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Self-medication practices amongst parents of children aged 0-14 years in Western UP.

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Abstract

Background*: Self-medication among parents for their children is a prevalent global issue, often leading to risks such as incorrect dosage and adverse reactions. This study aimed to assess the prevalence, factors, and risks of self-medication among parents of children aged 0-14 years.*

Method*: A cross-sectional observational study was conducted from March to May 2024 at Sharda Hospital, including 259 parents. Data were collected using a structured questionnaire assessing demographic characteristics, self-medication practices, types of medications used, reasons, and information sources. The Chi-square test was used to analyze associations between variables, with p-values ≤ 0.05 considered statistically significant.*

Results*: The study found that 60.6% of parents practiced self-medication, with analgesics (42.5%), antipyretics (37.8%), and antibiotics (34%) being the most commonly used. Previous experience with the condition (48.4%) and perceived mildness of illness (30.6%) were the main reasons for self-medication. Education level was significantly associated with self-medication (p=0.04), while age showed no significant relationship (p=0.08).*

Conclusion*: A significant proportion of parents self-medicate their children, with education level influencing this practice. Awareness programs are needed to promote responsible medication use and safeguard children's health.*

Keywords*: self-medication; parents; children; education; analgesics; antibiotics; chi-square test; cross-sectional study*

Introduction:

Self-medication, the practice of individuals treating their ailments without professional medical guidance, is a common global phenomenon.[1] Among parents, the inclination to self-medicate their children is particularly concerning, given the vulnerability of the pediatric population. Parents often resort to over-the-counter (OTC) medications, home remedies, or previously prescribed drugs to treat their children's symptoms.[2] While this may offer convenience and cost-saving benefits, self-medication practices pose potential risks, including incorrect diagnosis, inappropriate drug selection, incorrect dosage, and adverse drug reactions, all of which can be more

severe in children due to their developing physiology.

In children aged 0-14 years, self-medication is often driven by factors such as the availability of medicines, ease of access to healthcare information, previous experiences with illnesses, and the desire to provide immediate relief.[3,4] However, the lack of understanding about proper medication use, drug interactions, and potential side effects can lead to serious health consequences. Additionally, self-medication can mask the symptoms of more serious underlying conditions, leading to delays in seeking professional care.[5]

Understanding the prevalence and underlying factors influencing self-medication among parents is crucial in addressing this public health issue. By identifying these trends, healthcare providers and policymakers can implement strategies to promote responsible medication use and ensure the safety of children. This study aims to investigate the self-medication practices among parents of children aged 0-14 years, identify the common drugs used, and assess the potential risks associated with these practices in a tertiary care setting.

Method:

This cross-sectional observational study was conducted over a period of three months, from March 2024 to May 2024, in the Pediatrics Outpatient Department (OPD) at Sharda Hospital. The study focused on parents of children aged 0-14 years who visited the Pediatrics OPD during this time. A total of 259 parents were included in the study based on inclusion exclusion criteria during study duration using non-probable consecutive sampling method.. Prior to initiating the research, approval was obtained from the Institutional Ethics Committee, and informed written consent was secured from the parents of all children participating in the study, ensuring voluntary and ethical participation. The study had no conflicts of interest.

All parents of children aged 0-14 years attending the Pediatrics OPD were included without any exclusion criteria. Data were collected using a pre-formed questionnaire, which was distributed to the parents. This questionnaire aimed to assess their self-medication practices, exploring the types of medications used, reasons for self-medication, and sources of information regarding the medications they used.

The data collected were entered into Microsoft Excel and subsequently analyzed using SPSS version 22. Normality of the variables was tested using the Kolmogorov-Smirnov test. Continuous variables were expressed as numbers and percentages, while associations between categorical variables were analyzed using the chi-square test or Fisher's exact test. A p-value of 0.05 or less was considered statistically significant for all analyses.

