

## SERVICE EXCELLENT PEDIATRIC NURSING CARE MANAGEMENT ON AN. A WITH ACUTE RESPIRATORY TRACT INFECTION (ARI) IN ROOM RB 4 RSUP H. ADAM MALIK CITY MEDAN NORTH SUMATRA YEAR 2025

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### ABSTRACT

Acute Respiratory Tract Infections (ARI) remain a leading cause of morbidity and mortality among children in Indonesia. These cases are often exacerbated by environmental factors such as air pollution, cigarette smoke exposure, poor ventilation, and low immunization coverage. This study aims to implement nursing care management for children with a service excellent approach in treating a pediatric ARI patient in the Rindu B4 ward of H. Adam Malik General Hospital, North Sumatra. The study employed a descriptive case study method on a 13-year-old patient (An.A) diagnosed with ARI. Data were collected through interviews, observation, and document analysis. Nursing care was administered through a comprehensive process, including assessment, diagnosis, planning, implementation, and evaluation. Results showed significant improvements in the patient's condition following interventions in airway management, hyperthermia control, and nutritional support. The service excellent model based on the PACER principles (Professionalism, Accountability, Collaboration, Empathy, and Reliability) proved effective in enhancing care outcomes and family satisfaction. This study recommends strengthening family education and interprofessional collaboration to reduce ARI incidence and improve the quality of pediatric nursing care in hospital settings.

**Keywords:** respiratory, pediatric nursing care, service excellent, PACER, case study

### Introduction

Upper respiratory tract infections usually last for a maximum of 14 days with common symptoms such as fever, cough, runny nose, headache, sore throat, excessive mucus production, and loss of appetite. Many people often ignore these ISPA symptoms, even though the infection can be caused by viruses and bacteria that can spread rapidly in the respiratory tract (Sinaga et al., 2024)

Acute Respiratory Infections (ARI), particularly pneumonia, remain a leading cause of mortality among children under five globally, including in Indonesia. UNICEF (2024) reports that more than 700,000 children die annually due to this condition, with 80% of cases occurring in developing countries. In Indonesia, ARI consistently ranks among the top ten most common illnesses treated in healthcare

facilities. Air pollution, tobacco smoke exposure, and limited access to healthcare services—especially in remote areas—are major risk factors that often turn mild ARI into fatal pneumonia. Preventive measures such as pneumococcal conjugate vaccine (PCV) immunization, exclusive breastfeeding, and improved air quality are critical. On the other hand, effective treatment requires the availability of antibiotics and oxygen therapy, particularly in regions with low immunization coverage and high rates of malnutrition.

The Indonesian government has made various efforts to reduce the burden of ARI, including expanding PCV immunization since 2017, implementing the Healthy Living Community Movement (GERMAS), and strengthening primary healthcare capacity (Ministry of Health, 2022). However, regional disparities and limited healthcare infrastructure continue to pose challenges. Ministry of Health data indicates that ARI remains the primary cause of hospitalization for children under five at community health centers, with pneumonia being the dominant contributor.

STIKes Mitra Husada Medan contributes to ARI control efforts by strengthening human resource capacity and education based on the principles of service excellence. The institution integrates the PACER approach—Promotive, Accountability, Collaborative, Empathy, and Reliability—into nursing education and practice. In line with its vision to become a leading health institution in Asia by 2030 and the Sustainable Development Goals (SDGs) target 3.3, this approach aims to reduce

mortality from communicable diseases such as ARI through evidence-based practice and interdisciplinary collaboration.

ARI is an infection that affects either the upper or lower respiratory tract and is caused by various microorganisms, including bacteria, viruses, and rickettsia. In children, symptoms typically include persistent cough, fever, shortness of breath, and poor appetite. ARI is classified into upper respiratory tract infections (such as rhinitis and pharyngitis) and lower respiratory tract infections (such as pneumonia and bronchiolitis) (Pakpahan, 2024). According to WHO (2023), 66% of child deaths due to ARI are concentrated in seven countries, including Indonesia.

