# The Mother's Perceived Barriers in Caring for Children with Acute Respiratory Infection at Home in the Rural Areas, Vietnam

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**Abstract**

In Vietnam, acute respiratory infection (ARI) has high morbidity and mortality rates. In fact, a major research gap still exists regarding mothers' experiences in caring for their children with ARI at home and overcoming barriers to their success. This study explores the barriers that mothers face in caring for children with ARI at home in rural areas.

**Objectives**: The study was conducted to explore the mother's perceived barriers in caring for children with ARI at home in the rural areas, Vietnam. **Subject and method**: From December 2020 to September 2021, 34 mothers with children under the age of 5 years were subjected to qualitative research involving in-depth interviews. A semi-structured questionnaire was used in face-to-face interviews to collect the data. The participant was subjected to an audio-recorded individual interview lasting an average of 30 minutes. The interviewer asked guiding questions to help the participants focus on the care for their children with ARI at home. All audio-recorded interviews were transcribed verbatim by a professional transcriptionist. The health promotion model was used as a guiding theory. **Results**: The findings revealed that caring for children with ARI in the rural home setting posed numerous challenges for mothers. The interviews identified caring practices, psychological factors, and a lack of resources as barriers to care. Mothers reported difficulties in implementing a healthy diet, adhering to medication, and maintaining proper hygiene. They lacked confidence in their ability to restore their children's health, recognize early symptoms of illness, and prevent illness recurrence. They expressed that a lack of finances and education limited their ability to care for their children adequately. **Conclusion**: This study revealed numerous barriers for mothers caring for children with ARI at home. There is a demand for both community and healthcare support to overcome the disparities of care for this common in the rural home setting.

**Keywords:** Acute respiratory infection, perceived barriers, caring, mothers, children under 5 years old.

## Introduction

The management and prevention of acute respiratory infection (ARI) is a global problem, especially in developing countries.[1] Severe ARI is a significant burden on health services worldwide and a leading cause of hospital referral and admission in young children[2]. Some studies on the knowledge, attitudes, and practices of mothers showed that caring practices of mothers about ARI remain low.[3-5] Therefore, improving mothers' practices in caring for children with ARI is necessary. Moreover, mothers are the primary caregivers of their children; thus, their knowledge and practices could be used as a preventive measure for the disease.[1] To improve care for children with ARI in the rural home setting, research must first identify potential barriers. Healthcare providers can then use this information to better support their community's patient population. As a result, the study seeks to investigate the barriers to caring for children with ARI in rural Vietnam.

## Theoretical Perspective

The theoretical perspective of the Health Promotion Model (HPM) was chosen to deepen the understanding of the awareness of barriers to caring for children at home as it is an essential factor in facilitating health promotion behavior. The improvement of mothers' practices about caring achieves good results; therefore, it is necessary to create a favorable environment for mothers to engage in behaviors that are beneficial for their children's health. This includes the need to support mothers in terms of transportation and mothers' access to information. Moreover, this necessitates the education of healthcare workers and the inclusion of family members or volunteers to enhance communication between mothers and healthcare workers. From the above results, the study proposes these effective interventions according to Pender's theoretical model.[6]

## Material and Methods

### *Research Design*

A qualitative methodology was deemed appropriate to address our research question. Data were collected through in-person semistructured interviews using personal information and an interview form. A pilot was first performed in November 2020 with three mothers, followed by our sample of 34 mothers with children under the age of five with ARI from December 2020 to February 2021**.** The findings were collated in the HPM to depict barriers and practices of mothers in caring for children with ARI at home.[6] Qualitative interviews revealed an understanding of the individual stories of the participants by the interviewer, who asked open-ended questions about a phenomenon of interest and allowed the participants to direct the conversation.[7, 8, 9]

### *Sampling*

The sampling for this narrative research aims to recruit and interview information-rich participants about their experiences. Using purposeful sampling, we selected mothers whose children had ARI from 1 week to 3 months prior to the interview. The research group conducted in-depth interviews with 17 mothers in each commune. Thus, 34 mothers participated in the study from the two communes. A sample size of 34 mothers having children under the age of

five with ARI was considered sufficient to provide an information-rich narrative to capture the life experiences of the participants.[10]

***Data Collection***

Upon consent to participate, each participant completed a short demographic questionnaire. The participant was subjected to an audio-recorded individual interview lasting an average of 30 minutes. The interviewer asked guiding questions to help the participants focus on the care for their children with ARI at home. All audio-recorded interviews were transcribed verbatim by a professional transcriptionist.