Result:

Table 1: Demographic Characteristics of Parents (n=259)

Characteristic	Frequency (n)	Percentage (%)
Gender		
Male	105	40.5
Female	154	59.5
Age of Parent (years)		
18-30	84	32.4
31-40	129	49.8
41-50	46	17.8
Education Level		
No formal education	18	6.9

Primary school	37	14.3
Secondary school	113	43.6
Higher education	91	35.1
Occupation		
Employed	118	45.6
Unemployed	141	54.4

Table 1 summarizes the demographic characteristics of 259 parents included in the study. The sample comprised 40.5% males (n=105) and 59.5% females (n=154). The largest age group was 31-40 years (49.8%), followed by 18-30 years (32.4%) and 41-50 years (17.8%). In terms of education level, 43.6% of parents had completed secondary school, 35.1% had higher education, 14.3% had primary schooling, and 6.9% had no formal education. Regarding occupation, 45.6% were employed, while the majority (54.4%) were unemployed.

Table 2: Prevalence of Self-Medication Practices (n=259)

Practice	Frequency (n)	Percentage (%)
Parents who self-medicate		
Yes	157	60.6
No	102	39.4
Type of medication used		
Analgesics	110	42.5
Antibiotics	88	34.0
Antipyretics	98	37.8
Vitamins/supplements	55	21.2
Cough syrups	45	17.4

Table 2 reveals that 60.6% of the parents (n=157) practiced self-medication, while 39.4% (n=102) did not. Among those who self-medicated, 42.5% (n=110) used analgesics, 37.8% (n=98) used antipyretics, 34% (n=88) used antibiotics, 21.2% (n=55) took vitamins or supplements, and 17.4% (n=45) used cough syrups.

Table 3: Reasons for Self-Medication Among Parents (n=157)

Reason for Self-Medication	Frequency (n)	Percentage (%)
Previous experience with the condition	76	48.4
Perceived mildness of illness	48	30.6
Lack of time to visit doctor	23	14.6
Cost-saving	10	6.4

Table 3 highlights the reasons for self-medication among the 157 parents who engaged in this practice. The most common reason was previous experience with the condition (48.4%, n=76), followed by the perceived mildness of the illness (30.6%, n=48). A smaller proportion cited a lack of time to visit the doctor (14.6%, n=23), and 6.4% (n=10) mentioned cost-saving as their reason for self-medication.

Table 4: Association Between Education Level and Self-Medication (n=259)

Education Level	Self-Medication (n=157)	No Self-Medication (n=102)	p-value
No formal education	12 (76.9%)	6 (23.1%)	
Primary school	24 (64.9%)	13 (35.1%)	
Secondary school	75 (66.4%)	38 (33.6%)	
Higher education	46 (50.5%)	45 (49.5%)	0.04*

*Chi-square test used, p-value < 0.05 considered statistically significant

Table 4 illustrates the association between education level and self-medication practices among parents. It was observed that parents with no formal education had the highest rate of self-medication (76.9%), followed by those with primary education (64.9%) and secondary school education (66.4%). Parents with higher education showed the lowest prevalence of self-medication (50.5%). The p-value for this association was 0.04, indicating a statistically significant relationship between education level and self-medication.

Table 5: Relationship Between Age of Parent and Self-Medication (n=259)

Age Group (Years)	Self-Medication (n=157)	No Self-Medication (n=102)	p-value
18-30	52 (61.9%)	32 (38.1%)	
31-40	82 (63.6%)	47 (36.4%)	
41-50	23 (50%)	23 (50%)	0.08

*Chi-square test used, p-value > 0.05 (not statistically significant)

Table 5 presents the relationship between the age of parents and their self-medication practices. Parents in the 31-40 age group showed the highest rate of self-medication (63.6%), followed closely by those in the 18-30 age group (61.9%). The lowest rate of self-medication was observed among parents aged 41-50 years, where 50% engaged in self-medication. The p-value of 0.08 indicates that this association was not statistically significant.

Table 6: Most Common Sources of Information for Self-Medication (n=157)

Source of Information	Frequency (n)	Percentage (%)
Family or Friends	79	50.3
Previous Prescription	52	33.1
Internet	16	10.2
Pharmacist	10	6.4

Table 6 lists the most common sources of information for self-medication among parents. The majority of parents (50.3%) relied on advice from family or friends, followed by those who used a previous prescription (33.1%). The internet was cited as a source by 10.2% of parents, while 6.4% sought advice from a pharmacist.

