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**DOCTORAL SCHOOL OF MEDICINE AND PHARMACY**

**ABSTRACT OF PhD THESIS**

**THE PRACTICE OF SELF-MEDICATION AND IMPLICATIONS IN PEDIATRIC  
PATHOLOGY-THE ROLE OF THE FAMILY DOCTOR**

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TÂRGU MUREȘ 2024

## **Context**

Contemporary medicine presents the therapist today with a set of challenges unexpectedly resilient to the usual measures of counteraction. Among these, the phenomenon of self-medication proves to be a challenge with elusive, partially effective solutions even in the most optimistic estimates. Often, parents choose to treat common symptoms in children without medical advice, mistakenly equating the increased frequency of a clinical manifestation with the triviality of the condition. They routinely use previously effective medications, generally relying on advice from outside the medical field. Additionally, many use the internet to obtain, verify, or confirm information related to their children's therapy, generating behaviors that have been proven to negatively affect the health of children in both the short and long term.

**The aim** of this research is to identify the attitudes and behaviors of individuals regarding self-medication in the particular case of the pediatric population, whose medication is initiated and administered by their caregivers (in this study, the parents).

## **Main objectives**

Our research aimed to analyze, both quantitatively and qualitatively, the most widespread models that lead parents to resort to self-medication for the children in their care. An important aspect considered was the identification of elements of vulnerability and/or informational approach of the adult, elements that can combat or facilitate the phenomenon of self-medication in the pediatric population. Equally, we evaluated how personal, familial, socio-economic, national, or international circumstances (e.g., the COVID-19 pandemic) can be grouped into patterns/types of additional risk for self-medication. A segment of the research focuses on the effects of exposure to medical information on risky health behaviors.

## **Methodology**

Considering the objectives, the research was conducted using both quantitative and qualitative methodologies on samples differing in socio-demographic aspects. The studies were carried out during the period 2019-2022, with the inherent difficulties of the pandemic period. Quantitative data provided information about frequency (the distribution of self-medication behaviors in the studied population), trends, and correlations (the prevalence of self-medication in the studied population according to age, education, medical knowledge, etc.), while the qualitative method focused on a deep understanding of self-medication (experiences, perceptions, and personal contexts). The collected data respects the principle of confidentiality, with participants remaining unidentifiable. The studies complied with Romanian legislation (Law 190/2018) and the General Data Protection Regulation (GDPR) 679/2016, being approved by the ethics committee of the Romanian Academy of Medical Sciences (no. 2 SNI /27.02.2019).

## **Study 1: Models and Factors Associated with Self-Medication in the Pediatric Population in Romania**

The research involved the collection and analysis of numerical data obtained from a sample of respondents, specifically urban parents. An electronic questionnaire was used for data collection. The questions were designed to obtain specific and measurable information about the variables of interest (attitudes and behaviors towards self-medication, types of symptoms that lead to it, classes of self-administered medications, and the context of their use, consumption of medical information). Out of 246 questionnaires distributed, we had a response rate of 98%. In our study, we aimed to demonstrate a statistically significant association between beliefs about self-medication and associated behaviors, and we investigated whether the incidence of self-medication is higher among parents who frequently face their children's health problems. The results highlight a high percentage (70%) of parents who use self-medication. There is a statistically significant relationship between parents' beliefs and their tendency to administer medications without medical advice. Parents who frequently resort to self-medication for their children believe it is a solution when healthcare services are hard to access ( $p = 0.000$ ), in cases of minor ailments ( $p = 0.000$ ), or when they do not have enough time ( $p = 0.020$ ). The results also revealed a statistically significant relationship between the likelihood of parental self-medication and the frequency of their children's health problems in the past six months ( $p = 0.004$ ).

Respondents are aware of the risks of administering medications without a prescription. The majority admit that there can be administration errors both in terms of the preparation (77%) and the dosage (60%), that self-

medication can mask the symptoms of a severe condition (64%), as well as the possibility of adverse reactions (51%).

## **Study 2: Self-Medication Behaviors During the Pandemic: A Qualitative Study on Mothers' Beliefs Regarding Self-Medication for Their Children**

In the next stage of the research, we delved into the patterns and factors influencing self-medication among parents. The inclusion criteria were met by 18 respondents. Interviews were conducted over the phone from September to December 2020. The study aimed to observe how the Covid-19 pandemic influenced self-medication in the paediatric population and to identify specific contexts influencing its use.

The results highlighted that during the pandemic, the majority of interviewees stayed in contact with their family doctor via phone or WhatsApp. Regardless of the situation, participants in this study did not resort to self-medication; telemedicine allowed them to manage their children's common ailments.

To assess attitudes toward paediatric self-medication, respondents were presented with three hypothetical situations:

1. Someone in their circle contacts the respondent for advice because their child has a fever.
2. Parents gave an antipyretic (paracetamol/ibuprofen) to a child with a fever of 39°C without medical advice.
3. Parents administered an antibiotic (amoxicillin-clavulanic acid) to a child with a fever of 39°C without medical advice.

When evaluating the first scenario, the most common advice was to contact the family doctor. A possible explanation for this correct attitude lies in a higher level of awareness regarding self-medication, correlated with medical authorities' regulations during the pandemic.

In the second scenario, there were two types of responses. On one hand, respondents stated that a temperature of 39°C is high and requires seeking medical advice (from the child's doctor or by going to the emergency room). On the other hand, some respondents agreed with giving paracetamol/ibuprofen without medical indication because their previous experience included a similar situation where self-medication worked. These responses showed that mothers occasionally rely on medical advice by simplifying and assimilating the present symptoms based on their personal experience with previous therapies for their children.

In the last scenario, the responses indicated that all mothers are aware that amoxicillin-clavulanic acid is an antibiotic and can only be administered correctly following a doctor's recommendation. None of them would recommend or have applied such medications declaratively.

## **Study 3: Evaluation of the Effects of Medical Information on Parental Self-Medication Behaviors: A Comparative Analysis**

The third study assessed the effects of exposure to medical warning information regarding the risks of treating children without medical prescription on parental attitudes towards self-medication. We used the health belief model. A total of 210 parents were included in the study, randomly divided into two groups (G1 and G2). In group G1, each participant received medical information over the phone regarding the dangers of self-medication. Group G2 received no specific information. All participants subsequently responded to the same questionnaire and the responses were compared between the two groups.

Based on the results, we can state the following: parents' beliefs regarding the use of over-the-counter medications are an important variable in explaining the different effects of exposure to medical warning information on the risks of self-medication. There is a relationship between satisfaction levels with the family doctor and perceptions of the risks of self-medication. Even though they generally hold negative attitudes towards self-medication and know it should be avoided in general, a significant percentage of parents responded that they cannot avoid it in specific contexts.

## **Conclusions**

Parents, declaratively, evaluate self-medication practices negatively but resort to self-medication when they are familiar with the symptoms and perceive the condition as minor. There is a significant influence of beliefs on their tendency to administer medications without medical advice. A satisfactory relationship with the family doctor (attention, the subjective perception of the parent/patient) serves as a solid communication bridge, beneficially certifying in controlling and limiting self-medication for children. Implementing adequate additional measures for education and impact assessment among parent communities is essential.

**Originality of the Thesis**

This study contributes to understanding patterns of paediatric self-medication and related beliefs among parents from a combined perspective of quantitative and qualitative analysis. The health belief model proves to be an efficient and refined tool for analysing the causes, circumstances, and prevention possibilities of self-medication. To our current knowledge, there is no other study conducted in Romania examining the cognitive factors of parental self-medication using this model.