From fewer than 3000 cases in 2021 to 50,000–70,000 cases in 2022 and 200,000 cases at the end of the year or early January 2023, data indicates a notable increase in cases. The Ministry of Health reports that between August 29 and September 6, 2023, there were 90,546 non-pneumonia ISPA cases in Kabodetabek. According to Imran Pambudi of the Ministry of Health, 55% of ISPA instances happened in people of working age, with children under five (14%), children (14%), and the elderly (8%) having the highest percentage of incidences. In addition to rising air pollution, the region's lengthy dry season is another factor contributing to the rise of ISPA instances.

Despite this, harsh seasonal variables and air pollution continue to be the primary causes of ISPA. In Jakarta alone, there would be 638,291 instances of ISPA in 2023 through June, according to data from the

DKI Jakarta Health Service. Between January and September of 2023, the number of ISPA cases nationwide increased to around 1.5–1.8 million. Central Java, West Java, and DKI Jakarta are the provinces with the largest number of instances. Prevention is crucial since ISPA is a dangerous illness that can endanger a person's life. ISPA is the primary cause of death for children worldwide, according to the WHO. The world, resulting in almost 1.4 million fatalities annually. This demonstrates how urgent it is to step up global efforts to prevent and treat ISPA. It is envisaged that community health centers, as the main suppliers of healthcare services, will be able to serve as supervisors, facilitators, and motivators in the process of health development in their local communities. It is anticipated that this will significantly improve local public health. The infectious disease known as acute respiratory infection (ISPA) is transmitted through the air and is brought on by a variety of pathogens, including bacteria, viruses, fungi, and pollutants.

This bacterium targets the respiratory system, causing the respiratory tract to constrict and the mucosal walls to swell. These bacteria can become stuck in the mucus produced by the mucosa with vibrating hairs (cilium) when they reach the respiratory tract, leading to an overabundance of mucus. This may cause mucus to emerge through the nostrils as an ISPA exposure sign. Direct touch or airborne droplets released after an infected person coughs or sneezes can both spread ISPA (Gulo et al., 2024)

In Indonesia, ARI cases in children have surged, from fewer than 3,000 cases in 2021 to over 70,000 cases in 2023 (Ministry of

Health, 2023). The provinces with the highest prevalence are Papua Pegunungan, Central Papua, and East Nusa Tenggara. In North Sumatra, there were 6,668 recorded ARI cases in children, with the highest numbers in Deli Serdang and the lowest in Pakpak Bharat (Sibagariang et al., 2023). At H. Adam Malik General Hospital, between 2023 and 2025, there were 98 outpatient and 18 inpatient pediatric ARI cases.

Preliminary observations in the Rindu B4 Pediatric Ward at H. Adam Malik Hospital identified a notable case of ARI in a 13-year-old child (An.A). The patient exhibited symptoms of persistent cough, intermittent fever, shortness of breath, and reduced appetite. Contributing risk factors included household exposure to tobacco smoke, poor ventilation, and incomplete immunization status, in line with findings by Warjiman et al. (2013).

The nursing care provided to An.A was based on Ministry of Health Regulation No. 4 of 2022 and Law No. 38 of 2014 concerning Nursing. The care process involved a comprehensive approach, including holistic assessment, nursing diagnosis, evidence-based interventions, and evaluation. Professionalism, accountability, and patient safety were emphasized throughout the care process.

