

Nursing Case Study: Asthma

I. Introduction

This nursing case study focuses on a 25-year-old female patient admitted with an acute asthma exacerbation. The purpose is to demonstrate nursing assessment, diagnosis, intervention, and evaluation in managing a chronic respiratory condition. The case highlights the role of patient education and self-management in preventing future attacks.

2. Patient Description

- **Name:** Ms. K. (pseudonym used for confidentiality)
- **Age:** 25 years
- **Gender:** Female
- **Marital Status:** Single
- **Occupation:** College student and part-time barista
- **Living Situation:** Resides in a shared apartment near campus
- **Medical History:** Diagnosed with asthma at age 9; uses inhaled corticosteroids and albuterol as needed
- **Lifestyle Factors:** Exposed to secondhand smoke from a roommate, seasonal allergies, inconsistent medication use during stressful academic periods

3. Clinical Presentation

Ms. K. arrived at the emergency department complaining of severe shortness of breath, wheezing, and chest tightness. She stated the episode began after cleaning her apartment with a strong-scented cleaner. On arrival, she was anxious and speaking in short sentences.

- **Respiratory rate:** 32 breaths per minute
- **Heart rate:** 118 beats per minute
- **Oxygen saturation:** 90% on room air
- **Peak expiratory flow rate:** 180 L/min (less than 50% of predicted value)
- Auscultation revealed diffuse wheezing and prolonged expiration.

4. Patient Assessment

Assessment included observation, auscultation, and review of medication use. The patient admitted to skipping maintenance inhaler doses during exams. Skin appeared pale with mild diaphoresis. Accessory muscle use was evident. Blood gas results showed mild respiratory alkalosis. The nurse identified triggers related to environmental exposure and inconsistent medication adherence.

5. Nursing Diagnoses / Problems

1. Ineffective airway clearance related to bronchoconstriction and mucus buildup
2. Impaired gas exchange related to airway obstruction
3. Anxiety related to difficulty breathing and hospitalization
4. Knowledge deficit regarding trigger avoidance and medication management
5. Risk for unstable blood oxygen levels related to respiratory distress

6. Nursing Care Plan

Goal 1: Relieve airway obstruction and restore normal breathing pattern

- Administer prescribed bronchodilators and corticosteroids promptly.
- Encourage slow, controlled breathing through pursed lips.
- Position the patient in high Fowler's to maximize lung expansion.
- Monitor oxygen saturation and respiratory effort closely.

Goal 2: Reduce anxiety and promote relaxation

- Stay with the patient during acute distress to offer reassurance.
- Use calm, steady communication to reduce panic.
- Provide oxygen as prescribed and explain each step of care.

Goal 3: Improve knowledge of asthma management

- Review proper inhaler use with demonstration and return demonstration.
- Identify common triggers and discuss practical ways to avoid them.
- Teach the importance of daily controller medication even without symptoms.

7. Implementation and Documentation

Medications were administered as ordered, including nebulized albuterol and intravenous corticosteroids. The patient's oxygen saturation rose to 96% after therapy. Education sessions were held to review inhaler techniques and environmental management. All observations and interventions were recorded immediately, including response to treatment and patient feedback.

8. Evaluation

Within 24 hours, Ms. K.'s breathing improved, and wheezing diminished. Oxygen saturation stabilized above 95% without supplemental oxygen. The patient demonstrated correct inhaler use and identified her major triggers. She expressed motivation to maintain medication adherence and modify her living environment. Nursing goals were achieved before discharge.

9. Ethical Considerations

Confidentiality was protected using a pseudonym. Informed consent was obtained for all procedures. The nurse respected the patient's emotional state and explained each intervention clearly to maintain trust and cooperation.

10. Reflection

This case reinforced the importance of patient education and consistent follow-up in asthma care. Many exacerbations stem from preventable causes such as medication nonadherence or environmental triggers. The nurse's role extends beyond immediate care—long-term management depends on empowering the patient with accurate knowledge and confidence to control symptoms.