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Effective Coughing Technique for An.A with Ineffective Airway Clearance Due to Upper Respiratory Tract Infection in Room Cendana 3, Kardinah General Hospital, Tegal

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ABSTRACT

Background & Objective: Acute respiratory tract infection (ARTI) is an acute inflammation of the upper and lower respiratory tract caused by bacterial, viral, or rickettsial diseases. One of the problems that often develops in children is ARTI. Ineffective airway clearance is the inability to clear secretions or airway obstruction to maintain a patent airway. Effective coughing exercises are one of many nursing interventions that help patients with acute respiratory disorders (ARI) address poor airway clearance issues. Implementing effective coughing procedures on patient A with ineffective airway clearance due to upper respiratory tract infection at Kardinah Tegal General Hospital. **Method:** This study design is observational in the form of a nursing care study to explore nursing care issues in ARI with ineffective airway clearance using effective coughing techniques at Kardinah General Hospital in Tegal. The approach used is a nursing care approach that includes assessment, nursing diagnosis, planning, and implementation. **Result:** The study found that the effective coughing procedure had an impact on clearing the airway in Patient A with a diagnosis of acute respiratory tract infection. **Conclusion:** It is hoped that Patient A with an upper respiratory tract infection can perform the effective coughing procedure to clear the airway.

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Introduction

Acute respiratory tract infection (ARTI) is an acute inflammation of the respiratory tract that can be caused by bacteria, viruses, or recombinant diseases. "Acute respiratory tract infection" (ARTI) is a term used to describe the entry of

microorganisms (bacteria, viruses, etc.) into the respiratory system, which can cause symptoms of illness within 14 days. The most common acute illness in children is this respiratory tract infection. (Nour Srinayah, 2023).

According to the WHO, the mortality rate among infants in various developing countries, such as Indonesia, is estimated to exceed 40 per 1,000 live births, with approximately 15% to 20% per year caused by Acute Respiratory Infections (ARI) (Nurbariyah et al., 2022). Based on Indonesia's health profile, the ten provinces with the highest ARI incidence rates are Banten (46.0%), East Java (44.3%), Jakarta (53.0%), West Papua (45.7%), Central Sulawesi (37.2%), West Java (31.2%), Lampung (39.8%), Central Java (42.9%), Bali (34.6%), and West Nusa Tenggara (35.8%). Meanwhile, the prevalence of ARI in South Sulawesi is 9.1% (Ministry of Health of the Republic of Indonesia, 2021).

ARI is one of the most common issues in children. ARI is a condition that can impair airway patency because patients cannot adequately expel secretions from the airways (Apriliani & Cahyaningrum, 2022). Effective cough therapy can help address poor airway clearance, particularly in cases of Acute Respiratory Tract Infection (ARTI), by facilitating secretion, according to research by Apriliani & Cahyaningrum (2022).

A study conducted by Josua and Norong in 2024 titled "Nursing Care for An. F and An. G in the Application of Effective Coughing to Maintain Airway Cleanliness in ARI Cases with Bronchopneumonia in the Mahoni Ward of Vita Insani Hospital, Pematang Siantar." There is a similarity in the application of effective coughing to maintain airway cleanliness in cases of ISPA. The results of this study show changes in both patients who underwent effective coughing after three days of intervention.

Another study conducted by Triyani (2021) titled "Ineffective Respiratory Tract Cleaning Nursing Care with Effective Coughing Therapy in Children with ISPA at the Gedang Street Community Health Center in Bengkulu City" further supports this finding. The findings of this study indicate that mucus accumulation decreased after administering effective cough therapy to ARI patients, suggesting that effective cough therapy can effectively address ineffective airway clearance in ARI patients.

Especially in children with an underdeveloped immune system, inadequate management of ARI can lead to more serious consequences, including a higher risk of pneumonia, meningitis, central nervous system infections, respiratory distress, and potentially life-threatening infections (Nurbariyah et al., 2022).

One of the many nursing interventions that help patients with acute respiratory infections (ARI) overcome inadequate airway clearance is effective coughing exercises. Additionally, nurses educate patients about the disease and its benefits, such as coughing exercise programs that help clear secretions from the airways in children with ARI (Triyani 2021).

Objective

Thus, the author is interested in raising the title "The Application of Effective Coughing Against An.A with Ineffective Airway Clearance Due to Acute Respiratory Tract Infection in Room Cendana 3 of Kardinah Tegal Regional General Hospital" by investigating the risk of death and complications that may arise from ARI due to the accumulation of secretions in the airways and the need for effective cough therapy to clear the airways.

Method

This study design is observational in the form of a nursing care study to explore nursing care issues related to ARI with ineffective airway clearance using effective coughing techniques at Kardinah Tegal General Hospital. The approach used is a nursing care approach that includes assessment, nursing diagnosis, planning, and implementation.