#### **Research Method**

This study employed a descriptive case study method aimed at providing an in-depth depiction of the characteristics and nursing care process without conducting comparative or causal analysis (Ilhami et al., 2024). The study was conducted in the Pediatric Ward RB4 of H. Adam Malik

General Hospital, Medan, on April 26, 2025. The research activities were carried out from February to July 2025, starting from title submission, proposal development, case study implementation, to the final revision of the scientific paper. The subject of the study was a 13-year-old child (An.A) diagnosed with Acute Respiratory Infection (ARI). The types of data used included primary and secondary data. Primary data were obtained through direct interviews with the patient and family members to gather comprehensive information regarding the patient's health condition. Secondary data were collected from medical records, including nursing documentation and past medical history. Data collection techniques consisted of interviews and observations. The interviews involved questions about the patient's identity, chief complaints, medical history, and additional information from family members. Observations were carried out both participatively and non-participatively to gain real insights into the patient's condition and nursing activities. All data were analyzed descriptively using triangulation from multiple sources. The analysis was conducted systematically and continuously to ensure the accuracy and depth of the findings, resulting in valid and reliable outcomes.

## Result

The patient, An.A, is a 13-year-old female admitted to the Pediatric Ward RB4 at H. Adam Malik General Hospital in Medan with a diagnosis of Acute Respiratory Infection (ARI) and ascites. The patient presented with complaints of shortness of

breath (RR: 28 breaths/min), a persistent cough lasting eight days, and intermittent fever for the past five days (T: 38.7°C). Physical examination revealed a generally weak condition, low blood pressure (95/70 mmHg), tachycardia (HR: 122 bpm), the use of accessory respiratory muscles, and nasal flaring. The patient's weight had decreased from 43 kg to 38 kg. Clinical findings also included audible rhonchi and abdominal distension with a peritoneal catheter in place. Laboratory results showed elevated leukocytes (18,740/ $\mu$ l) and abnormalities in other hematological parameters. Based on Gordon's functional health patterns, problems were identified in respiratory function, nutritional status, sleep, and the need for emotional and spiritual support from the family.

Data analysis revealed four primary nursing diagnoses: ineffective airway clearance related to airway spasms, ineffective breathing pattern related to impaired respiratory effort, hyperthermia related to disease process, and imbalanced nutrition less than body requirements related to psychological factors. Nursing interventions included airway management with effective coughing techniques, chest physiotherapy, and oxygen therapy; hyperthermia management with warm compresses and fluid administration; and nutritional interventions including the provision of high-calorie meals and collaboration with a nutritionist.

These interventions were implemented over three consecutive days (April 27–29, 2025). On the first day, the problems of airway clearance and breathing pattern remained unresolved. Evaluation indicated continued

restlessness, audible rhonchi, and elevated respiratory rate. Hyperthermia had not yet improved significantly. On the second day, partial improvement was observed, such as a decrease in body temperature and respiratory rate, and the patient demonstrated a better understanding of effective coughing techniques. By the third day, several issues were considered partially resolved. The patient was able to expectorate secretions using proper coughing techniques, respiratory rate improved, and there was renewed interest in eating.

Overall, the nursing interventions carried out systematically and collaboratively over the three days proved effective in alleviating the patient's main complaints. Although not all issues were fully resolved, the evaluation showed positive progress toward recovery. Continued care and monitoring by clinical nurses were recommended to achieve optimal outcomes

## Discussion

The nursing case study on An.A, a 13-year-old female patient diagnosed with Acute Respiratory Infection (ARI), demonstrated a comprehensive nursing approach to managing multiple complex health problems. The patient presented with primary complaints of shortness of breath, persistent cough for eight days, and fluctuating fever for five days. Physical examination revealed rapid breathing (RR: 28x/min), audible rhonchi, hyperthermia (38.7°C), and significant weight loss from 43 kg to 38 kg. Laboratory tests indicated leukocytosis (18,740/ $\mu$ l). These findings align with Sari's (2022) study, which

reported that 78% of severe ARI patients exhibited multidimensional clinical manifestations.

Nursing care was delivered over three consecutive days (April 27–29, 2025), covering the five stages of the nursing process: assessment, diagnosis, intervention, implementation, and evaluation. Assessment was carried out through interviews, direct observation, and review of medical records. The patient's prenatal, natal, and postnatal history was unremarkable, with no major complications except for a past history of ascites. Clinically, the patient exhibited signs of respiratory compromise, nutritional imbalance, and psychological distress, all of which contributed to her overall condition.

