



PERCEPTIONS AND PRACTICES OF MOTHERS REGARDING OVER-THE-COUNTER DRUG USE FOR THEIR UNDER FIVE CHILDREN- A CROSS-SECTIONAL STUDY

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ABSTRACT

Background: Over the counter (OTC) drugs are those that can be directly given to people without a prescription. Using it improperly due to lack of knowledge regarding its side effects and drug interactions can result in catastrophic consequences. Children are treated by their parents using a variety of OTC drugs. So, the purpose of the study is to assess the perceptions and to determine the practices of mothers regarding use of OTC drugs among under five children (U5C). **Materials and Methodology:** The data was collected from mothers of under five children attending Pediatrics out-patient department of MIMS-Mandya for a period of three months (June to August 2023) by convenience sampling. Data was analyzed using descriptive statistics like frequencies, proportions etc. **Results:** Majority of mothers (69.50%) were using OTC drugs for their U5C. The commonly used drugs were antipyretics (97.8%), cough and cold medications (79.10%) etc. Majority of the mothers (38.12%) believe that unless and until it is serious, OTC drugs can be taken from pharmacy. Majority of them were taking OTC drugs because illness was minor (51.09%) and the major source of information being old prescription (53.23%) and pharmacist (52.50%) etc. **Conclusion:** Proper parental education and appropriate usage of medications during hospital visits by treating doctors should be done. This will avoid possible adverse effects due to improper OTC medications.

KEYWORDS : OTC drugs, under five children, adverse effects**INTRODUCTION**

Over the counter (OTC) drugs are those that can be directly given to people without a prescription¹. The use of over-the-counter drugs had gained popularity over the last few years especially in under developed countries². The World Health Organization defined self-medication as the use of drugs to treat self-recognized symptoms, or the intermittent or continued use of medication prescribed by physician for chronic or recurring diseases or symptoms³.

Around the world, 50% of the people generally either wait for the illness to go away on its own or take-home based remedy. 25% of people visit a doctor or take a previously prescribed medication, while remaining 25% of people choose over-the-counter drugs⁴. The drugs which were used commonly were analgesics, antipyretics, anti-emetic and anti-tussive etc. A rise in personal health awareness, social, educational, economic status as a result of good education contribute to the increased use of over-the-counter drugs. Many other factors like easy accessibility, drug availability, affordability also contribute to the increased use of the OTC medications⁵.

Although the over-the-counter drugs are designed for self-medication have a good efficacy and safety, using it improperly due to lack of awareness of the side effects and drug interactions can result in catastrophic consequences, especially in extremes of ages and emergence of antibiotic resistance. Self-medication in the paediatric context refers to drug administration by the care giver without seeking a doctor's advice⁶. Children are typically treated by their parents using a variety of drugs as well as with herbal medications⁷. So the purpose of the study is to assess the purpose the perceptions and to determine the practices of mothers regarding use of OTC drugs among under five children and to determine the factors affecting these practices and perceptions.

Objectives

- 1) To assess the perceptions of mothers regarding the use of over-the-counter drugs among under five children
- 2) To determine the practices of mothers regarding over-the-counter drug use for their under five children

METHODOLOGY

The study was designed as a cross-sectional pilot study to explore the prevalence of specific health characteristics among mothers of children under the age of five who attended the Pediatrics Outpatient Department (OPD) at MIMS, Mandya. A sample size of 200 participants was determined based on a review of existing literature,

which revealed a wide range of prevalence rates, varying from 32% to 92%, so the study was conducted as a pilot study, aimed at providing initial insights that could guide future research. A convenience sampling method to recruit participants, where mothers who met the inclusion criteria were approached during their visit to the OPD. The purpose and details of the study were explained to subjects and only those willing and ready to sign the informed consent were included in the study. The participants were assured that records and data identifying the subject are kept confidential and are not made publicly available. If the results of the study are published, the subject's identity remains confidential.

Inclusion Criteria:

- 1) Mothers of Under 5 Children attending Paediatrics OPD of MIMS-Mandya
- 2) Those giving informed consent to participate in the study.

Exclusion Criteria:

Nil

The data was collected by using interview method using a semi structured questionnaire having three parts i.e., the first part we will collect sociodemographic details, the second part will collect information regarding practice of over-the-counter drugs to their under 5 children and the third part will collect information regarding perceptions in giving over-the-counter drugs to their under 5 children over the counter medicine. Data were analyzed by using software SPSS (trial version IBM-SPSS 20), and descriptive analysis used for getting graphs, frequencies, and percentages.

