

Socio demographic factors of parental self-medication among children under 15 years, at the Teaching Hospitals of Lomé, Togo

ABSTRACT :

Aims: To identify the socio demographic factors and reasons of parental self-medication for hospitalized children under 15 years. Study design: Departments of Pediatrics (Sylvanus Olympio and Campus Teaching Hospitals) of Lomé-commune Region, between June 18th to July 18th, 2016. Methodology: We included 204 parents (or relatives) with 175 respondents (16 men, 159 women; age range 17-65 years, mean age was 32 years $\pm$ 7.5) who practiced self-medication in inpatients children (105 females, 70 males; age range 0-14 years). Eligible parents (or relatives) were interviewed, using a questionnaire on self-medication and its determinants, and pretested on a sample of ten parents. Data was entered, the proportions (%) were calculated; the results were analyzed using SPSS software Statistics. **Results:** Out of 204 parents or relatives, 175 respondents resorted to self-medication to treat children in case of illness (85.8 %). The results show that mothers are more represented (151 out of 175) in self-medicating for children (86.3%). The age of parents was not associated with self-medication ($p = 0.79$ for father; $p = 0.67$ for mother). Absence of health insurance ($p = 0.028$ for father) and low education level ($p = 0.026$ for father; $p = 0.007$ for mother) were significantly associated with self-medication. Parent's self-medication for children tends to decrease when the child's age increases among the siblings. The two main reasons of parental self-medicating children were lack of financial resources (57.7%) and self-medication as first line parental intervention in case of children's illness (33.7%). **Conclusions:** In Togo, self-medication is common in children. Expanding health coverage, health education, literacy are needed to reduce this practice regarding children vulnerability and potential adverse effects.

.Keywords: parents, children, self-medication, socio-demographic factors, motives of self-medication, pediatric departments, teaching hospitals.

1. Introduction

People use medicines and traditional remedies to treat themselves or their relatives out of medical prescriptions (1). This phenomenon is called self-medication. The term "self-medication for the children" seems inadequate because the prefix "self" is related to a concept

31 of autonomy. However, the fact that autonomy is lacking in the children mainly in early ages,
32 self-medication use reverts to the parental or a third person initiative. Child self-medication
33 constitutes a problem of public health worldwide, especially in sub-Saharan Africa. The
34 prevalence of this practice is 68% in Europe and varies between 40 and 95% in developing
35 countries according to several studies (1): 59.5% according to a study in Senegal (2), 94.3%
36 in a survey in Nigeria concerning the treatment of ocular pathologies especially among
37 children (3). In regard to the particular susceptibility of children, self-treatment could expose
38 them to numerous adverse reactions. In Togo little data exist in relation to children self-
39 medication by parents. The lack of data on this topic motivated our study. The objective is to
40 determine the socio-demographic characteristics of the respondents, **socio-demographic**
41 **determinants and reasons of parental** self-medication practice on children under 15 years in
42 Lome.

43 **2. Methodology**

44 **2.1. Design/ethics**

45 A descriptive cross-sectional survey was conducted from June 18 to July 18, 2016 in the two
46 Teaching Hospitals (inpatient pediatric departements) of Lome-commune region. The survey
47 authorization was supplied by the ministry of health and social protection and by the staff of
48 the two Teaching Hospitals of Lome. The verbal parental consent was obtained after
49 providing them with explanations on the objectives and the interest of the survey.

50 **2.2. Eligible Population**

51 We included all parents of any hospitalized child (age under 15 years) and all accompanying
52 person (or relative) living with the hospitalized child and overcoming the conditions in which
53 the child is taken care in case of illness at home who agreed with the survey. Thereafter of
54 this study, we considered the true parents (father and mother) of the children since the

55 treatment decision devolves to both parents. For each child, we collected the information
56 (age, educational level, employment status, child's rank in the sibling ...) of his/her father and
57 mother even if they were absent during the survey. Since the caregivers of some children
58 were other than the parent, but very close to them and had the useful information. In order to
59 identify the determinants that influence parental self-medication, we went back to data on
60 true parents (204 fathers and 204 mothers).

61 All the parents of a hospitalized child (age ≥ 15 years) and all parents of a hospitalized child
62 with age < 15 years refusing to participate in the survey and finally, all accompanying person
63 (or relative) who don't overcome the conditions of management of the child's illness in case
64 of morbidity at home were excluded.

65 **2.2.1. Sampling**

66 The sampling was non probabilistic, reasoned with an exhaustive inventory of eligible
67 population in a period of 30 days, at the rate of 15 days by the Teaching hospital. The size of
68 the sample was determined by the formula of Schwartz with one confidence interval of 95%.

69 **2.3. Data Collection**

70 An anonymous structured questionnaire, on the self-medication practice, has been
71 administered directly to the parents (or relative) of the children under 15 years, hospitalized
72 in the pediatric departments. The content of the questionnaire was previously pre-tested on a
73 sample of 10 parents to value its understanding and acceptability. The questions were open or
74 closed with only one answer or multiple choices. The data collection concerned: the socio
75 demographic characteristics of the parents (age, education, profession), rank of the children
76 in the sibling and the reasons of the self-medication to the children under 15 years in the city
77 of Lome.

