RESEARCH ARTICLE

Maternal knowledge and practices regarding childhood acute respiratory infections in Lubumbashi, DRC

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Abstract: **Introduction** Acute respiratory infections (ARIs) are a public health problem in the Democratic Republic of Congo (DRC) and cover a range of infections, from the common cold to pneumonia. ARIs are the leading cause of death in children under-5, with the majority of deaths occurring in developing countries. **Objective** To assess the knowledge and home-based practices used by mothers of children under-fives during episodes of ARI. **Methods** A cross-sectional study was carried out among mothers of children under-five who were selected in Lubumbashi (DRC). A pre-tested questionnaire administered by researchers was used for data collection. **Results** Of the 582 mothers interviewed, the majority had a good knowledge of the symptoms (87.46%), danger signs of severe ARIs (95.02%) and a good knowledge of the modes of transmission of ARIs (68.73%). Knowledge level was significantly associated with age and education level regarding modes of transmission. Three hundred and sixty-eight (63.23%) mothers indicated that they use traditional remedies: 252 (43.30%) apply palm oil to their children's noses and as many mothers (n = 252; 43.30%) apply mentholatum ointment to the nose. Almost all of the mothers (n = 579; 99.48%) indicated that they dress the child with several layers of clothes. Oral self-medication was used by 575 mothers (98.80%). **Conclusion** The mothers' knowledge of modes of transmission, symptoms and danger signs of ARIs was good in the community studied in Lubumbashi. Knowledge level was associated with age and level of education regarding modes of transmission.

Keywords: acute respiratory infection, child, maternal knowledge, maternal practices

1   Introduction

In 2016, about 5.6 million children died before reaching their fifth birthday.[1] Of all childhood illnesses, acute respiratory infections (ARIs), malnutrition and diarrheal diseases are the leading causes of morbidity and mortality in developing countries.[2] The World Health Organization (WHO) estimates that without any intervention, 69 million children under 5 will die between 2016 and 2030,

nearly half of them in sub-Saharan Africa and a third in South Asia[1]. The Democratic Republic of Congo (DRC) is one of 5 countries that will accumulate more than half of the global burden of under-5 mortality[1]. ARIs are the second leading cause of under-five mortality worldwide[2]. The majority of deaths from ARIs are preventable and millions of lives can be saved each year with correct and early diagnosis, as well as timely access to quality medical care.

Children under 5 years of age with ARI frequently have fever and cough and may develop rhinorrhea. Some children may develop breathing difficulties, produce abnormal sounds (*eg* growling), become cyanotic, or even convulse[3,4]. These symptoms are usually clear indicators of an ARI and can be helpful in early diagnosis.

Several cultural and socioeconomic factors influence parents' approach to home care of children under-5 with ARI[5–7]. In some cultures, children with breathing difficulties undergo herbal scarification. Cough is often seen as an illness in itself rather than a symptom of an underlying condition, and traditional remedies can be used as a treatment[8].

To improve the results of community practice, parents or caregivers must be able to recognize the early symptoms of ARIs and avoid the use of potentially harmful home or traditional remedies. For the mother, who is the primary caregiver of the child in almost all societies, her knowledge, attitudes and practices towards these diseases are an important determinant of the health and survival of the child[5, 6]. The approaches to managing episodes of ARIs in young children with parents are poorly documented in Lubumbashi to date.

The present study aims to assess maternal knowledge and practices of ARIs in children under-five in Lubumbashi, Democratic Republic of Congo.

2 Methodology

2.1 Setting, design and period of study

The study was conducted in the city of Lubumbashi, in the Haut-Katanga province. Lubumbashi is the capital of the Haut-Katanga province, located in the south-east of the DRC. We conducted an analytical cross-sectional study based on a community survey of mothers of children under-five. The investigation took place over a period of October 1st to November 30th, 2019.