Four nursing diagnoses were identified: ineffective airway clearance, ineffective breathing pattern, hyperthermia, and imbalanced nutrition. These align with the theoretical framework by Wijayaningsih (2013) on ARI in children but were refined in An.A's case with more specific clinical indicators. For instance, airway clearance problems were attributed to airway spasms rather than just secretions; breathing pattern impairment was linked to respiratory effort; hyperthermia was supported by fluctuating fever and elevated leukocytes; and nutritional deficits were related to psychological factors contributing to decreased intake.

Nursing interventions were developed based on the Indonesian Nursing Interventions Standards (SIKI, 2018), incorporating observational, therapeutic,

educational, and collaborative actions. Key interventions included effective coughing techniques, airway management, hyperthermia control using warm compresses and fluid intake, and nutritional support through high-calorie, high-protein meals with guidance from a nutritionist. Implementation was carried out consistently over three days involving collaboration among nurses, the patient, family members, and the healthcare team.

Daily evaluations showed that on the first day, none of the four diagnoses were resolved. However, by the second and third days, partial improvements were noted, including reduced respiratory rate, improved appetite, and lower body temperature. Care was continued by field nurses. Overall, the results demonstrated that targeted, evidence-based nursing interventions can gradually and effectively improve the clinical condition of pediatric ARI patients

### **Conclusion and Suggestion**

The evaluation of nursing care provided to An.A, a 13-year-old female diagnosed with Acute Respiratory Infection (ARI), revealed that the identified nursing problems had not been fully resolved on the first day of intervention. However, by the second and third days, all four nursing diagnoses showed partial improvement. Ongoing care was handed over to the assigned ward nurse to continue monitoring the patient's clinical progress.

The nursing assessment was conducted on April 27, 2025, during which the patient's mother reported that An.A had been experiencing shortness of breath and a

persistent cough for approximately eight days, along with fluctuating fever over the past five days. The symptoms worsened on April 25, 2025, prompting the family to bring the patient to H. Adam Malik General Hospital for inpatient care. The assessment revealed disruptions in the patient's respiratory system and nutritional status.

Based on the assessment, four nursing diagnoses were established: ineffective airway clearance related to airway spasms, ineffective breathing pattern related to impaired respiratory effort, hyperthermia related to disease process, and imbalanced nutrition less than body requirements related to psychological factors. These diagnoses were determined using both subjective and objective data collected during the assessment.

The nursing interventions implemented included monitoring respiratory pattern and breath sounds, training the patient in effective coughing techniques, positioning the patient in a semi-Fowler's position, applying warm compresses, collaborating in the administration of intravenous fluids, and educating the family about providing small, frequent meals to support the child's nutritional needs.

Nursing care was implemented over three days, from April 27 to 29, 2025, and carried out according to the planned interventions based on Pediatric Nursing Care Standards. The entire process was executed using a professional, collaborative, and holistic approach to optimize patient outcomes and support gradual clinical recovery

For future researchers, this study is expected to serve as a foundation for expanding knowledge and understanding of ARI in children, particularly in delivering pediatric nursing care with a service excellence approach. Future studies are encouraged to explore innovative nursing interventions and conduct long-term evaluations of their effectiveness in managing pediatric ARI cases.

For educational institutions, especially STIKes Mitra Husada Medan, this scientific paper is expected to be used as a reference to enrich students' knowledge, particularly for those in the Diploma Three Nursing Program. The insights gained from this case can support the development of competent and professional nursing graduates who are capable of delivering evidence-based and patient-centered care.

For RSUP H. Adam Malik Medan, it is recommended that the hospital continues to provide high-quality nursing care for pediatric ARI patients. This can be achieved through continuous professional development for nursing staff, consistent implementation of standard operating procedures, and strong interprofessional collaboration to ensure optimal and holistic patient care

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