78 **2.4. Statistics**

The data have been analyzed, in a descriptive way and then by the test of the Chi2 with the SPSS software, to identify a link between the main variable" self-medication" and the parental socio demographic characteristics, parents' educational background and profession.

3. Results

In total, 204 parents (or relatives) have been interviewed among whom 175 respondents (85.8%), 159 females (90.9 %) and 16 males (9.1%) recognized to have practiced the self-medication for their children. The mean age is 32 years ± 7.5 , the median age is 31years, the sex-ratio 8.3 and the extreme ages are 17 and 65 years.

3.1. Socio demographic characteristics of the respondents

The mothers who resorted to the children's self-medication as first line therapeutic intervention in case of illness of their offspring were 86.3% (table 1).

Table 1: Socio demographic characteristics of respondents

Respondents	Self-medication		Total, n (%)
	Yes, n (%)	No, n (%)	
Father	16 (9.1)	3 (10.3)	19 (9.3)
Mother	151 (86.3)	24 (82.6)	175 (85.8)
Relative	8 (4.6)	2 (6.9)	10 (4.9)
Total	175 (85.8)	29 (14.2)	204 (100)

3.2. Socio demographic determinants of parental self-medication for children

Thereafter, we considered the true parents (175 couples self-medication practitioners (fathers and mothers) and 29 couples no self-medication practitioners) since the treatment decision devolves to both parents.

Among the fathers and the mothers, respectively 49.1% and 68.6% of the age group of 15-35 years practiced the self-medication against 50.9% of the fathers and 31.4% of the mothers with age group more than 36 years (table 2).

Table 2: Repartition of self-medication practice according to parents' age groups

	Age groups (year)	Self-medication		Total, n (%)	p
		Yes, n (%)	No, n (%)		
Father	15 - 35	86 (49.1)	15 (51.7)	101 (49.5)	0.79
	≥ 36	89 (50.9)	14 (48.3)	103 (50.5)	
Mother	15 - 35	120 (68.6)	21 (72.4)	141 (69.1)	0.67
	≥ 36	55 (31.4)	8 (27.6)	63 (30.9)	

Table 3 shows that the levels of education of the parents having practiced children self-medication are less or equal secondary level for 88% of the fathers and less or equal primary level for 70.3% of the mothers.

Table 3: Repartition of self-medication practice according to parental education level

	Education level	Self-medication		Total, n (%)	p
		Yes, n (%)	No, n (%)		
Father	≤ Primary level	0 (0.0)	0 (0.0)	0 (0.0)	0.026
	Secondary level	154 (88.5)	21 (72.4)	175 (85.8)	
	Universitary level	21 (12.0)	8 (27.6)	29 (14.2)	
Mother	≤ Primary level	123 (70.3)	13 (44.9)	136 (66.6)	0.007
	Secondary level	52 (29.7)	16 (55.2)	68 (33.3)	
	Universitary level	0 (0.0)	0 (0.0)	0 (0.0)	

The status of parents employment of the children having received a self-medication include salaried and retirees and other socio-professional groups namely: traders, masons, woodworkers, welders, scrap merchants, farmers, etc for the fathers (77.7%) and dressers, seamstresses, housewives, dealers etc for the mothers (90.3%) (table 4).

Table 4: Repartition of self - medication practice according to parents' employment status

Parents' employment status		Self-medication		Total, n (%)	p
		Yes, n (%)	No, n (%)		
Father	Salaried and retirees ¹	39(22.3)	12 (41.4)	51 (25.0)	0.028
	OSPG ²	136 (77.7)	17(58.6)	153 (75.0)	
Mother	Salaried and retirees ¹	17 (9.7)	3 (10.3)	20 (9.8)	NA ³
	OSPG ²	158 (90.3)	26 (89.7)	184 (90.2)	

¹ Salaried and retirees signing on the budget of the state; ²Other socio professional groups; ³No adapted

The first three ranks of the sibling were those for who the self-medication has been practiced at the rate of 36.0%, 26.9% and 13.1% respectively (table 5).

Table 5: Repartition of self-medication practice according to the rank of children in the sibling

Rank in the sibling	Self-medication	
	N	Frequency (%)
First	63	36.0
Second	47	26.9
Third	23	13.1
Fourth	15	8.6
Fifth	18	10.3
Sixth	6	3.4
Seventh	3	1.7
Total	175	100

3.3. Motives of parental self-medication for children

The financial difficulties for accessibility to healthcare (57.7%) and the self-medication as first resort to the care (33.7%) constitute the two main motives of the self-medication in the children followed by lack of time to visit health providers (7.4%) (table 6).

