (1%)

were Tetanus vaccinated, 9 (4.5%) were influenza vaccinated, and the remaining 74 (37%) participants were unsure about their vaccination status. In terms of confidence in choosing OTC medications, out of 200 participants, the highest population, 83 (41.5%), was somewhat confident, 72 (36%) were confident, 37 (18.5%) were not very confident, and 8 (4%) were very confident in choosing OTC medicines for their child.

Regarding the previous use of OTC medications for children, out of 200 participants, NSAIDs were most commonly used by the participants for their child at 132 (66%), analgesics were commonly used at 95 (47.5%), antihistamines were also frequently used at 82 (41%), and antibiotics were used by the participants at 54 (27%). Regarding the perception of the safety of administering OTC medications to children, out of 200 participants, 51 (13%) believed it to be completely safe, 99 (25%) believed it to be generally safe, and 50 (12.5%) were unsure about the safety of self-medication.

Regarding the comfort level of giving medications to children without a doctor's prescription, out of 200 participants, 98 (49%) were neutral, 48 (24%) were comfortable, 42 (21%) were uncomfortable, and 12 (6%) were very comfortable. Regarding awareness of risks associated with self-medication for children, out of 200 participants, 99 (49.5%) were aware of allergic reactions, 114 (57%) were aware of over dosage, 44 (22%) were aware of interaction with other medications, and 13 (6.5%) were aware that self-medication may mask underlying health conditions.

Regarding the frequency of researching risks or side effects before giving medications to children, out of 200 participants, 40 (20%) always researched, 6 (3%) often researched, 80 (40%) occasionally researched, 10 (5%) rarely researched, and 2 (1%) never researched for risks or side effects. Regarding the type of medications used for common illnesses, out of 200 participants, 115 (57.5%) used analgesics for pain, 99 (49.5%) used leukotriene receptor antagonists for colds, 44 (22%) participants used antihistamines, 16 (8%)

participants used expectorants for cough. For fever, the most commonly used class were antipyretics by 70 (35%) participants, 61 (30.5%) participants used analgesics for pain, 54 (27%) participants used antibiotics, and 7 (3.5%) participants used adrenergic bronchodilators. Regarding opting for self-medication before consulting a healthcare professional for a child's illness, 109 (54.5%) participants rarely consulted a healthcare professional before opting for self-medication, 55 (27.5%) participants occasionally consulted a healthcare professional before opting for self-medication, and 46 (23%) participants frequently consulted a healthcare professional before opting for self-medication.

Regarding the factors influencing the decision to self-medicate rather than seek professional advice, 62 (31%) participants considered self-medication based on past experience, 60 (30%) participants chose self-medication for less severe symptoms, 70 (35%) participants obtained self-medication due to its convenience, and 18 (9%) participants resorted to self-medication when professional help was not available. In terms of reasons for choosing self-medication, 48 (24%) out of 200 parents chose self-medication because they were familiar with the medications, 73 (36.5%) chose self-medication due to quick access to relief, 62 (31%) chose self-medication because it was cost-effective, and 17 (8.5%) chose self-medication citing busy schedules.

Regarding seeking information about their child's health or medication, 23 (11.5%) participants consulted information about their child's healthcare medication from internet resources, 121 (60.5%) participants sought information from healthcare providers, 146 (73%) participants obtained information from family and friends, 3 (1.5%) participants referred to books and printed materials, and 7 (3.5%) participants gathered information about their child's healthcare medication from social media platforms. Regarding platforms or sources used to gather information when the child falls ill, parenting websites and forums were used by 5 (2.5%) participants, medical websites/apps were consulted by 51 (25.5%) participants, 79 (39.5%) parents sought guidance through consultation with healthcare providers, and 58 (29%) participants relied on recommendations from

family and friends. Regarding the reliability of information obtained from healthcare providers, 56 (28%) participants expressed that the information obtained from healthcare providers was slightly reliable, 53 (26.5%) expressed that the information obtained from healthcare providers was moderately reliable, 84 (42%) expressed that the information obtained from healthcare providers was reliable, and 7 (3.5%) expressed that the information obtained from healthcare providers was highly reliable.

CONCLUSION: The study concludes that significant patterns and concerns are connected to parental self-medication implementation for their children's care. The participating parents come from diverse ages, occupations, and educational backgrounds. The study reveals that many parents are uncertain about their children's immunization status. While parents have confidence in choosing over-the-counter (OTC) medications, the predominant use of NSAIDs and analgesics raises awareness about potential risks. The study also shows that safety perceptions vary, underscoring the importance of targeted education. The comfort level of parents in administering medications without a prescription also varies. The study highlights a commendable awareness of potential risks associated with self-medication, emphasizing the need for continued efforts in promoting safe and informed medication practices for children. These findings provide critical information for developing interventions to enhance parental awareness and ensure the well-being of paediatric populations.

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