All the respondents gave their consent during the data collection. Women of childbearing age who were not having children as well as those with children under the age of five with chronic diseases or birth defects (these conditions may increase the rate of ARIs in this group and affect the maternal experience compared to that of the general population) were excluded from the study.

2.2 Sample size determination and sample technique

The study looked at households with at least one child under the age of five. The sample size was calculated considering a confidence level of 95%, a prevalence of ARIs of 6.7% based on the results of the Demographic and Health Survey in the DRC in children under-5[9] and an accuracy of 5%. A cluster effect of 2 and a household non-response rate of 20% were also used, so that 685 mothers were to be included in the sample.

If more than one household with a child under five resided in a sample house, a simple ballot was used to select a single household. Likewise, if no child under-five resided in a selected house, if the parent had not agreed to be interviewed or was not available, the next available house with a child under-five was been selected.

In the case of households with more than one child under five, mothers were asked to base their responses only on experiences with the youngest.

2.3 Data collection

Data were collected using a structured pre-tested questionnaire. This questionnaire latter was first drawn up in French, translated into Swahili, then re-translated into French to check its consistency. For the data collection process, a team of five doctors and five independent investigators was formed. Medical doctors were selected as supervisors.

The team's training spanned three days before and after the pre-test. This focused on interview techniques, the purpose of the study and ethical aspects. The principal investigator and supervisors monitored the site daily throughout the data collection period and verified each questionnaire daily to ensure completeness and consistency.

A pre-test was carried out among 5% of the populations sampled with children under-five.

The questionnaire was assessed for face and content validity by experts in the Department of Public Health of the University of Lubumbashi after it was pretested. The self-administered, semi-structured, pretested questionnaires were printed on paper and were self-administered. The purpose of the study was explained to the respondents and their verbal consent to participate in the study was obtained before the questionnaires were administered. The confidentiality of the participants was guaranteed. The questions assessed the self-medication practices in the past one month in order to minimize recall bias.

2.4 Study variables

Three sections of data followed to determine: socio-demographic characteristics of the respondents (section A), Mothers' knowledge of various aspects of ARIs (section B), and Traditional and modern practices followed by mothers during an episode of ARIs in the child (section C).

According to the WHO definition[8], a child was considered to have an ARI when he suffered from any of the symptoms such as a runny nose, cough with or without fever, sore throat, difficulty breathing with or without rapid breathing, noisy breathing and / or chest tightness present at the time of the visit or in the past month. A new episode was considered when the child had at least three consecutive days free from the disease.

2.5 Data analysis

The data collected was entered in Microsoft Excel 2013 and was checked to detect inconsistencies and errors. The analyses were carried out using STATA software (version

12). Frequencies and means were determined for the socio-demographic characteristics of the respondents.

In a bivariate analysis followed by a multivariate analysis, Pearson's Chi-square tests were used to determine the association between certain socio-demographic characteristics of mothers and their knowledge on ARIs' modes of transmission, symptoms of ARIs as well the danger signs of severe ARIs.

Knowledge of ARIs was assessed based on questions asked in various subsections regarding modes of transmission, symptoms, and danger signs of ARIs. The sections regarding modes of transmission, symptoms and danger signs of ARIs were scored out of five points each, with a correct answer option for each of the questions asked.

A total of 3 or more points out of 5 was considered to reflect good knowledge and a total of less than 3 points was interpreted as showing poor knowledge. A value of p < 0.05 was considered statistically significant.

2.6 Ethical considerations

Institutional approval for the study was given by the medical ethics committee of the University of Lubumbashi (Approval number: UNILU/CEM/172/2019). The consent of the community was obtained from the municipal authorities of each municipality surveyed. All respondents gave their written consent to participate.

3 Results

Of a total of 685 mothers selected, 582 agreed to participate in the survey, for a response rate of 84.96%. Of the 582 mothers, 400 (68.73%) had a good knowledge on ARIs' modes of transmission and 182 (31.27%) had poor knowledge (Table 1).