***Data Analysis***

Demographic data were analyzed using descriptive statistics to understand the meaning of participants describing their lived experiences instead of measuring the frequency of themes. After each interview was transcribed, the authors took turns listening to the audio recordings to ensure accurate data transcription and made corrections where necessary. The authors met regularly to review the initial coding as we progressed through data collection and analysis, reviewing and revising codes and themes to group appropriately. Initial coding involved reading each transcript several times and using short, descriptive words and phrases to name preliminary findings. As data collection and analysis continued, we identified new meanings and compared similarities and differences. Through this process, new codes were identified and older ones were merged or deleted. The initial coding was followed by a review of patterns of meanings, after which we organized codes into categories and themes. To improve credibility even further, the authors immersed themselves in the data, listened to the audio recordings, and reread the transcripts to ensure that critical information was not overlooked.

***Ethical Considerations***

This study was approved by the Ethical Review Committee of Nam Dinh University of Nursing (no.2359/GCN-HDDD), and permission for data collection from the authorities of all communes was obtained. Participants were informed verbally and in writing about their role in the research and the study's objective. All participants reviewed and signed informed consent forms as part of their agreement to participate in the study. Participants' confidentiality was of paramount importance for this type of study. Research respondents participated voluntarily and were free to withdraw from the study without consequence.

**Results:**

**Table 1**. Sociodemographic characteristics of the research subject.

| Characteristics | | Number | (%) |
|---|---|---|---|
| **Age** | ≤ 25 years | 3 | 8.8 |
| | 26–35 years | 23 | 67.6 |
| | 36–45 years | 7 | 20.6 |
| | >45 years | 1 | 2.9 |
| **Educational level** | Middle school or below | 9 | 26.5 |
| | High school | 10 | 29.4 |

| | | | |
|---|---|---|---|
| | Diploma/bachelor/postgraduate | 15 | 44.1 |
| **Occupation** | Civil servant | 6 | 17.6 |
| | Worker | 13 | 38.2 |
| | Farmer | 2 | 5.9 |
| | Housewife | 3 | 8.8 |
| | Others | 10 | 29.4 |
| **Number of children** | 1 child | 5 | 14.7 |
| | ≥ 2 children | 29 | 85.3 |

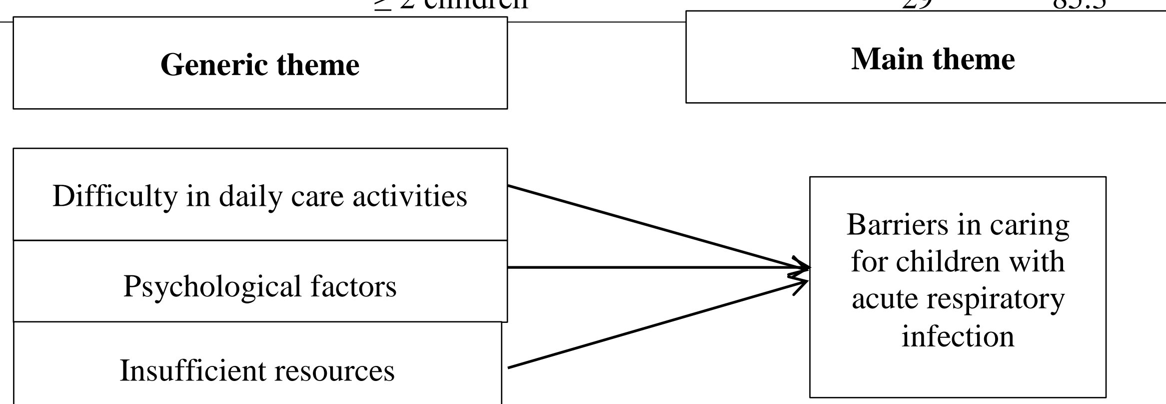


***Figure 1. Themes regarding the mother's perceived barriers in caring for children with ARI.***

**Theme 1**: Difficulty in daily care activities.

This theme referred to mothers' difficulty in caring for children with ARI at home. Most mothers expressed difficulty in providing a sufficient diet, administering medication, performing hygiene, reducing symptoms of ARI, and monitoring the severity of the condition of the children at home. Children with ARI often experience anorexia and symptoms of illness such as prolonged cough and vomiting, which lead to difficulty in feeding, as described in the following:

"*The biggest challenge is feeding for my child; when he was sick, he was anorexic, vomiting, fussy and irritable. Without breasting milk, he would be very hungry. Fortunately, I still breastfeed him*" (Mothers 8 & 23)

"*The most difficult thing is that my child coughs for a long time and makes my child doesn't want to eat and anorexic. Therefore, it is difficult to practice a reasonable diet*" (Mother 16)

Administering medicine to children is a common barrier, as mothers must properly understand correct dosing and administration techniques (see the following quote):

"*I have difficulty in giving the medication (for oral drugs, there are many types of drugs that must be divided into doses"* (Mother 11)

Mothers have difficulty not only in practices about nutrition and medicine but also in performing hygiene practices for children. While their child was sick, mothers were afraid to wipe their hands, eyes, and nose, as noted in the following statements:

*"It is very hard to clean when my child has a cough and fever. Because I was afraid that my child was sick, I did not dare to wipe. Hygiene for children is the biggest challenge"* (Mother 20)

*"Difficulty in performing nasal irrigation, the biggest challenge is having difficulty in washing my child's nose."* (Mother 32)

The two most common signs of ARI in children are cough and fever. Moreover, mothers expressed difficulty in providing relief of symptoms, as described in the following statements:

*"The most difficult thing is to deal with my child's high fever without going to the hospital on time"* (Mother 22)

*"My son had a cough and fever, so I had difficulty in relieving his symptoms. It was difficult to reduce my child's fever. The biggest challenge was to relieve the cough for him because he had a severe cough which leads to dry throat"* (Mother 34)

Mothers expressed difficulty in monitoring the signs of ARI, more specifically, signs of difficulty breathing or unexpected reactions to drug treatment. Furthermore, mothers found it problematic to monitor their child's exposure to risk factors that can worsen their condition.

*"Monitoring the signs of difficulty breathing for children at home is the biggest challenge. Because my child was always sick"* (Mother 02)

"*It is difficult to monitor my child because there are drug reactions that I am not aware of"* (Mother 16)

*"The greatest difficulty is managing and controlling children to avoid exposing them to risk factors such as smoke and dust in the environment when they go out to play"* (Mother 15)

**Theme 2:** Psychological factors.

Mothers face psychological barriers in caring for children with ARI such as worry and lack of confidence. Worry arises when they provide care to the best of their knowledge and abilities, but the child's condition does not improve and no symptoms are relieved. The following are the participants' comments:

"*When my child was sick, I am worried about finding ways to relieve my child's symptoms of ARI*" (Mother 01)

"*My child had difficulty breathing, cough kept screeching, it made me feel worried, so I have to send him to the hospital. When I went to the doctor, the doctor told me to go to the hospital for observation*" (Mother 31)

Lack of confidence stems from mothers' inability to care for themselves (get enough sleep) and properly care for their children. Furthermore, because the child's living environment predisposes them to illness, mothers are doubtful of their ability to control the situation, as described in the following statements:

*"Only sleep is more difficult. The most difficult thing is when my daughter was sick, she woke up at night that affected my sleep"* (Mother 28)

*"Sometimes my child was sick, I can't sleep at night. I have to stay up all night*" (Mother 18)

"*I am still unconfident about controlling my child's illness. Because the weather changes a lot, the children easily get sick*" (Mother 16)

**Theme 3:** Insufficient resources.

This theme is divided into four subthemes: lack of means and facilities to take care of children at home, financial problems, lack of information, and lack of knowledge about caring for children with ARI.

