

# Knowledge, Attitudes, and Practices of Parents in Managing Acute Respiratory Infections Among Children in Naga City

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**Abstract:** Acute Respiratory Infection (ARI) remains a leading cause of morbidity and mortality among children, particularly in low- and middle-income communities where gaps in health knowledge and care-seeking behaviors persist. This study aimed to assess the knowledge, attitudes, and practices (KAP) of parents in the management of children with ARI in Naga City and to determine the relationship between parental profile and their KAP, as well as the factors influencing these behaviors. A descriptive research design was employed involving 391 parents or guardians of children diagnosed with ARI, selected through random sampling from all 27 barangay health centers in Naga City. Data were collected using a validated researcher-made questionnaire and analyzed using descriptive statistics, weighted mean, and chi-square test of independence. Findings revealed that parents were generally knowledgeable about ARI symptoms and prevention, demonstrated positive attitudes toward seeking medical care, and reported acceptable practices in home management and healthcare utilization. However, variations in KAP were significantly associated with selected demographic factors such as age, educational attainment, and family income. Based on the results, the study recommends strengthening community-based health education programs, enhancing parental awareness of danger signs, and improving access to primary healthcare services. A proposed intervention plan was developed to further enhance parental knowledge, attitudes, and practices in managing childhood ARI in Naga City.

**Keywords:** Acute Respiratory Infection, Parental Knowledge, Attitudes and Practices, Child Health, Community Health.

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## I. INTRODUCTION

Acute Respiratory Infections (ARI) remain a major public health concern worldwide and are among the leading causes of morbidity and mortality, particularly among children under five years of age. Globally, pneumonia a severe form of ARI accounts for a substantial proportion of childhood deaths, with the burden disproportionately affecting low- and middle-income countries due to limited access to healthcare services, delayed care-seeking behaviors, and inadequate health education [1, 2] Despite the availability of effective preventive and therapeutic interventions, ARI continues to pose significant challenges to child survival, highlighting persistent gaps in community awareness and caregiver practices.

In the Philippine context, ARI remains one of the leading causes of illness and death among young children, ranking among the top causes of mortality in children aged one to four years [3, 4]. National health data indicate that a considerable

number of children with ARI symptoms do not receive timely or appropriate medical care, often due to parental reliance on home remedies, self-medication, or delayed consultation with health professionals [5]. Although preventive measures such as vaccination, breastfeeding, and improved hygiene practices are widely promoted, their consistent application at the household level remains inadequate, particularly in urban and peri-urban communities.

Given the critical role of parents and guardians in the early recognition, home management, and healthcare-seeking decisions for children with ARI, understanding their knowledge, attitudes, and practices is essential. In Naga City, where ARI cases continue to place a burden on local health facilities, limited empirical evidence exists regarding parental KAP and the factors influencing their management behaviors. This study was therefore conducted to address this gap by assessing parental knowledge, attitudes, and practices in the management of children with ARI and examining their

relationship with selected demographic factors. The findings aim to provide evidence-based input for the development of targeted health education programs and community-based interventions to reduce the burden of ARI at both the local and national levels.

Despite extensive international and national research highlighting Acute Respiratory Infection (ARI) as a major contributor to childhood morbidity and mortality, significant gaps remain in understanding how parental knowledge, attitudes, and practices (KAP) influence the management of ARI at the community level. Global studies emphasize that caregiver behavior plays a critical role in early detection, timely care-seeking, and appropriate home management of ARI; however, many caregivers continue to delay professional consultation or rely on self-medication and traditional remedies [1, 6]. While these studies establish the importance of parental involvement, they often focus on broader national trends or hospital-based populations, limiting their applicability to localized community settings.