Only 73 mothers (12.54%) had poor knowledge of ARIs' symptoms, the rest (87.46%) all showing good knowledge. Regarding knowledge of the danger signs of severe ARIs, 553 (95.02%) mothers showed good knowledge, while 29 (4.98%) mothers had poor knowledge.

Table 1. Knowledge level on mode of transmission, symptoms and danger signs of acute respiratory infections

Knowledge level	Number (N = 582)	Percentage
Mode of transmission		
Good	400	68.73
Poor	182	31.27
Symptoms of ARIs		
Good	509	87.46
Poor	73	12.54
Danger signs of severe ARIs		
Good	553	95.02
Poor	29	4.98

Notes: Good define as ≥ 3 points out of 5; Poor define as < 3 points out of 5

3.1 Knowledge of the modes of transmission of acute respiratory infection

The associations between socio-demographic characteristics and knowledge level on ARIs' modes of transmission are presented in Table 2. The majority of mothers had a good knowledge on ARIs' modes of transmission, regardless of their age (60.19% and 78.39% in mothers aged ≤ 30 years and > 30 years, respectively). The association between maternal age and knowledge level on ARIs' modes of transmission was statistically significant (p = 0.008), indicating that mothers aged ≤ 30 years were significantly less informed compared to those aged > 30 years (aOR = 2.87; 95% CI = 1.18-2.96).

We did not find a significant association between marital status and knowledge level on ARIs' modes of transmission (p = 0.881), although the proportion of poor knowledge is higher among mothers living alone (30.96%) than among married mothers (33.87%).

The proportions of poor knowledge were 52.63%, 23.94% and 22.22% among mothers with low education level (none / primary), secondary level and university level respectively. The association between maternal education level and knowledge level on ARIs' modes of transmission was statistically significant (p = 0.000). A large proportion of mothers with a low education level had poor knowledge than in the group of mothers with university education level (aOR = 3.28; 95% CI= 1.54-6.98).

About 28% of the working mothers and almost 34% of the non-working mothers were not familiar with ARIs' modes of transmission. The association between professional occupation and knowledge level on ARIs' modes of transmission was not statistically significant (p = 0.750).

Fewer than 23% of the mothers with 5 or more children had poor knowledge on ARIs' modes of transmission, while these proportions were over 34% in the other groups of children's number. No statistically significant difference was noted when comparing these different proportions (p > 0.05).

The presence of a smoker in the household did not influence maternal knowledge level about ARIs' modes of transmission (p = 0.627).

3.2 Knowledge level of symptoms of acute respiratory infections

The associations between socio-demographic variables and knowledge level of ARIs' symptoms are described in Table 3.

The proportions of poor knowledge were 14.24% and 10.62% among mothers aged ≤ 30 years and > 30 years,

Table 2. Socio-demographic characteristics and maternal knowledge level on modes of transmission of acute respiratory infections

Variable	Total (N = 582)	Poor (n = 182)	Good (n = 400)	Crude OR [CI 95%]	p-value	Adjusted OR [CI 95%]	p-value
Age							
≤30 years	309	123 (39.81%)	186 (60.19%)	2.40 [1.66-3.46]	0.000**	2.87 [1.18-2.96]	0.008**
>30 years	273	59 (21.61%)	214 (78.39%)	1.00		1.00	
Marital status							
Married	520	161 (30.96%)	359 (69.04%)	1.00		1.00	
Single	62	21 (33.87%)	41 (66.13%)	1.14 [0.65-1.99]	0.747	1.05 [0.56-1.97]	0.881
Education level							
None/Primary	152	80 (52.63%)	72 (47.37%)	3.89 [1.90-7.96]	0.000**	3.28 [1.54-6.98]	0.002**
Secondary	376	90 (23.94%)	286 (76.06%)	1.10 [0.56-2.18]	0.782	0.89 [0.43-1.97]	0.754
University	54	12 (22.22%)	42 (77.78%)	1.00		1.00	
Professional occupation							
Non-working	316	107 (33.86%)	209 (66.14%)	1.00		1.00	
Working	266	75 (28.20%)	191 (71.80%)	0.77 [0.54-1.09]	0.142	0.93 [0.63-1.39]	0.750
Children's number							
1	83	33 (39.76%)	50 (60.24%)	1.00		1.00	
2-4	302	104 (34.44%)	198 (65.56%)	0.79 [0.48-1.31]	0.369	0.93 [0.53-1.61]	0.787
≥5	197	45 (22.84%)	152 (77.16%)	0.45 [0.26-0.78]	0.001**	0.62 [0.31-1.24]	0.18
Presence of a smoker in the household							
No	564	178 (31.56%)	386 (68.44%)	1.00		1.00	
Yes	18	4 (22.22%)	14 (77.78%)	0.62 [0.15-2.01]	0.606	0.74 [0.22-2.44]	0.627