Results

Assessment

During the assessment of An.A, the patient was found to have a cough with phlegm, fever causing difficulty in breathing, respiratory rate: 24x/minute, and on auscultation, rales were heard, temperature 39.9℃, and excessive secretions were present in the nose. This aligns with Nisya's theory (2023), which states that signs and symptoms of acute respiratory infections include increased sputum production, respiratory sounds such as rales or wheezing, and elevated body temperature >39°C. Disruption of the respiratory tract lining leads to increased activity of mucus-producing glands in the respiratory tract walls, resulting in mucus secretion exceeding normal levels. Excessive fluid stimulation can cause coughing symptoms. Therefore, the most prominent initial symptom of ARI is coughing (Padila et al., 2019).

Nursing Diagnosis

Based on the data obtained, the author formulated the nursing problem for An.A as follows: Ineffective airway clearance related to the infection process.

The nursing problem identified in An.A aligns with the nursing problems commonly observed in children with ISPA. This aligns with Besinung et al.'s (2019) theory that excessive sputum production can cause inflammation, leading to narrowing of the airways. This can result in symptoms such as difficulty breathing, wheezing, and coughing. These symptoms can cause issues with oxygenation needs, namely ineffective airway clearance. Oxygen needs are a basic human need for oxygen supply. Oxygen is vital for human life, as it drives cellular metabolism and ensures the proper functioning of organs and body systems. Serious consequences can arise from oxygen deprivation in a short period of time. The brain is highly vulnerable to hypoxia or oxygen deprivation; brain cells can only survive for three to five minutes without sufficient oxygen before permanent damage begins. Hypoxia can cause irreversible brain cell damage and may lead to death if it continues beyond this point.

Nursing Intervention

The actions taken to address ineffective breathing are related to the infection process, with the goal that after receiving nursing care for 3 x 24 hours, effective coughing will improve and weakness will decrease. The actions include identifying coughing ability to assess the effectiveness of effective coughing, positioning the patient in a semi-Fowler or Fowler position to facilitate secretion removal, placing a pillow and bend in the patient's lap to enhance comfort and hygiene, disposing of secretions in a sputum container to prevent infection spread, provide warm drinks to thin the sputum and facilitate the process, encourage strong coughing to help clear the airways and expel secretions, teach effective coughing to help the patient clear the airways and prevent complications such as lung infection or pneumonia, collaborate

on the administration of mucolytics or expectorants to facilitate airway clearance and reduce mucus viscosity in the airways.

Nursing Implementation

After the action plan is established, it is then implemented in practice. First, the author outlines the strategy to ensure the nursing actions are carried out, starting with approaching the patient and family to ensure the patient is willing to follow the nurse's recommendations, so that all nursing actions are implemented in accordance with the patient's condition.

The nursing implementation conducted over three days included identifying coughing ability, positioning the patient in a semi-Fowler/Fowler position, placing a pillow and cushion on the patient's lap, disposing of secretions in the sputum container, providing warm drinks, encouraging strong coughing, and teaching effective coughing techniques.

Nursing Evaluation

In this case, An. A with a diagnosis of ISPA using the nursing process approach as a problem-solving method, the final evaluation results on Wednesday, December 11, 2024, from the nursing diagnoses identified in the case, the diagnoses have been resolved.

Regarding the diagnosis of ineffective airway clearance, after providing nursing care for 3x24 hours, the patient's mother stated, "The patient's cough has decreased, and the patient can now expel phlegm on their own." The patient's general condition appears good with a GCS of 15. During auscultation, rales are still audible, accessory breathing muscles are no longer visible, respiratory rate: 22 breaths per minute, SpO_2: 99%. The results align with the research conducted by Restu Iriani (2019), which found that effective coughing improves airway clearance in children with ARI.

Discussion

Nursing care begins with a comprehensive assessment that includes bio-psycho-socio-cultural aspects. The assessment involves TTV examination, physical examination, medical history, and supporting examinations. Based on the nursing care presentation regarding the implementation of effective coughing in children with ARI at Kardinah Tegal Regional General Hospital, it can be concluded that:

Based on the assessment, the diagnosis identified in Patient A was ISPA. The nursing diagnosis was ineffective airway clearance related to the infection process. The intervention implemented for Patient A was effective coughing, which maximized the removal of secretions, allowing the child to breathe within normal limits and reducing fever. The implementation results for Patient A included identifying coughing ability, positioning the patient in a semi-Fowler/Fowler position, placing a pillow and bend on the patient's lap, disposing of secretions in the sputum container, providing warm drinks, encouraging strong coughing, and teaching effective coughing techniques.

Following the nursing care provided over 3x24 hours, the diagnosis of ineffective airway clearance showed improvement, as the patient's mother reported, "The patient's cough has decreased, and the patient can now expel their own secretions." The patient's general condition appears good with a GCS of 15. During auscultation,

rhonchi sounds are still heard, accessory breathing muscles are no longer visible, respiratory rate: 22 breaths per minute, SpO_2: 99%.

Conclusion

On diagnosis, airway clearance was ineffective after nursing care was provided for 3x24 hours, with the patient's mother stating that "the patient's cough has decreased, and the patient is now able to cough up phlegm on their own." The patient's general condition appears good with a GCS of 15. During auscultation, rhonchi sounds are still audible, accessory breathing muscles are no longer visible, respiratory rate: 22 breaths per minute, SpO_2: 99%.