Insufficient resources are considered a significant barrier for mothers caring for children with ARI at home. Insufficient transportation resources, proximity to healthcare services, equipment such as nebulizers and nasal aspirators to administer respiratory treatment, and instruction by healthcare providers all pose significant barriers to mothers, as noted in the following:

"*I need support with transportation when my child is sick, but my family has a few people so I don't know what to do, I have to bear it*" (Mother 18)

*"I want to support more with the facilities in caring for children with ARI at home, for example, a nebulizer"* (Mother 23)

"*Because there are not enough facilities at home like at the hospital, it is difficult to administer medicines. It is also difficult to monitor children when they have a fever*" (Mother 15)

Mothers were facing financial difficulties in caring for children with ARI at home. One mother said the following:

*"Financial difficulties, medicine for my child. When we run out of medicine, I have to go to the hospital to get a prescription by doctors. The financial problem is the most challenge"* (Mother 25)

Mothers lack access to information about the disease and how to care for children with ARI. Their knowledge is limited on early signs of illness; therefore, children often see a doctor or go to the hospital in severe conditions. If they have never been instructed on caring for children with ARI, then a knowledge deficit is a barrier to providing effective care (e.g., chest patting technique, administering antipyretics and antibiotics), as in the following statements:

*"I need support with the information about caring for children"* (Mother 18)

"*Because I don't have many caring methods to reduce symptoms of ARI"* (Mother 31)

"*I will take my child to the doctor when he has a fever over 39 degrees or convulsion*" (Mother 19)

Most mothers felt that they lacked knowledge about caring for children at home, so they became unsure whether their practices were correct or not, which led to emotional behaviors, as indicated below:

*"Caring practices are correct but flawed*" (Mother 24)

"*I don't know if it's the right practice or not, but I just follow my feelings"* (Mother 29)

"*Sometimes it just doesn't feel right. Because doctors have to give instructions*" (Mother 01)

**Discussion**

The study aimed to explore mothers' perceptions of barriers in caring for children under the age of five with ARI in Vietnam. The most robust result was that mothers perceived various challenges in daily routine, psychological factors, and support resources. This result was similar to the study of Vineet Chand and Masoud, which found multiple barriers to reducing the risks of ARI and the demand for policy implementation that supports children's health in the community and provides a social support structure.[11] Moreover, access to health services and support for caregivers was limited.[12] Therefore, interventions should focus on health education and caring practices that are feasible to implement in the home setting. Mothers expressed difficulty in daily care activities, such as providing a sufficient diet for children with ARI. This finding was consistent with the study of Alidha and colleagues, which found that most mothers believed that their children might have eating difficulties, so mothers tended to do what they wanted, such as providing snacks.[13] In our study, children are exposed to many environmental risk factors for respiratory illness, such as rapidly changing weather, poor air quality, dust/dirt, and cigarette smoke, making it difficult for the mother to control as it is common for child behavior to be active both inside and outside. This result was consistent with a previous study in Indonesia which found that the children could not be controlled, as they would always play. Children's exposure to cigarette smoke was high, although some informants have claimed to reduce it by opening doors and windows.[13]

Mothers expressed psychological barriers, such as worry and lack of confidence in caring for children with ARI, which negatively influenced their caring practices. Alidha and colleagues showed that the mothers' feelings of stress made their children easily become sick.[13] Overloaded mother's roles, children's poor behavior, difficulty in caring for children, lack of social support, and negative life events are all factors that can cause mothers to become stressed.[14] This study showed that mothers' worry stems from the fact that they have to provide care to the best of their knowledge and abilities, and even when they do, their children's condition does not improve and there is no relief of symptoms. Moreover, mothers' lack of confidence comes from their inability to properly care for themselves and their children. Mothers are also unsure of their ability to control the situation. Similarly, a heavy workload deprives mothers of essential time and energy for childcare.[15] A previous study revealed that mothers' confidence is an essential component for them to function successfully in their roles. Confidence supports mothers in their ability to care for not only healthy children but those with complex healthcare needs. The health and developmental status of children requires mothers who feel confident to engage in health-related behaviors. Mothers who feel more confident in their role are more likely to engage in successful practices.[16] Thus, to alleviate worry and increase confidence in caring for children at home, mothers should receive education about caring practices, involve their husbands in childcare, and mobilize community support systems.[15] The study determined the role of mothers' caregiving resources in caring practices for children under 5 years old. The financial factor is considered a barrier in caring for children with ARI at home. This finding is similar to a previous study that showed mothers should have

more financial autonomy in childcare.[15] The interviews indicated that the difficulties of mothers face were primarily due to the lack of necessary support, lack of knowledge about the danger signs of the disease, lack of access to up-to-date informational guidelines and data on community ARI rates promoted a community educational program by healthcare providers to address these barriers for mothers.[3]