Notes: * p < 0.05, ** p < 0.01

Table 3. Socio-demographic characteristics and maternal knowledge level on symptoms of acute respiratory infections

Variable	Total (N = 582)	Poor (n = 73)	Good (n = 509)	Crude OR [CI 95%]	p-value	Adjusted OR [CI 95%]	p-value
Age							
≤30 years	309	44 (14.24%)	265 (85.76%)	1.00		1.00	
>30 years	273	29 (10.62%)	244 (89.38%)	0.72 [0.43-1.18]	0.189	0.84 [0.45-1.55]	0.573
Marital status							
Married	520	66 (12.69%)	454 (87.31%)	1.00		1.00	
Single	62	7 (11.29%)	55 (88.71%)	0.87 [0.38-2.00]	0.753	1.01 [0.42-2.42]	0.988
Education level							
None/Primary	152	17 (11.18%)	135 (88.82%)	1.00		1.00	
Secondary	376	51 (13.56%)	325 (86.44%)	1.25 [0.69-2.23]	0.460	1.27 [0.70-2.30]	0.422
University	54	5 (9.26%)	49 (90.74%)	0.81 [0.28-2.31]	0.694	0.90 [0.30-2.66]	0.849
Professional occupation							
Non-working	316	47 (14.87%)	269 (85.13%)	1.00		1.00	
Working	266	26 (9.77%)	240 (90.23%)	0.62 [0.37-1.03]	0.064	0.66 [0.39-1.13]	0.130
Children's number							
1	83	12 (14.46%)	71 (85.54%)	1.00		1.00	
2-4	302	40 (13.25%)	262 (86.75%)	0.90 [0.45-1.81]	0.775	1.01 [0.48-2.12]	0.984
≥5	197	21 (10.66%)	176 (89.34%)	0.71 [0.33-1.51]	0.368	0.91 [0.36-2.27]	0.842
Presence of a smoker in the household							
No	564	72 (12.77%)	492 (87.23%)	1.00		1.00	
Yes	18	1 (5.56%)	17 (94.44%)	0.40 [0.01-2.64]	0.363	0.46 [0.06-3.56]	0.456

respectively. The association between age group and knowledge level on ARIs' symptoms was not statistically significant (p = 0.573).

The proportion of married mothers (12.69%) with poor knowledge level on ARIs' symptoms was comparable to that of single mothers (11.29%). There was no statistically significant association between knowledge level and marital status (p = 0.988).

Relatively large numbers of mothers showed a good knowledge on ARIs' symptoms, regardless of their level of education: a comparable proportion of mothers with no / primary education level showed poor knowledge level (11, 18%) compared to mothers with secondary education level (13.56%) or university education level (9.26%). The association between maternal education level and knowledge level on ARIs' symptoms was not

statistically significant (p > 0.05).

The relationship between professional occupation and knowledge level on ARIs' symptoms was not statistically significant (p = 0.130); 14.87% of the non-working mothers showing poor knowledge level against 9.77% of working mothers (aOR = 0.66; 95% CI = 0.39-1.13).

