HOLY FAMILY NURSING AND MIDWIFERY TRAINING COLLEGE

BEREKUM

A PATIENT/FAMILY CARE STUDY ON PNEUMONIA

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A PATIENT/FAMILY CARE STUDY SUBMITTED TO THE NURSING AND MIDWIFERY COUNCIL OF GHANA IN PARTIAL FULFILMENT TOWARDS THE AWARD OF LICENSE TO PRACTICE AS A PROFESSIONAL REGISTERED NURSE.

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PREFACE

Nursing was just caring for the sick on the sick bed in the previous years. Under the influence of Florence Nightingale nursing profession has changed rapidly, from caring for the sick to include taking medical history and conducting physical examination which was not previous done.

Patient and family care study consist of the nursing care rendered. The study is carried out by student nurses during their time of training to equip and put the knowledge and skills acquired into practice and also to render an individualized/family centered and comprehensive nursing care to the patient and family right from admission till patient recover.

It involves interaction between the patient, family and the health team within specific time until patient care is terminated. It employs the use of nursing process which requires the nurse to assess the patient for problems, diagnosis based on the assessment data, plan necessary intervention, implement the plans and evaluate the outcome of the interventions.

The study has prepared and built my confidence in me to enable face the tasks ahead of me after completing the three year Registered General Nursing Course. The comprehensive care rendered was made possible by the employment of skills and knowledge in such disciplines as psychology, public health nursing, medical nursing, surgical nursing, pharmacology and nutrition and dietetics to meet the patient/family needs and the community at large. To ensure confidentiality I chose to use my patients initials instead to ensure high sense of confidentiality.

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INTRODUCTION

Virginia Henderson (1966) define nursing "as a process of assisting the individual either sick or well in the performance of those activities which contributes to health and peaceful death that he or she could have done unaided if he or she had the necessary strength, will and knowledge".

Patient/family care study involves interaction between the patient and the health team in which a written report of a care rendered to the patient/family is required by the nursing and Midwifery council of Ghana in partial fulfillment for the award of license to practice as a professional Registered General Nurse.

This study was Carried out on Mr. B.Z, A 65years old man who was admitted at the male's medical ward at Holy Family Hospital, Techiman in the Bono East Region with a diagnosis of community acquired pneumonia. Mr. B.Z was admitted on 20th August, 2023. Mr. B.Z spent nine days in the hospital. I introduced myself to him as a level 200 student who would like to use him as client for my patient/family care study. I assured him, his identity will not be reviewed. I informed him of using his initials instead for the purpose of confidentiality.

He presented with breathing difficulty, chest pains, cough, general body weakness, fatigue and anorexia. He was diagnosed of pneumonia by Dr. B.A.N. With the use of nursing process, the six problems identified were developed into nursing diagnosis with nursing orders which were implemented to help solve these problems and promote recovery. Among the care provided to him were bed making, monitoring of vital signs (temperature, pulse, respiration, and blood pressure), proper positioning in bed, administration of oxygen, and patient/family education on personal hygiene.

The treatment plan included:

1. Intravenous Ceftriaxone 2g bd x 48 hours

2. Tablet Azithromycin 500mg daily x 3 days
3. Intravenous Dextrose 5% in Normal Saline 500ml
4. Oxygen prn
5. Syrup Carbocysteine 10mls tid x 7 days
6. Intravenous paracetamol 1g tid x 3 days
7. Prednisolone 10mg bd × 30 days
8. Clexane 40mg daily x 24 hours
9. Multivitamin 1 tablet × 30 days
10. Tablet Amoxiclav 625mg bd x 7 days

He was discharged on 28th August, 2023 when his condition had improved and was declared fit to go home with no complains. Three home visits were paid to him to assess progress of his condition at home. The first home visit was on 24th August, 2023, second home visit on 1st September, 2023 and third home visit on 10th September, 2023. He reported to the hospital for review on the 5th September, 2023. There was termination of care on 10th September, 2023.

This work is organized into six chapters. Which are;

Chapter 1: Assessment of patient and his family

Chapter 2: Data analysis

Chapter 3: The plan of nursing care to be rendered.

Chapter 4: implementation of the patient and family care plan.

Chapter 5: Evaluation of the care rendered.

Chapter6: Summary and conclusion.

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CHAPTER ONE

ASSESSMENT OF PATIENT/FAMILY

1.0 Introduction

Assessment is the systematic collection of data through interview, observation, and examination to determine the patient's health status and any actual or potential problems (Hinkle, et al., 2022). Assessment is a critical analysis and evaluation of the status of a particular condition or subject of appraisal. It is the first phase of the nursing process that involves the gathering of information about the health status of the patient, analysis and synthesis of the data and making clinical nursing judgment. The data can be collected from the patient, relatives, friends, laboratory investigations and textbooks. The outcome of the nursing assessment is the basis for the establishment of health problems about the patient that will need nursing intervention. This chapter entails patient's particulars, patient and family medical history, patient and family socio-economic history, patient's developmental history, patient's lifestyle and hobby, patient's past medical history, patient's present medical history, literature review, validation.

1.1 Patient's Particulars

Patient particulars refers to the biographical information which puts the patient's health history into context. This information includes the person's name, address, age, gender, marital status, occupation, and ethnic origin (Hinkle, et al., 2022).

Mr. B.Z is a 65year old man born on the 22nd March,1958, to the late Mr. B.B and Madam H.A both natives of vamboin in the Upper West Region of Ghana. Currently stays in Techiman Aworano. He is the second born of his parents among three children of which two are male's and one female.

Mr. B.Z is a Sisala by tribe and speaks Sisala and Twi. He is not educated. He is a farmer by occupation and is married to Madam H.B who also a farmer. He has five (5) children.

He is dark in complexion, weighs 62.0kg and 64cm tall. He is a Muslim. Mr. B.Z has no tribal marks on the cheeks and face. His next of kin is his son. Mr. B.Z has no physical impairment.

Mr. B.Z has registered with the National Health Insurance Scheme (NHIS) which caters for his bill when he is sick.

1.2 Patient/Family's Medical History.

Health history is a series of questions used to provide an overview of the patients current health status. Attention is focused on the impact of psychosocial, ethics, and cultural background on the persons health. Information is obtained on both the paternal and maternal side of family (Hinkle, et al., 2022).