The mothers' knowledge and ability to provide homecare significantly influence the disease management and survival of children under the age of five, so it is alarming that many studies, including ours, showed that this issue is unaddressed in many developing countries.[4-5] Moreover, many factors affecting the ability to perform caring for children with ARI at home were identified in the study. Psychological factors and lack of knowledge and support were important factors affecting mothers' behavior toward caring for children. Our study implies that insufficient resources such as limited finances, transportation, proximity to healthcare services, equipment such as nebulizers and nasal aspirators to administer home respiratory treatment, and adequate instruction and follow-up by healthcare providers may all contribute to this systemic problem. Therefore, health workers should assess for barriers and spend time educating and instructing mothers about necessary skills in caring for and reducing symptoms of ARI. According to the interviews, mothers took their children to the hospital when their illnesses were already in severe conditions; thus, recognizing the gap that more education is needed on the signs and symptoms of ARI (e.g., rapid respiration, chest indrawing, fever, cough).[12] This result reflected that many children with ARI were hospitalized for treatment in very serious conditions. Based on data from 37 hospital studies reporting case fatality ratios for severe acute lower respiratory infections (ALRI), the data suggest that although 62% of children with severe ALRI are treated in hospitals, 81% of deaths happen outside hospitals.[2] There is a community knowledge gap on symptoms. Therefore, nurses and healthcare providers should promote the proper management of children with ARI. The illness concepts should be addressed in behavior change communication.[17] Although mothers seek out information about the disease, the need for consulting or information from health workers was especially important for the mothers in this study. A community educational program was led by healthcare providers, can help address some of the barriers for mothers.[3] In return, they are equipped to identify health benefits/barriers and offer health promotion guidance and social support to all people. Moreover, they should consider these variables in interventions to increase the healthy behaviors of mothers in caring for children with ARI at home. The application of the Pender model guides the development of successful theory-based interventions. Qualitative research can help planners determine whether these barriers are factors in a particular environment and can provide essential information to design effective interventions to address them.[18]

## Limitations

The research results identified that mothers' perceptions of barriers in caring for children with ARI were considered sensitive topics that mothers were concerned about for themselves and their families. However, face-to-face interviews with participants may create the impression

that participants could be trying to "hide" real challenges or overemphasize the positive aspects for themselves and their families. The main method of data collection in the study is the interview. The error recall or the length of time is an issue that needs to be considered. The time of this study needs to be just long enough to be able to capture the facts but also short enough to limit the error recall.

**Conclusion**

Our study revealed that decisions to change behavior in caring for children with ARI are complicated and influenced by various factors. Several external factors were discovered to influence mothers' caring behavior, in addition to knowledge and mentality: lack of information and difficulty with daily care activities. Lack of knowledge and support in providing a proper diet, medication, hygiene, and nose cleaning for their children were identified as significant barriers but the most feasible to address.

**Recommendations**

Our study identified key barriers that must be addressed to successfully improve mothers' behaviors in caring for children with ARI. The study visualized the problem's complexity and the numerous influences on mothers' decisions and behavior using the Pender model. Future local initiatives should combine efforts across all levels to change behavior and address misconceptions, improving the physical and social environment. In particular, mothers need access to relevant guidelines about caring for children with ARI in the community. Health education should be provided timely for mothers having children under 5 years old with ARI. Furthermore, mothers need to be supported with means of transportation and equipment to care for their children at home.

Finally, further research should focus on better understanding and closely examining individual factors at all levels of the model from various mothers' perspectives. This would help better understand and address factors that influence the behavior of mothers in caring for children, allowing appropriate intervention strategies to be developed to improve practices in caring for children with ARI at home.

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