Children's number and presence of a smoker in the household showed no significant association with maternal knowledge level in this category of knowledge (p = 0.456).

3.3 Knowledge of the danger signs of severe acute respiratory infections

The majority of the mothers had good knowledge, regardless of their age (93.54% and 96.70% for those aged

Table 4. Socio-demographic characteristics and maternal knowledge level on the danger signs of severe acute respiratory infections

Variable	Total (N = 582)	Poor (n = 29)	Good (n = 553)	Crude OR [CI 95%]	p-value	Adjusted OR [CI 95%]	p-value
Age							
≤30 years	309	20 (6.47%)	289 (93.53%)	1.00		1.00	
>30 years	273	9 (3.30%)	264 (96.70%)	0.49 [0.22-1.10]	0.079	0.66 [0.24-1.81]	0.423
Marital status							
Married	520	27 (5.19%)	493 (94.81%)	1.00		1.00	
Single	62	2 (3.23%)	60 (96.77%)	0.61 [0.07-2.53]	0.519	0.59 [0.13-2.71]	0.498
Education level							
None/Primary	152	13 (8.55%)	139 (91.45%)	1.00		1.00	
Secondary	376	13 (3.46%)	363 (96.54%)	0.38 [0.17-0.85]	0.014*	0.39 [0.17-1.00]	0.051
University	54	3 (5.56%)	51 (94.44%)	0.63 [0.11-2.43]	0.51	0.79 [0.20-3.12]	0.740
Professional occupation							
Non-working	316	21 (6.65%)	295 (93.35%)	1.00		1.00	
Working	266	8 (3.01%)	258 (96.99%)	0.43 [0.19-1.00]	0.065	0.54 [0.23-1.30]	0.173
Children's number							
1	83	6 (7.23%)	77 (92.77%)	1.00		1.00	
2-4	302	16 (5.30%)	286 (94.70%)	0.72 [0.27-1.89]	0.502	0.86 [0.30-2.40]	0.777
≥5	197	7 (3.55%)	190 (96.45%)	0.47 [0.15-1.45]	0.182	0.68 [0.18-2.59]	0.570
Presence of a smoker in the household							
No	564	29 (5.14%)	535 (94.86%)	1.00		1.00	
Yes	18	0 (0.00%)	18 (100.00%)	0.00 [0.00-4.45]	1.000	ind.	-

Notes: * $p < 0.05$

≤ 30 years and > 30 years, respectively) (Table 4). Comparison of these two proportions shows that this association between age and knowledge of the danger signs of severe ARIs is not statistically significant (p = 0.423).

The proportion of married mothers (5.19%) with poor knowledge of the danger signs of severe ARIs was comparable to that of single mothers (3.23%). Statistical analysis shows that there was no statistically significant association between level of knowledge and marital status (p = 0.498).

Although large numbers of mothers overall showed good knowledge of this aspect, the relative proportion of the mothers with poor knowledge (8.55%, 3.46% and 5.56%) decreased as the education level went from primary to university level. The reverse trend was observed for mothers with good knowledge, as the relative proportions of the mothers with good knowledge increased with increasing education level. However, the relationship between the education level and knowledge level of the danger signs of severe ARIs was not significant (p > 0.05).

Although the proportion of poor knowledge about the danger signs of severe ARIs is high among non-working mothers (6.65%) compared to that of working mothers (3.01%), the association between mothers' professional occupation and knowledge level on the danger signs of severe ARIs was not statistically significant (p = 0.173).

The same is true for the number of children in the household. The relative proportion of mothers with insufficient knowledge (7.23%, 5.30% and 3.55%) decreased as the number of children increased from one child to ≤ 5 children. The reverse trend was observed among mothers with good knowledge, as the relative proportions of mothers with good knowledge increased with the increase

in the number of children. However, the relationship between the number of children and the knowledge level on the danger signs of severe ARIs was not significant (p > 0.05).