According to patient, there is no chronic or hereditary disease such as Diabetes mellitus, Hypertension, Sickle cell disease, Mental illness and heart disease in his family. He said his family occasionally suffers from minor sickness such as headache and fever which are usually treated by drugs purchased from the pharmacy shops. They resort to over-the-counter medications rather than seek treatment from the hospital. According to patient, both parents died after a minor ailment. There is no known allergies in the family.

1.3 Socio-Economic History

According to Webster (2020) it is the position of an individual on socio-economic scale that measures such as education, income, and occupation.

Mr. B.Z. lives in a two room alone in a compound at Aworano with his wife and children. The hazards involved in their occupation are mostly snake bites, cuts on their legs and bodily pains. Mr. B.Z said his family relation is very cordial. Their source of medical financing is through their ends on the farm. The family is a happy one and they are able to meet almost all their daily expenditure though they sometimes face hardship. His wife testified about how

supportive he is to the family. Mr. B.Z is a Muslim and he always observe his five daily prayers. The family did not have any particular family traditions, taboos, norms, cultural practices.

1.4 Patient's Developmental History

Development refers to the process of growth and differentiation which involves cognitive, psychosexual and psychosocial processes (Taylor, 2020). Maturation is the process of developing (Taylor, 2020). Growth is the progressive development a living thing, especially the process by which the body reaches its complete physical development (Taylor, 2020).

Patient in an interview said, he was born through a spontaneous vaginal delivery at term but could not tell whether he was immunized against vaccine preventable diseases. According to patient, his parent never told him how long he was breastfed before supplementary feeds were introduced. He grew well without any childhood diseases or complications.

Patient could not remember when he started growing pubic hairs. He could not give adequate history about his developmental milestone. Neither patient nor relatives could remember when he crawled and walked.

Mr. B.Z falls within the last stage, of Erik-Erikson theory of psychosocial development which is Integrity versus Despair. In this stage, a sense of personal integrity is achieved by those who accept the events that make up their lives, the good and the bad and integrate these into a meaningful personal narrative in a way that allows them to face death without fear. Those who avoid this introspective process and find that they cannot accept the events of their lives or integrate them into meaningful personal narrative that allows them to face death without fear, develop a sense of despair. Upon further discussions and observations Mr. B.Z has developed a sense of achievement. He feels he has achieved all his set goals living his

children a better education, and therefore has developed a great sense of no fear towards death.

According to him, he did not attended school. He used to help his parents in their groundnut farm.

1.5 Patient's Lifestyle/Hobbies

Patient's Lifestyle/Hobbies Lifestyle is defined as a pattern of daily living that an individual develops (Taylor, 2020).

Mr. B.Z is a calm, sociable and well- disciplined man. He normally wakes up at 5:00am and goes to the mosque to pray the fajr prayers. After the prayers he goes back to sleep till 7:30am. He brushes his teeth twice daily with his favorite tooth paste (close up). According to patient, his wife cleans his room, washes his dirty cloths and brings him food as well.

Mr. B.Z takes his bath twice daily, thus in the morning and in the evening just before going to bed. He empties his bowel twice daily and voids whenever there is the urge to do so. He does not smoke nor drink alcohol and other caffeinated substances. He also said he likes listening to news and dancing and playing musical instrument such as drums. dislikes gossiping. He usually goes to farm around 9:00am and returns around 3:00pm, baths and takes his supper around 6:30pm after the Maghreb prayers. He only rest on Friday so as to observe the Jummah prayer. The food he likes best is fufu with light soup. His wife serves him dinner such as TZ, Banku with okra stew, Rice ball and Jollof rice.

According to patient, he usually watches television and at times chats with his children and grandchildren after supper. He occasionally attends to funerals and other social occasions of friends and family members over the weekend.

1.6 Patient's Past Medical

Past medical health history provides information about the patients prior state of health. It enables the health provider to know major childhood and adult illnesses, injuries, hospitalization and surgeries (Harding, Kwong, Roberts, Hagler, & Reinisch, 2020).

According Mr. B.Z, he occasionally gets minor headaches and fever which are normally treated with over-the-counter drugs. He has no known allergies to drugs and food. Mr. B.Z seldomly does not goes for medical checkups. Mr. B.Z said he has never been hospitalized for any illness.

1.7 Patient's Present Medical History

The history of the present health concern or illness is the single most important factor in helping the health care team arrive at a diagnosis or determine the patient's current needs (Hinkle, et al., 2022). The physical examination is also helpful and often validates the information obtained from the history.

Patient was not well about a week ago and became severe in the evening of 20th August, 2023 when he started experiencing the following cough, chest pain, anorexia, fatigue and difficulty in breathing. The symptoms became severe and he visited the hospital accompanied by his wife for treatment. On examination by Dr. B.A.N at the accident and emergency unit. After several assessment and monitoring he was diagnosed of community acquired pneumonia and was subsequently transferred to the Male medical ward to continue his treatment.

1.8 Admission of Patient

On the 20th August, 2023. at 05:50pm, patient was admitted into the emergency ward in a conscious state accompanied by his wife and subsequently transferred to the male medical ward. The patient and relative were warmly welcomed and offered a seat at the nurses' station. I collected his folder number from the accompanied nurse to confirm patient particulars. His

wife (Madam H.B) was reassured on the competency of staff nurses and doctors in the care of her husband. I introduced myself as a student nurse and also introduced other nurses who were present. On direct questioning, patient complained of difficulty in breathing, cough chest pain, anorexia, fatigue, headache, fever and chills. Quick assessment was made and patient was generally sick, therefore a cardiac bed was made for the patient since he was finding it difficult to breath. Vital signs were checked and recorded as follows;

1. Temperature - 37.5 ºC (degree Celsius)
2. Pulse - 98 beats per minute
3. Respiration - 28 cycles per minute
4. Blood pressure - 120/81mmHg (millimeters of mercury)

Patient random blood sugar was checked and recorded as;

Random blood sugar 8.9mml/L

Oxygen saturation 94%

Patients name, sex, in-patient number were all written into the admission and discharge book and unto the daily ward state. Since patient was weak, his wife was oriented on the ward environment, lavatory, visiting hours, ward routines and time for ward rounds

The patient was placed on the following treatment plan:

1. Intravenous Ceftriaxone 2g bd x 48 hours
2. Tablet Azithromycin 500mg daily x 3 days
3. Intravenous Dextrose 5% in Normal Saline 500ml
4. Oxygen prn
5. Syrup Carbocysteine 10mls tid x 7 days
6. Intravenous paracetamol 1g tid x 3 days

Dextrose 5% in normal saline 500ml and Ceftriaxone Injection 2g as stat dose and oxygen set up to help enhance breathing. The respective prescribed treatments were all served. A care plan was drawn for necessary interventions to be implemented on the various health problems identified. The following investigation were also conducted.