In the Philippines, existing literature has documented high ARI prevalence and persistent gaps in healthcare utilization among [3, 4]. However, few studies have comprehensively examined parental KAP alongside the demographic and contextual factors influencing these behaviors, particularly in highly urbanized yet socioeconomically diverse cities such as Naga City. Moreover, local evidence remains limited regarding how parental profile variables interact with motivational and environmental factors to shape actual caregiving practices. This lack of localized, community-based data underscores the need to conduct the present study, as understanding these gaps is essential for designing effective health education programs and policy-driven interventions tailored to the local context.

This study is anchored on the Knowledge, Attitude, and Practice (KAP) Model and Pender's Health Promotion Model (HPM) to guide the examination of parental management of childhood ARI. The KAP Model posits that an individual's level of knowledge influences attitudes, which in turn shape health-related practices. In the context of ARI, parental understanding of causes, symptoms, and prevention is expected to influence their beliefs and perceptions, ultimately determining their caregiving behaviors, including home management and healthcare utilization [7].

Complementing this model, Pender's Health Promotion Model explains how behavior-specific cognitions and affect such as perceived benefits, perceived barriers, self-efficacy, and interpersonal influences affect the translation of knowledge and attitudes into action. While parents may possess adequate knowledge of ARI, factors such as financial constraints, access to healthcare facilities, cultural beliefs, and confidence in recognizing danger signs may either facilitate or hinder appropriate practices [8].

The conceptual model of this study integrates these frameworks by illustrating how parental profile variables influence knowledge, attitudes, and practices, while motivational and contextual factors modify the progression

from knowledge to behavior. The output of this interaction is a proposed intervention plan aimed at enhancing parental KAP in the management of childhood ARI.

Previous international studies have demonstrated that although parents often recognize common ARI symptoms, misconceptions about severity, antibiotic use, and home management persist, leading to delayed care-seeking and inappropriate treatment [9, 10]. Studies in Southeast Asia and other low- and middle-income countries have further shown that parental education level, socioeconomic status, and prior experience significantly influence KAP related to ARI [11, 12].

Local Philippine studies similarly indicate that many caregivers rely on self-medication or traditional remedies despite awareness of ARI risks, revealing a disconnect between knowledge and practice [4, 13]. However, these studies are either geographically limited or focus on specific aspects such as home-based care or health-seeking behavior, without comprehensively analyzing the interaction among knowledge, attitudes, practices, and influencing factors. Consequently, there is a paucity of studies that integrate theoretical models with empirical data to explain parental ARI management behavior in urban Philippine settings.

This study addresses this literature gap by linking parental profile variables with KAP dimensions through established theoretical frameworks, thereby providing evidence-based insights into how and why parents manage childhood ARI. The findings are expected to contribute to the development of culturally appropriate and context-specific interventions aimed at improving child health outcomes.

#### ➤ *Objective*

- Determine the profile of parents.
- Assess the parental knowledge in the management of children with Acute Respiratory Infection in Naga City.
- Evaluate the parental attitudes in the management of children with Acute Respiratory Infection in Naga City.
- Identify the parental practices in the management of children with Acute Respiratory Infection in Naga City.
- Evaluate the factors affecting the parental knowledge, attitudes, and practices in the management of children with Acute Respiratory Infection in Naga City.

## II. METHODS

#### ➤ *Design*

This study employed a quantitative descriptive survey design to examine the knowledge, attitudes, and practices of parents in the management of children with Acute Respiratory Infection (ARI) in Naga City. The design was appropriate for describing the existing levels of parental knowledge, attitudes, and practices at a single point in time while determining the relationships between these variables and selected demographic factors. Data were collected using a structured, researcher-developed questionnaire administered to parents or guardians of children diagnosed with ARI across barangay health centers in Naga City. The cross-sectional approach allowed for efficient data gathering from a large population.

➤ *Sample Size and Sampling Technique*

The sample size of this study consisted of 391 parents or guardians of children diagnosed with Acute Respiratory Infection (ARI) in Naga City. The sample size was determined to ensure adequate representation of parents from all 27 barangays of the city and to provide sufficient statistical power for descriptive. A random sampling technique was employed to minimize selection bias and to ensure that all eligible parents or guardians consulting at the barangay health centers during the data collection period had an equal chance of being included in the study. This sampling approach enhanced the representativeness of the sample and strengthened the generalizability of the findings within the context of Naga City.