RESULTS

The overall prevalence of OTC drugs among the mothers of children aged less than 5 years was found to be around 69.50%. Among those mothers the most common OTC drugs used was found to be antipyretic's (97.8%), followed by antihistamines (79.1%), ORS (66.9%), cough syrups (56.83%), lotions (38.12%), antiemetics (23.74%), and lastly 8.6% of the mothers bought OTC antibiotics for their children. The reasons given by the mothers for the OTC usage were the most common reason, with just over half of the mothers (51.09%) believing that the child's illness is minor and does not warrant a visit to the doctor, a notable portion of mothers (35.90%) administer OTC drugs for the sake of convenience, likely because it is faster or easier than seeking professional medical care, around 25% expressed their concern that their child might be admitted to the hospital if they sought medical care, which may drive them to self-medicate using OTC drugs, around 17.20% of mothers use OTC drugs

to avoid long waiting times in clinics, indicating that healthcare accessibility and efficiency may be an issue for some, 14.30% mothers cited that the high costs associated with medical consultations and diagnostic tests as a reason for opting for OTC drugs, pointing to financial barriers in accessing healthcare, a smaller percentage 6.40% reported that a previous prescription from a physician was not effective, leading them to turn to OTC drugs instead and finally the least common reason, but still a concern for some mothers i.e., 4.31% perceived the risk of acquiring infections in a hospital setting, which may drive them to avoid healthcare facilities.

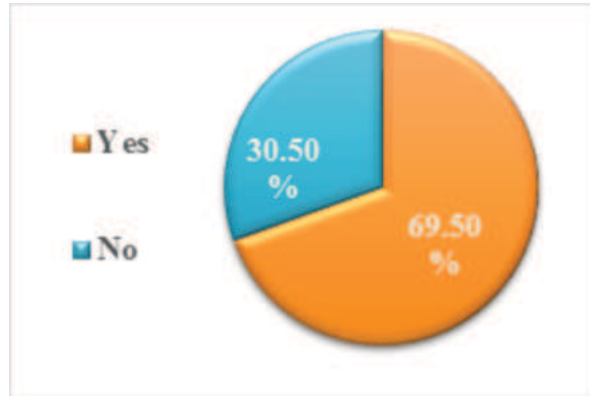


Figure 1: Prevalence of OTC Drugs Usage.

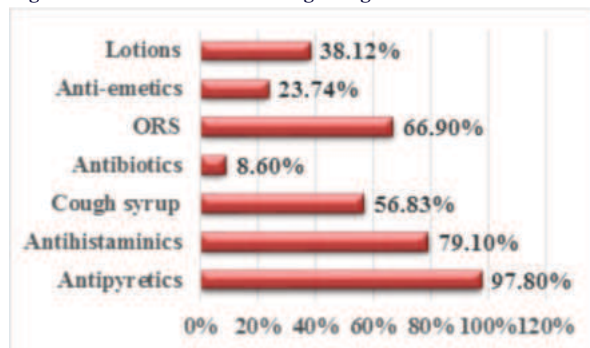


Figure 2: Commonly Used OTC Medications

Approximately 53.23% of the mothers relied on old prescriptions to obtain medications. The next most common source was pharmacists, used by 52.50% of mothers, followed by friends at 43.88%. Other parents' information was a source to around 26.61% of mothers, while 12.20% obtained them through advertisements. Drug labels were a source for 4% of the mothers, with other miscellaneous sources accounting for the remaining 4%.

Among the mothers who use OTC drugs for their children around 38.12% of the mothers were of the opinion that until and unless it is serious, OTC drugs can be taken from pharmacy, 35.97% of the mothers feel that pharmacists can provide medications based on symptoms without the need for a doctor's consultation, 16.50% of respondents believe that most medications can be taken without consulting a doctor, 8.63% think it's acceptable to take medications from a pharmacy for common signs and symptoms. Only 0.70% think that nearly all medications can be sourced from a pharmacy without consulting a doctor.

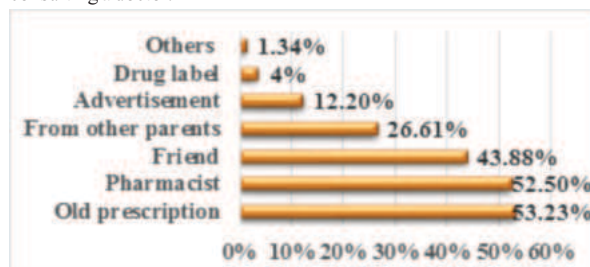


Figure 3: Source of Information for OTC Drugs Usage.