1. Full blood count
2. Erythrocyte sedimentation rate (ESR)
3. BUN/Creatinine test
4. Chest X-ray
5. Sputum for culture and sensitivity.

Preparation of patient and relatives towards discharge such as assessing the level of their understanding of the condition, discussing of continuation of care at home, giving medication and others were done. Patient was made to understand that his stay in the ward was on temporal bases. As a student nurse of Holy Family Nursing and Midwifery Training College, Berekum, I then reintroduced myself once again to the patient and relative and informed them of my intention of taking him as the patient for my care study to enable me obtain my license to practice as a professional general nurse. I decided to choose this patient for the study because I wanted to know more about pneumonia and identify ways of preventing it since most people come with this condition clinically

They agreed and granted me the opportunity and promised to cooperate throughout our interaction. Patient was served with his medications after his supper around 6:30pm, he later took his bath at 7:15pm and retire to bed around 10:20pm.

1.9 Patient's Concept of Illness

This pattern describes the patients self- concept, which is critical in determining the way the person interacts with others. included are attitudes about self, perception of personal abilities,

body image and general sense of worth (Harding, Kwong, Roberts, Hagler, & Reinisch, 11th, 2020).

Mr. B.Z did not know the cause, signs and symptoms, treatment and prevention of the disease condition. He however believed that the cause of his condition was not spiritual and again verbalize that anyone could fall sick. He prayed and hoped that with the necessary care he would recover soon to continue his work.

1.10 Literature Review on Pneumonia

This section deals with documented information about the condition Mr. B.Z was diagnosed with, that is community acquired pneumonia. Literature review of a condition gives a detailed

Anatomy and Physiology Review of the Respiratory System

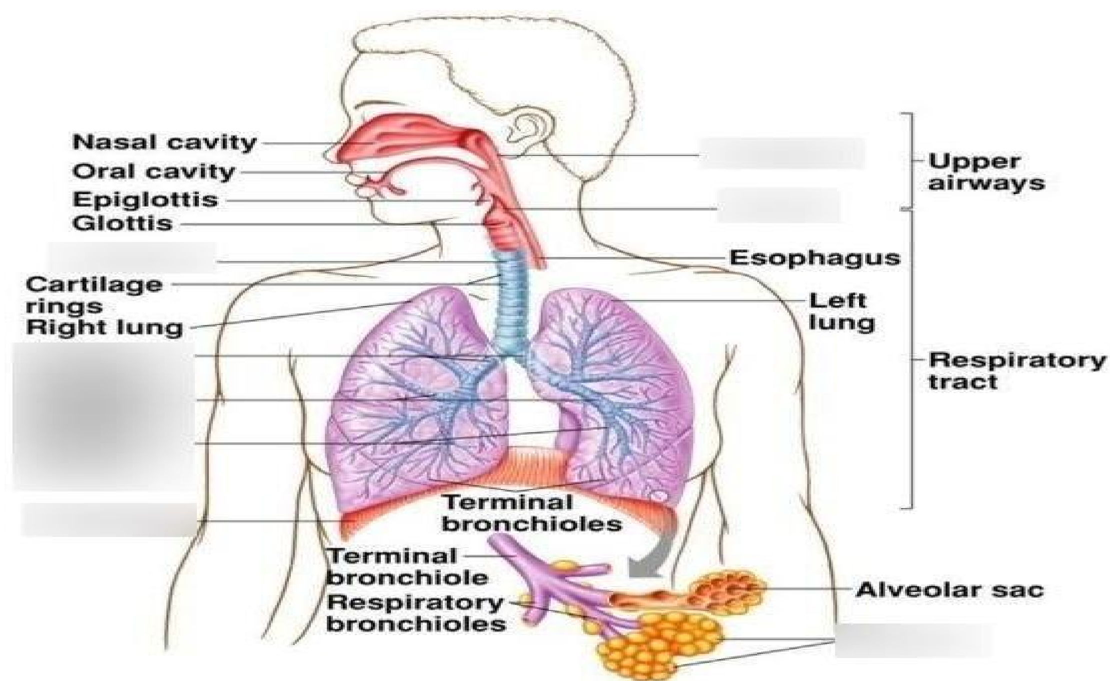

Figure 1: Diagram of the respiratory system

The respiratory system is composed of the upper and lower respiratory tracts. Together, the two tracts are responsible for ventilation (movement of air in and out of the airways). The upper respiratory tract, known as the upper airway, warms and filters inspired air so that the

lower respiratory tract (the lungs) can accomplish gas exchange or diffusion. Gas exchange involves delivering oxygen to the tissues through the bloodstream and expelling waste gases, such as carbon dioxide, during expiration. The respiratory system depends on the cardiovascular system for perfusion, or blood flow through the pulmonary system (Norris, 2019).

Gross Anatomy of The Lungs

The lower respiratory tract consists of the lungs, which contain the bronchial and alveolar structures needed for gas exchange. The lungs are paired elastic structures enclosed in the thoracic cage, which is an airtight chamber with distensible walls. There are two lungs, one lying on each side of the midline in the thoracic cavity. The lungs are cone –shaped and have an apex, a base, costal surface and medial surface. The apex is the superior region, where as the base is the opposite region near the diaphragm. The costal surface of the lung borders the ribs. The medial surface faces the midline of the body. The medial surface of each lung contains an area known as the helium where vessels, bronchi, and nerves enter and exit. Each lung is divided into lobes. The right lung is divided into 3 lobes (upper, middle, and lower) and the left lung into 2 lobes (upper and lower) Each lobe is further subdivided into two to five segments separated by fissures, which are extensions of the pleura. It has a cardiac notch which is an indentation for the heart. The left lung has1 fissure; oblique.