Discussion:

In our study, 60.6% of the parents (n=157) practiced self-medication, a prevalence notably higher than that reported in several other regions but lower than some. For example, in Wuhan, China, Wu et al. (2021) found that 14.32% of parents had self-medicated their children aged 0-5 years with antibiotics in the past six months. [6]

Similarly, Pons et al. (2024) reported a lower prevalence of self-medication in Brazil, where 22.2% of parents of children up to 12 years old engaged in this practice. [7] In contrast, our findings are more aligned with those from Volgograd, Russia, where Kramar et al. (2021) observed that 71.0% of mothers practiced self-medication for children aged 1-14 years. This Russian study presents one of the highest self-medication rates for children, exceeding our results.[8]

A study conducted in Vale do Jequitinhonha, Brazil, found that 30.57% of children and adolescents up to 14 years old had received self-medication from their mothers (Cruz et al., 2014), a lower figure than in our study.[9] These variations in prevalence might be attributed to differences in healthcare access, parental awareness, and sociocultural factors across regions.

In terms of medication types, analgesics were the most commonly used drugs in our study (42.5%, n=110), followed by antipyretics (37.8%, n=98), antibiotics (34%, n=88), vitamins or supplements (21.2%, n=55), and cough syrups (17.4%, n=45). This trend aligns with the studies by Kramar et al. (2021) and Pons et al. (2024), who also found that pain, fever, and cold/allergic rhinitis were the most common conditions leading to self-medication.[7,8]

Interestingly, while the Russian study (Kramar et al., 2021) reported no association between self-medication and factors like mothers' age, education, or number of children, the Brazilian study (Pons et al., 2024) found higher self-medication rates among older children from poorer families without health insurance.[7,8] Our study similarly found a significant association between education level and self-medication practices (p=0.04), with higher rates observed among parents with no formal education (76.9%).

In our study, the most common reason for self-medication was previous experience with the condition (48.4%, n=76), followed by the perceived mildness of the illness (30.6%, n=48). A smaller proportion of parents cited a lack of time to visit the doctor (14.6%, n=23), while 6.4% (n=10) mentioned cost-saving as their reason for self-medication.

Research on self-medication practices among parents of children aged 0-14 years highlights various influencing factors. For instance, convenience, habit, and children's requests often drive parental decisions. Lee-Kwan et al. (2018) found that more than half of parents reported purchasing meals for their children because the children requested them, suggesting a potential parallel where parents self-medicate based on children's preferences or routines.[10] Similarly, parental characteristics, such as age and health behaviors, play a role in self-medication. Lee-Kwan et al. (2018) also noted that younger parents and those with daily consumption of sugar-sweetened beverages were more likely to purchase unhealthy meals for their children, indicating that lifestyle factors may influence health-related decisions, including self-medication.[10]

Additionally, education appears to significantly impact self-medication. In our study, we found a strong association between education level and self-medication practices, with lower education levels being linked to higher self-medication rates (p=0.04). This aligns with findings by Rwakatema & Ng'Ang'A (2009), who observed that parental education directly affected health knowledge and practices related to children's oral health.[11] Cultural factors and healthcare access also play important roles, as shown in studies involving American Indian parents (Libby et al., 2007)[12] and caregivers in Nigeria (Okunola, 2020)[13], where self-medication was driven by socioeconomic and healthcare barriers.

In our study, it was observed that parents with no formal education had the highest rate of self-medication (76.9%), followed by those with primary education (64.9%) and secondary school education (66.4%). Parents with higher education showed the lowest prevalence of self-medication (50.5%). The association between education level and self-medication was statistically significant, with a p-value of 0.04.

Parental education level has consistently been shown to influence self-medication practices and healthcare-seeking behaviors for children. Research indicates that parents with higher education levels possess greater knowledge about the proper use of medications and are more inclined to seek formal healthcare for their children. For example, Rosa et al. (2022) and Sarwar (2020) reported similar findings, where educated parents demonstrated better awareness and a reduced likelihood of engaging in self-medication. [14]

In Sarwar's study in an urban slum in Lahore, 38.2% of mothers practiced self-medication for their children, and 92.5% acknowledged that it delayed formal healthcare-seeking.[15] Interestingly, 70.8% of mothers claimed their children recovered after self-medicating, which contrasts with other studies highlighting the dangers of self-medication, particularly antibiotic misuse, which can lead to resistance (Rosa et al., 2022).[14]

The correlation between higher parental education and proactive healthcare-seeking behaviors, as seen in other studies (Chen et al., 2020; Dabholkar et al., 2020), underscores the importance of education in shaping health-related decisions.[16,17] Parents with more education are generally better informed about the risks associated with self-medication and tend to adopt better health practices, including oral health care for their children. This further highlights the need for health education interventions aimed at reducing inappropriate self-medication by providing parents with the necessary information to make informed decisions about their children's health.