➤ *The Instrument for Data Collection*

The study utilized a researcher-developed questionnaire to assess the knowledge, attitudes, and practices (KAP) of parents regarding the management of children with Acute Respiratory Infection (ARI) in Naga City. The instrument comprised five parts covering respondents' demographic profile, knowledge, attitudes, practices, and influencing factors, measured using a four-point Likert scale. Content validity was ensured through expert review, and a pilot test among ten parents established its reliability, yielding a Cronbach's alpha of 0.96, indicating excellent internal consistency and suitability for data collection.

➤ *Data Collection Process*

The data collection was conducted from December 2024 to March 2025 across the 27 barangay health centers in Naga City, where parents or guardians of pediatric patients diagnosed with Acute Respiratory Infection (ARI) were identified as respondents. The researcher personally administered the questionnaires to ensure clarity of instructions and immediate response to inquiries, thereby enhancing the accuracy of data gathered. Prior to data collection, formal permissions were secured from the City Health Officer and the respective barangay captains. The researcher was assisted by trained research assistants, who helped in distributing and retrieving the questionnaires, facilitating communication with respondents, and ensuring compliance with ethical protocols such as confidentiality and voluntary participation. The research coordinator supervised the entire process, ensuring adherence to the study timeline, data integrity, and coordination between barangay health centers and the research team.

➤ *Data Analysis*

The study employed both descriptive and inferential statistics to analyze the data collected from parents regarding their knowledge, attitudes, and practices (KAP) on the management of children with Acute Respiratory Infection (ARI) in Naga City. Descriptive statistics such as frequency, percentage, and weighted mean were used to summarize respondents' demographic profiles and to interpret the level of knowledge, attitudes, and practices. Before applying inferential statistics, the assumptions of data normality and independence of observations were considered to ensure the appropriateness of the chosen tests. For hypothesis testing, the Chi-square Test of Independence was utilized to determine the

significant relationships between respondents' demographic profiles and their KAP levels, as well as between their profiles and the factors affecting these variables. This combination of descriptive and inferential analyses provided a comprehensive understanding of parental behavior patterns and the statistical relationships among the study variables.

➤ *Ethical Consideration*

The study obtained ethical clearance from the Ethics Review Committee of Camarines Sur Polytechnic Colleges (CSPC), Nabua, Camarines Sur. Prior to data collection, the researcher submitted the research proposal, instrument, and consent forms for review and approval to ensure compliance with institutional and ethical standards. An informed consent process was strictly observed, wherein each participant was provided with a consent form detailing the study's purpose, procedures, voluntary nature of participation, confidentiality of responses, and the right to withdraw at any stage without penalty. Only those who voluntarily agreed and signed the consent form were included in the study. The ethical procedures ensured that all participants were adequately informed, respected, and protected throughout the research process.

### III. RESULTS

This chapter presents the analyzed results of the study, highlighting the levels of parental knowledge, attitudes, and practices in managing children with Acute Respiratory Infection (ARI) in Naga City and the relationships between these variables and respondents' demographic profiles.

➤ *Profile of the Parents*

Table 1 revealed that the majority of parent-respondents were aged 41 years and above, mostly female, married, and college-educated, with a large proportion engaged in self-employment or household work and earning below ₱15,000 per month. This demographic pattern indicates that while parents possess a relatively adequate educational background, their low-income status may hinder access to healthcare services and timely medical consultation for their children. The implication of these results suggests that socioeconomic status and educational attainment play a crucial role in shaping parental knowledge and practices in managing Acute Respiratory Infections (ARI). Parents with higher education tend to have greater awareness of preventive health measures, whereas those with lower income may face barriers in seeking formal medical care, leading to reliance on home remedies or delayed consultation.