The Pleura

The pleura is a double-layered serous sac surrounding each lung. They include;

1. Parietal pleura and
2. Visceral pleura

Pleural Cavity-potential, space between the visceral and parietal pleurae. The pleural helps divide the thoracic cavity, central mediastinum and the two lateral pleural compartments. If

either layer of the pleural is punctured, air is sucked into the pleural space and part or all of the entire underlying lung collapses.

The Inferior of The Lungs;

1. The lungs are composed of bronchi, smaller air passages, alveoli, connective tissue matrix.
2. Each lung lobe is made up of large number of lobules.
3. The two lungs contain about 300 million alveoli.

The Pulmonary Blood Supply

The pulmonary trunk divides into the right and left pulmonary arteries, carrying deoxygenated blood to each lung.

1. Within each pulmonary artery divides into many branches which eventually end in a dense capillary network around the alveoli.
2. The walls of the alveoli and the capillaries each consist of only one layer of flattened epithelial cells. The exchange of gases between air in the alveoli and blood in the capillaries takes place across these two very fine membranes (together called the respiratory membrane)
3. The pulmonary capillaries merge into network of capillaries pulmonary of pulmonary venules, which in turn form two pulmonary veins carrying oxygenated blood from each lung back to the left atrium of the heart
4. The major function of the lung is to perform gas exchange

Introduction To Pneumonia

Pneumonia is an inflammation of the lung parenchyma caused by various micro organisms, including bacteria, mycobacteria, fungi, and viruses (Hinkle, et al., 2022). Pneumonia is an inflammatory condition of the lung—affecting primarily the microscopic air

sacs known as alveoli. It is usually caused by infection with viruses or bacteria and less commonly other microorganisms, certain drugs and other conditions such as autoimmune diseases. When an individual has pneumonia, the alveoli are filled with pus and fluid, which makes breathing painful and limits oxygen intake. The area of the involved lung is said to have undergone consolidation.

Classification of pneumonia

Pneumonia can be classified into four types: community-acquired pneumonia (CAP), health care–associated pneumonia (HCAP), hospital-acquired pneumonia (HAP), and ventilator-associated pneumonia (VAP) (Hinkle, et al., 2022).

Community-Acquired Pneumonia (CAP)

A common infectious disease, occurs either in the community setting or within the first 48 hours after hospitalization or institutionalization. The need for hospitalization for CAP depends on the severity of the pneumonia.

Health Care–Associated Pneumonia

An important distinction of HCAP is that the causative pathogens are often MDROs because of prior contact with a health care environment. Consequently, identifying this type of pneumonia in areas such as the emergency department is crucial. Because HCAP is often difficult to treat, initial antibiotic treatment must not be delayed. Initial antibiotic treatment of HCAP is often different from that for CAP due to the possibility of MDROs (Ramirez, 2019).

Hospital-Acquired Pneumonia (HAP)

Develops 48 hours or more after hospitalization and does not appear to be incubating at the time of admission. HAP is associated with a high mortality rate, in part because of the virulence of the organisms, the resistance to antibiotics, and the patient's underlying disorder.

It is the most common cause of death among all patients with hospital-acquired infections, with mortality rates up to 33% (Hinkle, et al., 2022).

Ventilator-Associated Pneumonia (VAP)

Ventilator-associated pneumonia can be thought of as a subtype of HAP; however, in such cases, the patient has been endotracheally intubated and has received mechanical ventilatory support for at least 48 hours. VAP is a complication in as many as 27% of patient who require mechanical ventilation (Hinkle, et al., 2022). The incidence of VAP increases with the duration of mechanical ventilation and the mortality rate is variable, depending upon the complexity of the underlying illness.

Aspiration Pneumonia

Aspiration pneumonia refers to the pulmonary consequences resulting from entry of endogenous or exogenous substances into the lower airway. The most common form of aspiration pneumonia is bacterial infection from aspiration of bacteria that normally reside in the upper airways. Aspiration pneumonia may occur in the community or hospital setting. Common pathogens are anaerobes, S. aureus, Streptococcus species, and gram-negative bacilli (Hinkle, et al., 2022). Substances other than bacteria may be aspirated into the lung, such as gastric contents, exogenous chemical contents, or irritating gases. This type of aspiration or ingestion may impair the lung defenses, cause inflammatory changes, and lead to bacterial growth and a resulting pneumonia.

Pneumonia in immunocompromised host

Pneumonia in the immunocompromised hosts: includes pneumocystis pneumonia (PCP), fungal pneumonias, and mycobacterium tuberculosis. The organism that that causes 17 PCP is known as Pneumocystis jiroveci. Pneumonia in immunocompromised hosts occurs with the use of corticosteroids or other immunosuppressive agents, chemotherapy, nutritional

depletion, the use of broad~ spectrum antimicrobial agents, acquired immunodeficiency syndrome (AIDS), genetic immune disorders and long-term advanced life support technology (mechanical ventilation).

Bronchopneumonia

Bronchopneumonia is a use describe pneumonia that is distributed in patchy fashion having originated in one or more localized areas within the bronchi and extending to the adjacent surrounding lung parenchyma (Hinkle, et al., 2022). Bronchopneumonia is more common than lobar pneumonia.

Lobar pneumonia

Lobar Pneumonia is when substantial portion of one or more lobes are affected (Hinkle, et al., 2022). When both lungs are affected the disease is called double or bilateral Lobar Pneumonia. It is most frequently caused by Pneumococcal and Klebsiella pneumonia. Others include Staphylococcus aureus, Streptococcus and viruses like influenza and adenovirus. In this condition, a whole or part of the lung becomes solidified by inflammatory material.

Epidemiology

Pneumonia and influenza are the most common causes of death from infectious diseases in the United States. Pneumonia and influenza accounted for 55,672 deaths in the united state in 2017 (Centers for Disease Control and Prevention (CDC), 2017a) Together, these disease were the eighth leading cause of death in the united state in 2017,accounting for 5.9% of all death (CDC, 2017a).