In our study, parents in the 31-40 age group exhibited the highest rate of self-medication (63.6%), closely followed by those in the 18-30 age group (61.9%). The lowest self-medication rate was observed among parents aged 41-50 years, where only 50% engaged in this practice. However, the association between parental age and self-medication was not statistically significant, as indicated by a p-value of 0.08.

Although there is limited research directly addressing the relationship between parental age and self-medication practices for children aged 0-14 years, some insights can be drawn from related studies. For instance, a study by Dokuyucu and Sarı (2024) found a negative correlation between both parents' age and their scores on the Parental Fever Management Scale, suggesting that younger parents may be more likely to engage in fever management practices, which often includes self-medication.[18] This aligns with the findings in our study, where younger parents showed higher rates of self-medication, though the relationship was not statistically significant.

In addition, Maddah (2009) noted that children of diabetic parents tend to have higher rates of overweight or obesity, which could indirectly influence their parents' medication practices. While this study does not specifically address self-medication, it highlights the potential impact of parental health and age on medical decisions, including medication use for their children.[19]

Overall, while our study observed a trend of younger parents engaging more frequently in self-medication, more focused research is needed to clearly define the relationship between parental age and self-medication practices for children. Future studies should explore how age-related factors, such as health knowledge, experience, and access to healthcare, influence parents' decisions regarding medication

use for their children. This would help provide a more comprehensive understanding of the role of parental age in self-medication behaviors.

In our study, 50.3% of parents relied on advice from family or friends for self-medication, followed by 33.1% who used a previous prescription. The internet was a source for 10.2% of parents, while only 6.4% sought advice from a pharmacist. These findings suggest that informal networks play a prominent role in shaping parental self-medication practices.

Comparatively, healthcare professionals, such as pediatricians and nurses, are consistently reported as the most trusted and primary source of health information for parents in other studies. For instance, 81% of parents cited healthcare professionals as their most-used source of information in a study by Rosso et al. (2021),[20] and 81.7% regarded their child's doctor or nurse as the most important source of vaccine-related advice (Kennedy et al., 2011).[21] This contrasts with our findings, where only a small proportion of parents (6.4%) consulted pharmacists.

The internet has also emerged as a common source of health information, with 72% of parents in Rosso et al.'s (2021) study reporting its use.[20] In our study, 10.2% of parents turned to the internet, reflecting its role as a supplementary resource for health-related decisions. Despite its popularity, parents may not always adhere to the advice found online, as Moseley et al. (2010) pointed out, suggesting a selective approach to utilizing internet resources.[22]

Interestingly, family networks and parental networks play a significant role in health decision-making. In Rosso et al. (2021), 63% of parents relied on parental networks for information,[20] and mothers were the second most influential source after pediatricians, as noted by Moseley et al. (2010).[22] In our study, advice from family or friends was the most frequent source of information, which underscores the reliance on informal networks.

There appears to be a contradiction between parents' trust in healthcare professionals and their actual behaviors. Alkaddour et al. (2022) found that 64.5% of parents self-medicated their children without consulting a healthcare provider, despite listing healthcare professionals as their most trusted source.[23] This trend aligns with our study, where most parents relied on non-professional advice.

Conclusion:

This study highlights that self-medication among parents for their children is a prevalent issue, with 60.6% engaging in this practice. Analgesics, antipyretics, and antibiotics were the most commonly used drugs. Education level significantly influenced self-medication, with parents having no formal education showing the highest prevalence. Previous experience with the condition was the primary reason for self-medication, and advice from family or friends was the most common source of information. These findings underscore the need for public health interventions to promote responsible medication use and prevent potential risks in pediatric care.

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