These findings are consistent with earlier studies emphasizing the influence of socioeconomic and educational factors on health behaviors. [14] found that Filipino parents' practices in managing ARI were significantly affected by education and income levels, while [11] reported similar observations in Southeast Asian populations, where poverty and limited education contribute to delayed healthcare-seeking behaviors. Furthermore, [4] highlighted that Filipino caregivers with lower educational attainment were more prone to self-medication and inappropriate antibiotic use. The current study supports these findings, underscoring the need

for targeted community health education and socio-economic interventions to strengthen parental capacity for effective ARI management and improve child health outcomes.

Table 1. Profile of the Parents

Profile of Parents	Indicators	F	%
<b>Age</b>	25 years old and below	77	19.69
	26 - 30 years old	43	11.00
	31 - 35 years old	82	20.97
	36 - 40 years old	24	6.14
	41 years old and above	165	42.20
<b>Sex</b>	Male	168	42.97
	Female	223	57.03
<b>Civil Status</b>	Single	29	7.42
	Married	228	58.31
	Widowed	48	12.28
	Separated	86	21.99
<b>Highest Educational Attainment</b>	Elementary Graduate	50	12.79
	High School Undergraduate	60	15.35
	High School Graduate	79	20.20
	College Undergraduate	69	17.65
	College Graduate	128	32.74
	Post-Graduate	5	1.28
<b>Occupation</b>	Vendor	106	27.11
	Farmer	63	16.11
	Housewife/House Husband	71	18.16
	Teacher	49	12.53
	Driver	8	2.05
	Businessman	11	2.81
	Health Professional	42	10.74
	Private Employee	19	4.86
	Government Employee	13	3.32
	None	9	2.30
	<b>Family Monthly Income</b>	Php 18,000 and below	187
Php 18,001 – 25,000		60	15.35
Php 25,001 – 30,000		41	10.49
Php 30,001 – 50,000		58	14.83
Php 50,001 and above		45	11.51
<b>Number of Children</b>	1-2 Children	180	46.04
	3-4 Children	120	30.69
	4-5 Children	47	12.02
	6 and above	44	11.25
	<b>Total</b>	<b>391</b>	<b>100.00</b>

➤ *Parental Knowledge in the Management of Children with Acute Respiratory Infection in Naga City*

The results revealed that parents in Naga City were generally knowledgeable about the management of Acute Respiratory Infection (ARI) in children, particularly regarding its causes, symptoms, and preventive measures such as proper hygiene, vaccination, and adequate nutrition. However, gaps remained in recognizing danger signs that require immediate medical attention and in distinguishing between viral and bacterial infections, which often led to misconceptions about antibiotic use. This implies that while parents possess fundamental awareness of ARI, continuous health education is necessary to strengthen their understanding of disease severity and appropriate treatment-seeking behaviors. The findings are consistent [3], who noted

that Filipino parents are aware of basic ARI symptoms but often lack deeper clinical understanding, and [4], who found that despite knowledge of severe symptoms, many caregivers in the Philippines still delayed medical consultation. Similarly, [10] observed that parental knowledge gaps regarding antibiotic use persist globally, reinforcing the need for targeted educational interventions to enhance parental competence in ARI management.

➤ *Parental Attitudes in the Management of Children with Acute Respiratory Infection in Naga City*

The study revealed that parental attitudes significantly influence the management of children with acute respiratory infections in Naga City. Parents with higher health literacy and positive prior experiences with healthcare

providers were more likely to recognize symptoms early, seek timely medical consultation, and adhere to treatment recommendations. Conversely, caregivers with limited knowledge, reliance on traditional remedies, or negative healthcare experiences often delayed seeking professional care, potentially increasing the risk of complications. Socio-cultural beliefs, caregiver roles, and economic considerations also shaped parental attitudes, with mothers generally showing more vigilance in monitoring symptoms while fathers emphasized cost-related decisions. These findings underscore the importance of culturally sensitive health education and supportive healthcare systems in fostering positive parental attitudes and improving ARI outcomes among children [15, 16, 17].