The condition is common among the following people;

1. It is common in patients with suppressed immunity.
2. Patient undergoing radiation therapy

3. It is prevalent in patient with respiratory disease and respiratory malfunction
4. Elderly patients are highly affected because of depression of cough and glottis reflex.
5. People who smoke cigarette are highly affected and (90%) of cigarette smokers die as a result of pneumonia every year which is due to disruption in both mucociliary and macrophage activity.
6. People in overcrowded places and areas with poor environmental hygiene.

Causative Organism

According to Hinkle, et al. (2022), pneumonia is cause by number of infectious agents, including virus, bacteria, and fungi.

1. Bacteria streptococcus pneumonia; the most common cause of bacterial pneumonia on children.
2. Haemophilous influenza a type B(HiB); the second most common cause of bacterial pneumonia.
3. Viral; respiratory syncytial virus is the most common viral cause of pneumonia, infants infected with HIV, pneumocystis jiroveci is one the commonest cause of pneumonia, responsible at least one quarter of all pneumonia deaths in HIV infected infants.
4. Non microorganism cause of pneumonia includes; radiation, ingestion of chemicals and aspiration of gastric secretion, foods or fluids,(aspirational pneumonia).

Risk factors

Being knowledgeable about the factors and circumstances that commonly predispose people to pneumonia helps identify patients at high risk for the disease (Bartlett, 2019a).

1. Advance age, because of possible depressed cough and glottic reflexes and nutritional depletion.

2. Having a lung disease, such as cystic fibrosis, asthma, or chronic obstructive pulmonary disease (COPD)
3. Supine positioning in patients unable to protect their airway.
4. Having a chronic disease, such as heart disease or diabetes.
5. Having a weakened immune system, which may be caused by chemotherapy or use of immunosuppressive drugs.
6. Respiratory therapy with improperly cleaned equipment.
7. Smoking (cigarette smoking disrupts both mucociliary and macrophage activity
8. Antibiotic therapy (in people who are very ill, the oropharynx is likely to be colonized by gram-negative bacteria
9. Alcohol intoxication (because alcohol suppresses the body's reflexes, may be associated with aspiration, and decrease white cell mobilization and tracheobronchial ciliary motion).
10. Depressed cough reflex (due to medications, debilitated state or weak respiratory muscles).
11. Nothing -by-mouth (NPO) status; placement of nasogastric, orogastric or endotracheal tube.
12. General anesthetic, sedative or opioid preparations that promote respiratory depression and causes shallow breathing pattern and predisposes to the pooling of bronchial secretions and potential development of pneumonia.
13. Prolonged immobility and shallow breathing pattern
14. Transmission of organism from health care providers.

Mode of Transmission

Pathogens that cause pneumonia reach the lung in 3 ways:

1. Aspiration of normal flora from the nasopharynx or oropharynx. Many organisms that cause pneumonia are normal inhabitants of the pharynx in healthy adults.
2. Inhalation of microbes present in the air. Examples include Mycoplasma pneumoniae and fungal pneumonias.
3. Hematogenous spread from a primary infection elsewhere in the body. Examples are streptococci and Staphylococcus aureus from infective endocarditis.

Pathophysiology

Normally, the upper airway prevents potentially infectious particles from reaching the sterile lower respiratory tract. Pneumonia arises from normal flora present in patients whose resistance has been altered or from aspiration of flora present in the oropharynx; patients often have an acute or chronic underlying disease that impairs host defenses. Pneumonia may also result from bloodborne organisms that enter the pulmonary circulation and are trapped in the pulmonary capillary bed. Pneumonia affects both ventilation and diffusion. An inflammatory reaction can occur in the alveoli, producing an exudate that interferes with the diffusion of oxygen and carbon dioxide. White blood cells, mostly neutrophils, also migrate into the alveoli and fill the normally air-filled spaces. Areas of the lung are not adequately ventilated because of secretions and mucosal edema that cause partial occlusion of the bronchi or alveoli, with a resultant decrease in alveolar oxygen tension. Bronchospasm may also occur in patients with reactive airway disease. Because of hypoventilation, a ventilation–perfusion (V./Q.) mismatch occurs in the affected area of the lung. V./Q. refers to the ratio between ventilation and perfusion in the lung, which is normally approximately 4 to 5, or 0.8; matching of ventilation to perfusion optimizes gas exchange. Venous blood entering the

pulmonary circulation passes through the under ventilated area and travels to the left side of the heart poorly oxygenated. The mixing of oxygenated and unoxygenated or poorly oxygenated blood eventually results in arterial hypoxemia. If a substantial portion of one or more lobes is involved, the disease is referred to as lobar pneumonia. The term bronchopneumonia is used to describe pneumonia that is distributed in a patchy fashion, having originated in one or more localized areas within the bronchi and extending to the adjacent surrounding lung parenchyma. Bronchopneumonia is more common than lobar pneumonia (Hinkle, et al., 2022).

Clinical manifestations

As specified in Hinkle, et al. (2022), the following are clinical manifestations of pneumonia;

1. Sudden onset of chills
2. Rapid rising fever (38.5° to 40.5°C)
3. Pleuritic chest pain that is aggravated by deep breathing and coughing.
4. Tachypnea (25 to 45 breaths/min),
5. Shortness of breath (Weinberger, Cockrill, & Mandel, 2019).
6. Bradycardia (a pulse– temperature deficit in which the pulse is slower than that expected for a given temperature)
7. Nasal congestion
8. Sweating
9. Anorexia
10. Rusty, blood - tinged sputum.
11. Fatigue
12. Headache
13. Wheezing on physical examination

14. Sore throat
15. Cyanosis, central cyanosis of the lips and nail demonstrating a late sign of hypoxemia

Diagnostic Investigation.

As specified in Hinkle, et al. (2022) the following are the diagnostic investigations for pneumonia.

1. Physical examination and history particularly of recent respiratory infection
2. Chest x-ray disclose infiltration and confirms diagnosis.
3. Pulse oximetry check: may show reduced arterial or oxygen saturation level.
4. Blood culture bloodstream invasion [bacteremia] occurs frequently
5. A sputum culture test.
6. A bronchoscope involves putting a camera down your throat to look at your bronchial tubes. This can be done to determine if there are other factors causing your bronchopneumonia.
7. Full blood count: white blood cell count shows leucocyte elevation.