DISCUSSION

Several cross-sectional studies were done during the period 2011-2022

regarding the perceptions of OTC drugs usage among under-5-children showed that the prevalence varied between 32-92%. A study by Naaraayan et al. found that approximately 69.50% of mothers of children under five in South India used OTC medications for their children, this high prevalence aligns with studies with similar findings from Tamil Nadu and Nepal. In our study the prevalence was found to be around 69.5%.

Various cross-sectional studies were conducted in many parts of Asian countries between 2011-2022 regarding the practices of mothers regarding the use of OTC drugs among under-5-children found the most common OTC drugs used by the mothers were antipyretics, anti-cold medications, analgesics and antibiotics etc. In one study conducted at Kanchipuram, Tamil Nadu by Vidyasagar et al found that the major source of OTC drugs being the nearby pharmacy and in another one study conducted by Naaraayan et al., at Chennai found that most of the mothers used previous prescription as their source of information to procure the drugs and the mean duration of use of OTC drugs was 2.5 days^{4,5,6,8}. In our study, the most frequently used OTC medications were identified as anti-pyretic (97.8%), followed by antihistamines (79.1%), oral rehydration salts (ORS) (66.9%), cough syrups (56.83%), lotions (38.12%), antiemetics (23.74%), and finally, 8.6% of mothers reported purchasing OTC antibiotics for their children.

Several cross-sectional studies were done during the period 2011-2022 regarding the perceptions of OTC drugs usage among under-5-children in Tamil Nadu and Nepal found that most of the parents were not having adequate knowledge and actions regarding the side effects of the drugs. In one study conducted at Nepal found that most of the mothers used OTC medications because of easy accessibility of nearby pharmacy and it easy to get medications than to visit a hospital or to consult a doctor. In one cross-sectional study conducted at Kanchipuram found that most of the parents believe that they know the right dosage and dosing regimen of the medications they use and 71.6% patients used these medications because of doctor's instruction as per previous prescription, 12.2% parents know by reading the drug label on the back of the medicine strip/bottle and only 1 participant had agreed because of peer parents advice. In another one study conducted by Naaraayan et al found most common reasons to use OTC drugs were previous experience of efficacy of drugs, minor illness, lack of time and lack of money etc^{4,6,8}. In our study, over half of the mothers (51.09%) believed that their child's illness was minor and did not require a doctor's visit. A notable 35.90% opted for OTC drugs due to convenience, finding it quicker and easier than seeking professional care. Additionally, around 25% expressed concern that medical consultations could lead to hospital admissions, while 17.20% avoided long waiting times in clinics, highlighting potential accessibility issues. Financial barriers were also significant, with 14.30% of mothers mentioning the high costs of medical consultations and diagnostic tests. Furthermore, 6.40% turned to OTC drugs after previous prescriptions were ineffective, and 4.31% cited the risk of hospital-acquired infections as a reason for self-medication.

A study by Gupta et al. in 2018 reported that 55% of mothers relied on previous prescriptions when obtaining medications for their children, indicating a consistent trend in the practice of self-medication.⁹ In our study 53.23% of mothers relayed on old prescriptions. Pharmacists were identified as a common source of medication in our study, with 52.50% of mothers turning to them for advice. This finding corroborates research by Kaur et al., which found that 50% of parents consulted pharmacists for paediatric medications in the year 2020.¹⁰ In our study, the reliance on friends (43.88%) and other parents (26.61%) for information about medications reflects a concerning trend documented in the literature. A study by Sharma et al. in 2019 found that 40% of parents often consulted family and friends regarding medication decisions, highlighting the influence of social networks on health choices. This will raise significant concerns about the need for improved health literacy among parents to better navigate these informal channels of information.¹¹ The finding that 12.20% of mothers obtained medications through advertisements in our study was particularly relevant in the context of the rising influence of direct-to-consumer marketing. Studies have shown that advertising can significantly impact parental perceptions and behaviours regarding medication use, as it often emphasizes benefits without adequately addressing potential risks.¹²

CONCLUSION

Majority of mothers (69.50%) were using OTC drugs for their U5C. The

commonly used drugs were antipyretics (97.8%), cough and cold medications (79.10%) etc. Majority of the mothers (38.12%) believe that unless it is serious unless and until it is serious, OTC drugs can be taken from pharmacy. Majority of them were taking OTC drugs because illness was minor (51.09%) and the major source of information being old prescription (53.23%) and pharmacist(52.50%), etc.

Recommendations

Health education initiatives should be implemented to inform parents about the safe and effective use of OTC medications by the health care professionals. This includes information on indications, correct dosages, potential side effects, and the importance of following dosing guidelines. Parents should be educated about the signs of adverse reactions. Educational campaigns can be designed to improve health literacy related to medication usage.

Conflict Of Interest: Nil

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