We did not find a significant association between the presence of a smoker in the household and the knowledge level on the danger signs of severe ARIs, although the proportion of poor knowledge is zero among mothers with a smoker in the household.

3.4 Mothers' practices at home

Figure 1 shows the different means of heating the interior of the house used by mothers as well as the frequency of the house's airing (ventilation by opening windows and doors): firewood is used in 72.85% of the cases and 91.75% said they ventilate their houses every day.
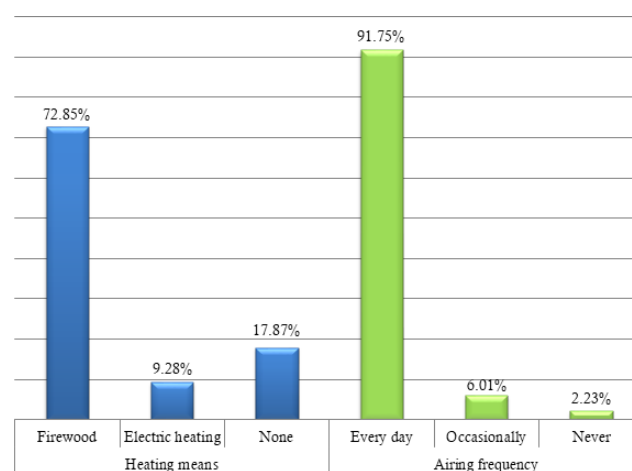

Figure 1. Distribution of mothers according to heating means and airing frequency of the house

Table 5. Home-based practices in treating acute respiratory infections

Variable	Number (N = 582)	Percentage
Use of traditional remedies		
Apply mentholathum to nose	252	43.30
Apply palm oil to nose	252	43.30
Inhalation of herbal vapor	39	6.70
Apply kerosene to nose	3	0.52
None	214	36.77
Use of modern procedures performed at home		
Dressing the child in several layers of clothes	579	99.48
Self-medication (antibiotics, cough suppressants)	575	98.80
Clean nasal secretions from nose using cotton buds	456	78.35
Aspiration of nasal secretions manually or orally from nose	75	12.89
Stop using the fan	57	9.79

The use of traditional remedies was noted in 368 (63.23%) mothers and 214 (36.77%) reported that they did not use traditional remedies. More than 4 in 10 mothers (n = 252; 43.30%) indicated that they applied palm oil to their children's noses and as many mothers (n = 252; 43.30%) also reported indicated that they apply mentholatum ointment to the nose. Inhalation of herbal vapor and application of kerosene to the nose were reported in 6.70% and 0.52% of the cases, respectively.

When asked about the use of modern procedures performed at home, almost all (n = 579; 99.48%) indicated that they dress their children with several layers of clothes. Oral administration of drugs (cough suppressants, antibiotics, anti-inflammatories, *etc.*) for self-medication was used by 575 mothers (98.80%). Seventy-five mothers (12.89%) reported that they aspirate nasal secretions either manually or orally, while 456 (78.35%) used cotton swabs to clean up nasal secretions. Almost a tenth (n = 57; 9.79%) reported that they stopped using the fan (Table 5).

4 Discussion

A good knowledge level of ARIs was observed among respondents regarding symptoms, modes of transmission and danger signs of severity in this study. Only a few mothers presented poor levels in relation to modes of transmission (31.27%), symptoms (12.54%) as well as danger signs of severe ARIs (4.98%) in the children. The proportion of mothers with good knowledge of recognizing symptoms of ARIs was significantly higher than those reported by other studies[3, 10, 11]. In the present study, only 4.98% were unaware of most danger signs of severe ARIs. In Rwanda, Mukandoli reported that 59.7% of the mothers did not know the danger signs of severe ARIs[10].

Mothers' knowledge of the danger signs of severe ARIs is an important determinant of health-seeking behaviors and can be harnessed to improve their health-seeking practices.