Prevention

According to Hinkle, et al. (2022) Pneumonia can be prevented by;

1. Promote coughing and expectoration of secretions.
2. Encourage smoke cessation
3. Promote frequent oral hygiene. Minimize risk for aspiration by checking placement of tube and proper positioning of patient
4. Reposition frequently to prevent aspiration and administer medications judiciously, particularly those that increase risk for aspiration. Perform suctioning and chest physical therapy if indicated.

5. Encourage reduced or moderate alcohol intake (in case of alcohol stupor, position patient to prevent aspiration)
6. Encourage effective coughing and breathing exercise
7. Maintain adequate nutrition to boost immune system.
8. Monitor patients receiving antibiotic therapy for signs and symptoms of pneumonia

Medical Treatment

Medical management of patients with pneumonia includes prescribing appropriate antibiotics for bacteria pneumonias; assisting the patient to get adequate rest and hydration; and managing complications if they occur. In some patients, supplemental oxygenation may be prescribed (Hinkle, et al., 2022).

1. Antibiotics such as penicillin are prescribed on the basis of gram stain results and antibiotic guidelines (resistance patterns, risk factors, etiology must be considered). Penicillin non-resistant organisms are treated with penicillin G or Amoxicillin. For penicillin resistant organisms, cephalosporin such as ceftriaxone or cefuroxime is mostly used. Fluoroquinolone such as ciprofloxacin or macrolides like azithromycin can also be prescribed or a combination therapy may also be used
2. Supportive treatment includes hydration, antipyretics, antitussive medications or nasal decongestants and pain medication.
3. Oxygen therapy is given for hypoxemia.

Surgical treatment

1. Thoracentesis (chest aspiration is done if there is the pleural cavity dyspnea resulting from fluid accumulation in the pleural cavity.
2. Lobectomy is usually done in cases of tumor (Feather, Randall, & Waterhouse, 2021).

Nursing Management

Nursing assessment is critical in detecting pneumonia. Fever, chills, or night sweats in a patient who also has respiratory symptoms should alert the nurse to the possibility of bacterial pneumonia. Respiratory assessment further identifies the clinical manifestations of pneumonia (Hinkle, et al., 2022).

Psychological care

1. Reassure patient that she/he in the hands of competent health workers who are willing to take care of him/her.
2. Educate patient and family on the condition and allow them to ask question and answer them tactfully
3. Introduce patient to other patients who had the same condition but have recovered successfully.

Assessment.

1. Assess for fever, chills, night sweat, pleuritic pain, fatigue, tachypnea use of accessory muscle for breathing, bradycardia, coughing, and purulent sputum.
2. Monitors the patient for the following: changes in temperature and pulse; amount, odor, and color of secretions; frequency and severity of cough; degree of tachypnea or shortness of breath.
3. Assess older adult patients for unusual behavior, altered mental status, dehydration, excessive fatigue, and concomitant heart failure

Nursing diagnoses

1. Ineffective airway clearance related to copious tracheobronchial secretions.
2. Activity intolerance related to impaired respiratory function.
3. Risk for fluid volume deficit related to fever and a rapid respiratory rate.

4. Imbalance nutrition less than body requirement.
5. Deficit knowledge about the treatment regimen and preventive measure (Hinkle, et al., 2022).

Planning and goal

The major goals may include improved airway patency, increased activity, maintenance of proper fluid volume, maintenance of adequate nutrition, an understanding of the treatment protocol and preventive measures, and absence of complication.

Nursing intervention

Improving airway patency

1. Encourages hydration (2 to 3 L/day), because adequate hydration thins and loosens pulmonary secretions.
2. Provide humidify air to loosen secretions and improve ventilation by using a high-humidity facemask (using either compressed air or oxygen) delivers warm, humidified air to the tracheobronchial tree, helps liquefy secretions, and relieves tracheobronchial irritation.
3. Encourages the patient to perform an effective, directed cough, which includes correct positioning, a deep inspiratory maneuver, glottic closure, contraction of the expiratory muscles against the closed glottis, sudden glottic opening, and an explosive expiration.
4. Provide nasotracheal suctioning if necessary.
5. Provide appropriate method of oxygen therapy and monitor effectiveness.

Promoting rest and conserving energy

1. Encourages the debilitated patient to rest and avoid overexertion and possible exacerbation of symptoms.

2. Patient should assume a comfortable position to promote rest and breathing (e.g., semi-Fowler's position) and should change positions frequently to enhance secretion clearance and pulmonary ventilation and perfusion.
3. Instruct outpatients to avoid overexertion and to engage in only moderate activity during the initial phases of treatment.

Promoting fluid intake

1. Encourage increased fluid intake (at least 2 L/day minimum electrolytes and calories).
2. Administer intravenous fluid and nutrients if necessary.

Promoting patient' knowledge

1. Educated about the cause of pneumonia, management of symptoms, signs and symptoms that should be reported to the primary provider or nurse, and the need for follow-up.
2. Educate patient about factors both patient risk factors and external factors that may have contributed to the development of pneumonia and strategies to promote recovery and prevent recurrence.
3. Educate the patient on the purpose and importance of management strategies that have been implemented and about the importance of adhering to them during and after the hospital stay.
4. Explanations should be given simply and in language that the patient can understand. If possible, written instructions and information should be provided, and alternative formats should be provided for patients with hearing or vision loss, if necessary.
5. Instructions and explanations should be repeated several times.

Monitoring and preventing potential complication

1. Monitoring for continuing symptoms of pneumonia (usually begin to respond to treatment within 24 to 48 hours after antibiotic therapy is initiated).
2. Assesses for signs and symptoms of septic shock and respiratory failure by evaluating the patient's vital signs, pulse oximetry values, and hemodynamic monitoring parameters.
3. Assess for atelectasis and pleural effusion
4. Assist with thoracentesis, and monitor patient for pneumothorax after procedure.
5. Assess for confusion or cognitive changes; assess underlying factors.

