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Original Research Article

Self-medication practice among children in Antananarivo, Madagascar

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ABSTRACT

Background: Self-medication is very common in pediatrics. Little is known about self-medication on children in Antananarivo. The main objective of this study is to evaluate the practice of self-medication on children by their mothers.
Methods: A cross sectional descriptive study was done by visiting homes. An interviewer-administered questionnaire was used to gather data on self-medication. Mothers were selected by simple random sampling.
Results: Out of the 383 mothers interviewed, 157 have practiced self-medication. The prevalence was 40.99%. The fever was the main symptom treated with paracetamol. On the other hand, the oral rehydration salt has been little used, 6.25% before the consultation. The inappropriate use of antibiotics was found in this study. Drugs were of illegal origin in 40.27% of the cases. The urgency was the main reason for self-medication. Over 80% of mothers knew the risks of self-medication. Thus, the high level of maternal education was among the factors influencing this practice, particularly for children older than 60 months.
Conclusions: Information to mothers about the responsible self-medication is necessary.

Keywords: Children, Medicine, Mother, Knowledge, Self-medication

INTRODUCTION

Self-medication is the fact of treating a real or imagined pathological situation by selected drugs without medical prescription, or no advice of a health professional in his area of competence.[1] Insufficient information on the use of medicines available without prescription can lead to inappropriate drug use, even to serious adverse drug effects among self-medicating children.[2] Despite these risks, self-medication is very common in pediatrics. A study in the United States including 8145 young children showed that 54% had received a self- medication 30 days before the survey.[3] In Nigeria, the prevalence of self-medication is 47.60%.[4] Little is known about self-medication on children in Antananarivo. The main objective of this study is to evaluate the practice of self-medication on children by their mothers.

METHODS

A cross-sectional descriptive study was done in in 4 pediatrics department of the city of Antananarivo, capital of Madagascar. An interviewer- administered questionnaire was used to gather data from mothers by recall on medicating practices on children in the preceding three months. The clarity of the questionnaire was ensured by a pre-test carried out in the hospital. Completing the questionnaire and interview took 10 to 15 minutes. We included mothers taking their children to be hospitalized or to see a doctor, willing to participate in

the survey. The selection of mothers was made by simple random sampling on working days of the week. We excluded health workers (doctors, nurses, midwives, pharmacists) who have the skills and the right to give medical advice, prescribe and / or advise on the use of medication. The variables studied were: sociodemographic characteristics of mothers (age, educational level, and family status), age of the child who received the self-medication, symptoms and / or signs that require medication, the nature of the drugs used (trade mark, pharmaceutical form and dose), the source of the drugs consumed, the reason motivating the practice of self-medication, the sources of information and knowledge of the risks. The data were analyzed on epi-info 7. We used the Fisher exact test to determine the association between the practice of self-medication and the study variable. P values <0.05 were considered significant.

RESULTS

Out of the 383 mothers interviewed, 157 have practiced self-medication, a prevalence of 40.99%. The average age of self-medicated children was 31.43±42.70 months old with a minimum of one month old and a maximum of 168 months old. More than half of children older than 60 months were self-medicated (p=0.04). Sociodemographic characteristics of mothers are described in Table 1.

Table 1: Sociodemographic characteristics of mothers.

	Number (n)	Proportion (%)	p
Age (years)			
< 30	91	38.72	ns
>30	66	44.59	
Educational level			
Illiterate	9	5.73	ns
High school	101	38.85	
University	47	47.47	
Profession			
Housewife	59	40.97	ns
Employee	76	38.38	
Senior executive	22	53.65	
Total	157	100	

Table 2: Characteristics of drugs.

	Number (n)	Proportion (%)
Galenic form		
Syrup	73	46.50
Tablet, capsule	68	43.31
Suppository	4	2.55
Powder	12	7.64
Dose selection		
Weight	68	43.31
Previous prescription	4	2.55
Age	37	23.57
Overall condition	4	2.55
Severity of symptoms	12	7.64
Others	32	20.38

Regarding symptoms motivating self-medication prior consultation, fever was the reason for 92 mothers (63.89%), cough and respiratory problems for 21 mothers (21%), headache for 12 mothers (8.39%), diarrhea for 11 mothers (7.69%). Other symptoms were abdominal pain (n = 2), skin problems (n = 1), intestinal worms (n = 1). Before hospitalization, the symptoms were fever (42.86%), diarrhea (21.43%), cough and breathing difficulty (10.71%), headache (10.71%), abdominal pain (3.57%), vomiting (3.57%). Table 3 shows the drugs used for self-medication.

Table 3: Used drugs.