127 **Table 6:** Reasons of children's self-medication by parents

Reasons of parental self-medication	Parents (n = 175)	
	n	Frequency (%)
Lack of time	13	7.4
Lack of financial resources	101	57.7
Self-medicating as first resort	59	33.7
Husband/wife absent at the time of child's illness	2	1.1
Total	175	100

129 **4. Discussion**

130 Our study is the first of its kind in Togo. As reported by Jensen et al. (4) the number of
 131 published works about child self-medication is small, so this limits the data for comparison
 132 with our findings. Our objective was to determine the socio-demographic factors of parental
 133 self-medication for children. The choice to carry out the survey in the in-patient pediatric
 134 departments of the Teaching Hospitals is explained by the fact that most serious cases are
 135 referred.

136 The results of our study indicate that the use of self-medication was found among
 137 85.8% of the respondents (parents and relatives). This prevalence is similar to that reported
 138 by Desabliaux with 80% in a survey conducted in scholar sitting (5) and higher than that of
 139 Jamaa et al., 62.5% among total delivered treatments prescription for paediatric population
 140 (6).

141 The mean age of the participants of the present study is 32 years with extremes of 17
 142 to 65 years. In our survey, the age and sex of the parents didn't influence the practice of the
 143 self-medication in the children ($p = 0.79$ for fathers and 0.67 for mothers). However, Parents,
 144 especially mothers (61%) were mostly responsible for self-medication (6); Escourou et al. (7)
 145 reported 74% of mothers against 2% of fathers. The high percentage of mothers who self-
 146 medicate in children could be explained by the fact that they are at the forefront of
 147 interventions in case of health problems of their children.

Children aged between 6 and 10 years were self-medicated by 91.9% compared to 82.8% for children under 5 years of age. These latter are generally more vulnerable. This implies that some parents are aware of this vulnerability and have feared self-medication among children in this age group.

Our results showed a statistically significant relationship between self-medication practice and parents' educational level ($p = 0.026$ with OR: 2.79, 95% CI: 1.09, 7.10) for fathers and ($p = 0.007$ with OR: 2.91, 95% CI: 1.30, 6.48) for mothers. These results indicate that the majority of fathers with the secondary school background or less are 2.79 times more likely to self-medicate than those with a university level. Similarly, the majority of mothers with primary education level or less have 2.91 times more likely to self-medicate than those with education level equal or above secondary school. Finally, less the parents are educated, the more they practice self-medication. Contrary to these findings, Tobi et al.(8) found a high parental education level to be associated with increased child over the counter drug use and, Du and Knopf (9) showed more frequent child self-medication in families with well-educated mothers.

There is a statistically significant difference between the practice of self-medication and the parents' employment status of child's father ($p = 0.028$). Indeed, 22.3% of all salaried, and retirees who are on the state budget have practiced self-medication against 77.7% for other socio-professional groups. This difference is explained by the fact that in recent years the Togolese State has introduced partial health insurance for all salaried and retirees. The National Institute of Health Insurance (INAM) supports public salaried, retirees, their spouses and four of their children under 21 years. Previous similar studies point out that lack of health insurance encourages self-medication (10, 11).

In addition, our study reveal that the practice of self-medication by parents tend to decrease when children's rank increases in siblings. That can be explained by the results

and/or outcomes of previous experiences of children self-medicating. Our findings corroborate that of other authors who state that parental attitudes and experience with medication seem to affect their willingness to administer medicine to their children (12, 13).

Two main reasons that motivated the self-medication are financial inaccessibility to the care for more than 50% of participants and the self-medication as first resort of care for 1/3 participants followed from afar by the lack of time. Another favourable factor is the sale of drugs on the illicit market or by itinerant sellers. Related to previous study, the most common reasons for self-medicating were convenience (82.3%), a friend and/or relative's recommendation (15.2%), and avoiding the cost of doctors' visits (2.0%) for self-medicating for skin diseases among children who were observed at the dermatology clinic (14).

Paradoxically, 98.3% of the interviewees reported that this practice is bad, whereas most patients had reported dissatisfaction with the results (95.1%)(14). Furthermore, recent research indicates that parents' own health and medicating behaviour influence the self-medication of their children (4).

5. Conclusion

Our study shows that self-medication among children by parents is a widespread practice. Mothers by their role in the household are the main actors. The phenomenon is increasing when parental education is low (secondary for fathers and primary for mothers). In the regard to the father's profession, there is a statistically significant difference in the practice of self-medication between salaried and retirees (beneficiaries of the INAM) and other socio-professional categories. On the other hand, parents tend to use less self-medication when the child's rank increases in the siblings, probably for fear of unintended consequences for the child. Among the reasons that can explain the self-medication, the lack of financial resources, the self-medication like strategy of first resort to the care and far behind the lack of time. Given the risk to children and their particular susceptibility, self-medication in our context is

not to be encouraged. It can delay the moment of the consultation and therefore to aggravate the pathology.

Consent :

The verbal parental consent was obtained from parents after providing them with explanations on the objectives and the interest of the survey.

Ethical approval

The survey authorization was supplied by the Ministry of Health and Social Protection and by the staff of the two Teaching Hospitals of Lome.

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