Promoting home and community-based care

1. Instruct patient to continue taking full course of antibiotics as prescribed.
2. Educates the patient about their proper administration and potential side effects.
3. Encourage breathing exercises to promote lung expansion and clearing.
4. Encourage follow up chest x-ray.
5. Encourage patient to stop smoking.
6. Review principles of adequate nutrition and rest.
7. Advice patient to increase activity gradually after fever subsides
8. Educated about symptoms that require contacting the primary provider: difficulty breathing, worsening cough, recurrent/increasing fever, and medication intolerance. After the fever subside.
9. Advice patient that fatigue and weakness may linger.
10. Refer patient for home care to facilitate adherence to therapeutic regimen as indicated (Hinkle, et al., 2022).

Complications

As specified in (Harding, Kwong, Roberts, Hagler, & Reinisch, (2020). complications from pneumonia develop more often in older adults and those with underlying chronic diseases. These include:

1. Atelectasis
2. Pleurisy, an inflammation of the pleura.
3. Pleural effusion, or fluid in the pleural space. In most cases, the effusion is sterile and is reabsorbed in 1 to 2 weeks. Sometimes, effusions require aspiration by thoracentesis.
4. Bacteremia, bacterial infection in the blood, is more likely to occur in infections with Streptococcus pneumoniae and Hemophilus influenzae.
5. Pneumothorax can occur when air collects in the pleural space, causing the lungs to collapse.
6. Acute respiratory failure is one of the leading causes of death in patients with severe pneumonia. Failure occurs when pneumonia damages the lungs' ability to exchange O2 and CO2 across the alveolar-capillary membrane.
7. Sepsis/septic shock can occur when bacteria within alveoli enter the bloodstream. Severe sepsis can lead to shock and multisystem organ dysfunction syndrome (MODS)

1.11 Validation of Data

Validation is defined as the process of establishing the truth or logical cogency of something (American psychological Association,2020).

Mr. B.Z gave me most of the information. Much information were also confirmed when I visited the family at home when he was still on admission. I also took some of the information from the patient's folder/ existing medical records and laboratory investigations. Data collected from patient and clinical manifestation were compared with the literature

obtained from text books. There were no deviations which indicated that the data collected is valid and free from errors.

CHAPTER TWO

ANALYSIS OF DATA

2.0 Introduction

Data analysis is the systematic examination and evaluation of data and information, breaking it down into its components and revealing their interrelationships, providing the basis for problem solving and decision making (Weller, 2019). Data analysis forms the second stage of

the nursing process. These include analyses, information about interpreted conditions, and comparisons of collected data with standards. Investigate the causes and clinical features of symptoms and perform diagnostic tests and treatment of patients. It helps nurses identify patient and family problems and strengths, and also provides using diagnoses, goals, and appropriate interventions.

2.1 Comparison of data with standards.

Data collected from diagnostic investigations, signs and symptoms exhibited by the patient, drug treatment as well as complications of patient's condition are compared with the accepted or standard values in the various textbooks and stated as follows.

This deals with comparing the data obtained with that of the standards. These includes

1. Diagnostic investigations
2. Causes
3. Clinical features
4. Treatment
5. Complications

A. Diagnostic Investigation/Test

Diagnostic investigation is a study conducted on a patient to confirm the condition he/she suffering from and to find the causes of a disease to guide treatment plan
on him during his period of hospitalization;

1. Full blood count
2. Erythrocyte sedimentation rate (ESR)

3. BUN/Creatinine test
4. Chest X-ray
5. Sputum for culture and sensitivity

Table 2. 1: Comparison of Investigations/Tests carried out on patient with those outline in the literature review

Diagnostic Investigation in the Literature Review	Diagnostic Investigation carried out on patient.
1. Physical examination and history	1. Physical examination was done and history was taken from patient.
2. Chest x-ray	2. Chest x-ray was done.
3. Pulse oximetry	3. Pulse oximetry (oxygen saturation) was monitored
4. Blood culture	4. Blood culture was not done
5. Sputum culture test	5. Sputum test was done
6. Bronchoscope.	6. Bronchoscope was not done.
7. Full blood count	7. Full blood count was done.

Blood culture and Bronchoscope were not carried out because diagnosis was arrived and confirmed through the following investigations conducted on patient; Full blood count, Erythrocyte sedimentation rate (ESR), BUN/Creatinine test, Chest X-ray and Sputum for culture and sensitivity. Erythrocyte sedimentation rate (ESR) was not in literature review but was conducted because ESR value is high when there is an ongoing inflammatory process in the body.

Table 2. 2: Diagnostic Investigations/Tests carried out on Mr. B.Z

Date	Specimen	Investigation	Results	Normal Value	Interpretation	Remarks
20/08/2023	Blood	**Full Blood Count** Hemoglobin level estimation	14.6g/dl	Males:13.0-18.0g/dl Female:12.0-16.0g/dl	Result falls within normal range.	No treatment given.
		White blood cell count	13.78	$4x10^3$/ul-$11x10^3$/ul	Patient had infection.	Antibiotics were administered (ceftriaxone)
		Platelet count	168.0 x 10^3/ul	150-400 x 10^3	Result was within the normal range.	No treatment was given.
20/08/2023	Blood	Creatinine	1.21mg/dl	(0.5 -1.2mg/dl)	Fall above normal range.	Antibiotics were given.
20/08/2023	Blood	Blood Urea Nitrogen (BUN)	18.64mg/dl	(7 - 20mg/dl)	Normal	No treatment was given.
20/08/2023	Sputum	Acid fast bacilli	Negative	There should be absence of bacilli in the sputum after incubation	The absence of bacilli in the sputum indicates that the infection is not as a result of tuberculosis	No treatment was given.

Table 2.2: Diagnostic Investigations/Tests carried out on Mr. B.Z Cont'd…

Date	Specimen	Investigation	Results	Normal Value	Interpretation	Remarks
20/08/2023	Blood	Erythrocyte Sedimentation Rate (ESR)	1mm fall/hour(uln-37.5)	Male**:** 0- 15mm fall in 1 hour. Female**:**0- 20mm fall in 1 hour	It indicate possible ongoing inflammation.	Anti-inflammatory drugs such as prednisolone was given.
20/08/2023	Lungs	Chest X- ray	Heterogenous diffuse patchy opacification bilaterally.	The lungs should be clear without diffuse patchy opacification.	Indicating patchy consolidation due to inflammation as a result of infection.	Intravenous ceftriaxone was served.