	Before consultation		Before hospitalization	
	n	%	n	%
Paracetamol	98	68.05	16	57.14
Amoxicillin	16	11.11	4	14.30
Metronidazole	5	3.47	1	3.57
Cotrimoxazol	4	2.77	2	7.14
Oral rehydration salt	9	6.25	3	10.71
Non-hormonal anti-inflammatory	5	3.47		
Vitamins	3	2.08		
Others	3	2.08	2	7.14

The reasons that motivate self-medication were: emergency treatment (63.69%), experience of a similar symptom (32.48%), the high consultation fees (10.83%),

considered a benign disease (10.83%). Note that multiple answers were possible. Information sources on the use of medicine are reported in Table 4.

Table 4: Sources of information.

	Number (n)	Proportion (%)
Doctor	88	57.52
Household member, friends and relatives	58	37.91
Package leaflet	6	3.92
Book, newspapers	2	1.31
Internet	4	2.65
Media	2	1.31
Pharmacist	4	2.63
Others	1	0.66

Eighty-one percent of mothers surveyed knew that self-medication has risks and knowing that reduced significantly self-medication (p = 0.00001). The elements mentioned were wrong dose (64.71%), inadequate treatment (60.78%), and the risk of worsening the disease (46.41%), adverse reactions and allergies (24.84%).

DISCUSSION

The survey we conducted was done to a sample of 383 mothers. However, these mothers may not express the reality of their practice. The study also may not reflect data on community self-medication.

The prevalence of self-medication in this study is small compared to that observed in Cotonou: 68.42% of the 152 children studied. Indeed, in Benin, self-medication is common. It concerns all specialties in all age groups.[5] In Sri Lanka, 85% of mothers reported having self-medicated their children at least once in the previous three months.[6] The main reason for this practice could be the unavailability of sufficient financial resources for a medical consultation. Other motives as lack of time or consideration of illness aren't serious enough to warrant a visit to the doctor.

Fever was the predominant symptom in our study followed by pain: headache and abdominal pain. Thus, analgesics / antipyretics such as paracetamol were the most used drugs. A study in urban Congolese area revealed that self-medication applied to the symptoms but not to the cause of the disease. The fever was in the front row (90, 32%).[7] In France, the pain was mentioned in 30% of cases. The most cited reasons were headache, teething, and abdominal pain.[8] This self-medication with antipyretics / analgesics is justified as in pediatric, fever is very common. It can have harmful effects in infants and young children like hyper thermic seizures and dehydration.[9] About antibiotics, 11% of parents self-medicated their child with antibiotics in France.[8] Present results reported a rate of 17.36% for self-medication prior consultation and 25% before hospitalization. In 2010 in Mongolia, 42.30% of children were self-medicated with antibiotic within the 6 months preceding the study, and amoxicillin was the most common used antibiotic (58%). The duration of taking antibiotics was 3 to 5 days and 8% of children were treated with two antibiotics not prescribed simultaneously.[10] In India, the demands of antimicrobial drugs were very high for all reported diseases.[11] Use of antibiotics in children without a proper indication, as seen in this study, may result in development of hazardous bacterial resistance.

Several factors influence the practice of self-medication. In our study, it was the mature mothers. In Benin, most mothers (59%) were 20 to 34 years old.[12] For Kiniffo I.R. and al, the average age of mothers was 28 years old.[13] In India, people of all socio-demographic categories were practicing self-medication routinely. This can be explained by the fact that many drugs are freely available with a wide range of alternatives with different drugs.[14] On the other hand, a study in Senegal demonstrated that the academic level of mothers was a factor promoting self-medication for their child.[15]

In Germany, the practice of self-medication was closely related to the age of the child in particular the teenagers, their health, the household with higher income and mothers with higher education levels.[16] Ramanisa A also confirmed that mothers with a higher education level, University level or High School level, were the role model of parents who practiced self-medication.[17] These aged mothers with a high level of education were likely gained experience and knowledge enabling them to resort to this practice of self-medication.

CONCLUSION

This work on the practice of self-medication in children has revealed that self-medication was frequent in pediatrics. Fever was the first symptom subject of self-medication. Irrational use of antibiotics including amoxicillin, metronidazole and cotrimoxazole was found. The levels of education of mothers influenced the practice and were the children older than 60 months were significantly more concerned. The vast majority of reasons given were the emergency. The illegal sale of medicine requires a regulatory control.

The findings of our study suggests the importance of educating the mothers on appropriate use of drugs in children as well as the governments of developing countries formulating and implementing legislations regarding the sale of drugs, preventing the prescription drugs been used in self-medication.

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