References

Akbar MA. Pengaruh *Evidence Based Nursing Practice* (EBNP) Terhadap Keperawatan. J Sci Res inNursing. 2021;1(1):22–4.

Akbar, Z., Renaldi, R., Dewi, O., Rany, N., & Hamid, A. (2023). Perilaku Pencegahan Ispa Di Wilayah Kerja Puskesmas Bunut Kabupaten Pelalawan. Jurnal Kesehatan Komunitas, 9(1), 12–20. Https://Doi.Org/10.25311/Keskom.Vol9.Iss1.1127

Amalia Yunia Rahmawati. (2020). Konsep Keperawatan Dasar Oksigenasi. July, 1–23.

Apriliani, D. M., & Cahyaningrum, E. D. (2022). Asuhan Keperawatan Pasien Anak Dengan Masalah Bersihan Jalan Nafas Tidak Efektif Pada Kasus Ispa. Jurnal Kesehatan Karya Husad, 10(1), 53–57. Https://Repositori.Stikes-Ppni.Ac.Id/Handle/123456789/947

Besinung, I., Mahihody, A. J., & Surudani, C. (2019). Nursing Care To Children With Acute Respiratory Infection (ARI) In Anggrek Ward Public Hospital Liun Kendage Tahuna. Jurnal Ilmiah Sesebanua, 3(1), 22–26.

Farisni, T. N., Yarmaliza, Y., Fitriani, F., Reynaldi, F., & Zakiyuddin, Z. (2020). Studi Potensi Lingkungan Fisik Rumah Tangga Terhadap Kejadian Ispa Pada Balita: Training; Nurse; Emotional Intelligence. Jurnal Maternitas Kebidanan, 5(2), 21–27.

Giri Susilo Adi, Rudi Haryono, Taukhit, Dkk. 2022. Buku Modul Standar Operasional Prosedur (SOP) Keterampilan Keperawatan. Ngasem, kabupaten kadiri : Lembaga Omega Medika.

Lestari, H. G., Jubaidi, J., & Marwanto, A. (2021). Hubungan Sumber Pencemaran Udara Dalam Rumah Terhadap Kejadian Ispa Pada Balita Di Kelurahan Betungan Kota Bengkulu. Http://Repository.Poltekkesbengkulu.Ac.Id

Marilyn J. Hockenberry, David Wilson, C. C. R. (2021). Wong's Essentials Of Pediatric Nursing (11th Ed.). Elsevier Health Sciences.

Melnyk, B. M., & Fineout-Overholt, E. (2022). *Evidence-based practice in nursing & healthcare: A guide to best practice*. Lippincott Williams & Wilkins.

Nisya, A. V. C. (2023). Asuhan Keperawatan Pafda Anak Usia Prasekolah (3-6 Tahun) Dengan Infeksi Saluran Pernafasan Akut (Ispa) Di Wilayah Kerja Puskesmas Pasundan. Karya Tulis Ilmiah, 4(1), 88–100.

Nour Sriyanah, S. Kep. , Ns. , M. Kep., & Dr. SuradiEfendi, S. Kep. , Ns. , M. Kep (2023). Buku Ajar Keperawatan anak.

Nurbariyah, S., Hanum, F., Adriyani, N., & Yanti, L. (2022). Medika: Jurnal Ilmiah Kesehatan Terapi Pijat Guna Membantu Proses Penyembuhan Infeksi Saluran Pernapasan Akut Pada Balita. https://unu-ntb.e journal.id/medika

Padila, Febriawati, H., Andri, J., & Dori, R. A. (2019). Perawatan Infeksi Saluran Pernafasan Akut (Ispa) Pada Balita. Jurnal Kesmas Asclepius, 1(1), 25–34. https://doi.org/https://doi.org/10.31539/jka.v1i1.526

Tim pokja, SPO, DPP, & PPNI. (2021). Pedoman Standar Prosedur Operasional Keperawatan (1st ed.).

Tim Pokja. (2019). Standar Diagnosis Keperawatan Indonesia Definisi Dan Indikator Diagnostik (1st ed.).

Tim Pokja. (2019). Standar Intervensi Keperawatan Indonesia Definis dan Tindakan Keperawatan (1st ed.).

Tim Pokja. (2019). Standar Luaran Keperwatan Indonesia Definisi dan Kriteria Hasil Keperawatan (1st ed.).

Triyani Elsa. (2021). Asuhan Keperawatan Bersihan Jalan Napas Tidak Efektif Dengan Terapi Batuk Efektif Pada Anak Ispa Di Puskesmas Jalan Gedang Kota Bengkulu.

Wiguna, I. (2023). Gambaran Kualitas Fisik Rumah Penderita Ispa Di Desa Melaya Kecamatan Melaya Kabupaten Jembrana Tahun 2023. Poltekkes Kemenkes Denpasar Jurusan Kesehatan Lingkungan 2023.