➤ *Parental Practices in the Management of Children with Acute Respiratory Infection in Naga City*

Parental practices in managing children with acute respiratory infections in Naga City vary widely and are influenced by health literacy, socio-economic status, and cultural beliefs. Common practices include ensuring hydration and warmth, administering over-the-counter medications, and using traditional remedies such as herbal teas or steam inhalation. While some of these behaviors support recovery, reliance on home remedies alone or delayed medical consultation can worsen the child's condition. Parents who recognize the severity of symptoms and have positive healthcare experiences are more likely to seek timely professional care, adhere to prescribed treatments, and maintain vaccination schedules, whereas financial constraints, negative prior experiences, and cultural beliefs can hinder appropriate care. Mothers typically provide vigilant daily care, while fathers often influence decision-making based on cost or accessibility, highlighting the role of household dynamics. These findings emphasize the need for targeted health education and supportive healthcare systems to promote evidence-based parental practices and reduce complications from ARIs [15, 16, 17].

➤ *Factors Affecting the Parental Knowledge, Attitudes, and Practices in the Management of Children with Acute Respiratory Infection in Naga City*

The study identified several factors influencing parental knowledge, attitudes, and practices in managing children with acute respiratory infections in Naga City. Higher educational attainment, health literacy, and prior positive experiences with healthcare providers were associated with better knowledge, proactive attitudes, and appropriate care practices, including timely medical consultation and adherence to prescribed treatments. Conversely, limited education, low income, reliance on traditional remedies, negative healthcare experiences, and cultural beliefs about the causes of respiratory infections were linked to inadequate knowledge, delayed care-seeking, and inconsistent home management practices. Caregiver roles also influenced behavior, with mothers generally more attentive to symptom monitoring and routine care, while fathers often made decisions based on economic constraints or access to services. These findings underscore that parental KAP is shaped by a combination of socio-demographic, experiential, and cultural factors, highlighting the need for targeted health education and

supportive healthcare interventions to improve ARI management in children [15, 16, 17].

#### IV. DISCUSSION

The study revealed that parental knowledge, attitudes, and practices significantly influence the management of children with acute respiratory infections in Naga City. Parents with higher education levels, greater health literacy, and positive experiences with healthcare providers demonstrated better understanding of ARI symptoms, timely recognition of danger signs, and adherence to treatment recommendations. These findings align with the Health Belief Model, which emphasizes that an individual's knowledge and perceived benefits affect their health behaviors. Conversely, limited education, reliance on traditional remedies, and negative healthcare experiences were associated with delayed care-seeking and inconsistent home management practices, highlighting gaps in knowledge and potential barriers to effective ARI management (Reyes et al., 2018; Garcia & Lopez, 2020; Quinto & Manalo, 2016).

This study also contributes new insights into the socio-cultural and household factors affecting parental KAP. The results showed that mothers were generally more vigilant in monitoring symptoms and administering care, while fathers influenced decisions based on cost, accessibility, or economic constraints. Cultural beliefs regarding the causes of ARIs, such as "cold air" or environmental changes, shaped the use of traditional remedies, which in some cases delayed professional medical consultation. These findings expand on previous research by emphasizing the interaction between caregiver roles, socio-cultural beliefs, and health literacy in shaping both attitudes and practices, suggesting that interventions to improve ARI management must consider these contextual factors [18].

The study has several strengths, including its focus on an urban Philippine context and the integration of knowledge, attitudes, and practices for a holistic understanding of parental management of ARIs. Limitations include the reliance on self-reported practices, which may be influenced by social desirability bias, and the limited generalizability to rural or other urban settings. Clinically, the findings underscore the importance of culturally sensitive health education programs that target both mothers and fathers, reinforce the recognition of danger signs, and promote adherence to evidence-based home care and medical consultation. Further research could explore intervention strategies to address socio-cultural barriers and enhance parental engagement in ARI management across diverse communities in the Philippines.

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