This study reports that the level of knowledge of ARIs' modes of transmission was significantly associated with the age of respondents. More mothers under 30 years had poor knowledge compared to those over 30 years. The reason for this difference would not be immediately apparent, although older mothers appear to have accumulated more health information and education and, as such, more comprehensive information from health care providers over time than the younger ones.

Mothers with low education level had a correspondingly poor knowledge level on ARIs' modes of transmission. The association between education level and knowledge level was statistically significant. However, it should be noted that a larger proportion of mothers with low education level had a good knowledge of symptoms and danger signs of severe ARIs comparable to that of mothers with a high school or university education level. Several studies have found that the education level significantly influences the mothers' knowledge level on aspects of ARIs.[11, 12] The reason is unclear and contrary to the expected trend. It should also be noted that mothers with a high education level are more exposed to media communications than those with a low education level, which could contribute to the wide information received on health problems leading to better health-seeking behaviors. Like other diseases, ARIs have several determinants that contribute to its delayed management. The social factor such as the education level is found as an important determinant of the poor knowledge level regarding the modes of transmission. The poor knowledge level of the aspects covered in this study could be due to a lack of appropriate health education on the part of the mothers. This can interfere with the proper home treatment of ARIs. Poor knowledge, especially of symptoms and danger signs of severe ARIs, can prevent mothers from getting to health facilities in a timely manner. This can be detrimental to home management and the outcome of ARI episodes.[3] The present study shows that marital status, the number of children and the presence of a smoker in the

household have no influence on the mothers' knowledge level of the aspects addressed in this study.

We identified the need to educate this community about home treatment for ARIs, as the remedies used included both harmless and harmful substances. The use of an oily substance or kerosene could lead to complications such as lipoid pneumonia, which in turn can prolong the duration of the infection and lead to poorer results in a simple case. In addition to home remedies, mothers also reported using their children to self-medicate during episodes of ARIs (98.8%). In Lubumbashi (DRC), a recent study carried out on children's self-medication practices by their mothers noted a prevalence of self-medication of 95.8%.[13] Other studies have reported the prevalence of self-medication for ARIs in children ranging from 58 to 68.1%.[14, 15] Self-medication, especially with antibiotics, is relatively common in many developing countries due to the unregulated sale of pharmaceuticals. The lack of relevant health legislation continued to ensure the availability of antibiotics to end users as over-the-counter drugs without a physician's prescription. This inappropriate use of antibiotics (and other drugs) has negative implications for the treatment and control of severe ARIs as it can contribute to the emergence of resistant bacterial strains and worsen morbidity and mortality in children.[16] As in the study by Osarogiagbon and Isara,[3] our study also shows that topical applications were most commonly used. In contrast, a Ugandan study conducted by Kibuule et al.[17] had reported that oral herbal remedies (ingredients unknown) were frequently used. Tea with a mixture of honey and lemon juice has been reported as a common remedy in the home treatment of ARIs in Asian countries.[11, 18] A Pakistani study reported the use of ginger as a home remedy for ARIs in children.[14]

One of the limitations of this study was that the study employed a cross-sectional study design and as such causal relationships between variables cannot be established. Also, the analyses were based on self-report with the possibility of over and under reporting. The results of this study cannot be generalized to a larger population of mothers in the province or the country.

5 Conclusion

The mothers' knowledge on modes of transmission, symptoms and danger signs of ARIs was good in the community studied in Lubumbashi. Knowledge level was associated with age and education level regarding ARIs' modes of transmission. Mothers have indicated that they use self-medication as well as various remedies (use of palm oil, mentholathum ointment or kerosene) in the home treatment of ARIs in children under-five. It is recommended that health workers provide contextualized, accurate and effective health education on common infant conditions and practical home remedies to mothers in the city of Lubumbashi. The use of inappropriate administration of remedies should be discouraged. The marketing of drugs for inappropriate indications must also be controlled. The actions of health providers must contribute to ensuring that mothers are properly informed about ARI in young children and allow early treatment in the event of severity or emergency.

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