B. Causes of patient's illness.

With reference to the literature review, there appear to be many predisposing factors contributing to the patient's condition. Visit to patient's house revealed that there was poor ventilation and over- crowding in his room. Also, condition could occur as a result of the dusty nature of his home environment and the unhygienic nature of the surroundings which results in decreased immunity. It can therefore be concluded that the unhygienic environment could have caused his condition.

C. Clinical Features

Table 2. 3: Comparison of Clinical Features exhibited by patient with those outlined in literature

Clinical Features from the Literature Review	Clinical Features Exhibited by Patient
1. Sudden onset of chills	1. Patient had chills
2. Rapid rising fever (38.5° to 40.5°C)	2. Patient had fever (37.5°C)
3. Pleuritic chest pain	3. Patient complained of chest pain
4. Tachypnea (25 to 45 breaths/min)	4. Patient was tachypneic (28 breaths/min)
5. Shortness of breath	5. Patient experienced shortness of breath
6. Bradycardia	6. Patient had normal pulse rate
7. Nasal congestion	7. Patient did not experience nasal congestion

Table 2.3: Comparison of Clinical Features exhibited by patient with those outlined in literature cont'd…

Clinical Features from the Literature Review	Clinical Features Exhibited by Patient
8. Sweating	8. Patient experienced profuse sweating
9. Anorexia	9. Patient complained of anorexia
10. Rusty, blood-tinged sputum.	10. Patient produced sputum but not blood stained
11. Fatigue	11. Patient complained of fatigue
12. Headache	12. Patient complained of headache
13. Wheezing	13. Patient experienced slight wheezing
14. Sore throat.	14. Patients throat was not sore
15. Cyanosis	15. Patient did not experience

D. Treatment given to the patient

1. Intravenous Ceftriaxone 2g bd x 48 hours
2. Tablet Azithromycin 500mg daily x 3 days
3. Intravenous Dextrose 5% in Normal Saline 500ml
4. Oxygen prn
5. Syrup Carbocysteine 10mls tid x 7 days
6. Intravenous paracetamol 1g tid x 3 days
7. Tablet Prednisolone 10mg bd × 30 days
8. Clexane 40mg daily x 24 hours

9. Multivitamin 1 tablet × 30 days
10. Tablet Amoxiclav 625mg bd x 7 days

Table 2. 4: Comparison of Specific Treatment Given to Patient with that of literature.

Treatment outlined in the literature review	Treatment given to the patient
1. Penicillin such as penicillin G or Amoxicillin	1. Amoxiclav was prescribed
2. Cephalosporin such as ceftriaxone, cefuroxime	2. Ceftriaxone and Rocephin was prescribed for patient
3. Fluoroquinolones such as ciprofloxacin	3. Fluroquinolones was not prescribed for patient
4. Macrolides such as azithromycin	4. Azithromycin was prescribed
5. Hydration	5. Dextrose 5% in normal saline was prescribed
6. Antipyretics	6. Paracetamol was prescribed for patient
7. Antitussive	7. Syrup carborcisteine was prescribed
8. Nasal decongestant	8. Nasal decongestant was not prescribed
9. Intra nasal oxygen therapy	9. Oxygen was given
10. Vitamin supplement was not in literature review	10. Multivitamin was prescribed
11. Non-steroidal anti-inflammatory drugs was not in literature review	11. Prednisolone was prescribed
12. Anticoagulant was not in literature review	12. Clexane was administered to patient

Clexane was given to patient as a precautionary measure to help prevent clot formation due to prolonged bed rest.

Table 2. 5: Pharmacology of Drugs Prescribed for Mr. B. Z

Date	Drug	Dosage and Route of Administration (Literature)	Dosage and Route of Administration for the patient	Classification	Desired Effect	Actual Action Observed	Side-effects /Remarks
20/09/23	5% Dextrose in normal saline	**Dosage**: Depends on patient's fluid and electrolyte level **Route:** intravenous	**Dosage:**1liter x 24 hours, **Route:** Intravenously	Isotonic solution of sodium chloride	To replace lost fluid and electrolyte and maintain energy	Patient's body fluids and electrolytes were raised	Fluid overload, pulmonary oedema. None of the side effects was observed.
20/08/23	Ceftriaxone	**Dosage:**750mg every 6-8 hours **Route**: oral, intravenous and intramuscular**.**	**Dosage:** 2g bd x 48 hours **Route:** intravenously	Cephalosporin	Inhibit cell wall synthesis by interfering with biosynthesis of peptidoglycans thereby destroying the integrity of the cell wall.	Patient infection. Was controlled.	Headache, nausea, vomiting, hives, dizziness. None of the side effects showed.

Table 2.5: Pharmacology of Drugs Prescribed for Mr. B. Z cont'd

Date	Drug	Dosage and Route of Administration (Literature)	Dosage and Route of Administration for the patient	Classification	Desired Effect	Actual Action Observed	Side Effects / remarks
20/08/23	Oxygen	**Dosage:** Amount depends on oxygen saturation level **Route:** nasal	**Dosage:** 3litres ×12hours nasally Route: nasal	Oxidant	It increases oxygen saturation of hemoglobin, it is necessary for metabolism.	Ineffective breathing pattern was corrected with the oxygen in situ	Retinopathy of prematurity, seizures, oxidative damage. None of the side effects showed.
20/08/23	Azithromycin	**Dosage:** 500 mg once daily for 5days **Route:** oral	**Dosage:** Tablet azithromycin 500mg bd x 3 days **Route:** oral	Antibacterial (macrolide)	To combat infection by inhibiting bacteria protein synthesis.	Patient was relieved of signs and symptoms of infection.	Arthralgia, Numbness, oedema. None was observed

Table 2.5: Pharmacology of Drugs Prescribed for Mr. B. Z cont'd

Date	Drug	Dosage and Route of Administration (Literature)	Dosage and Route of Administration for the patient	Classification	Desired Effect	Actual Action Observed	Side Effects / remarks
20/08/23	Paracetamol	**Dosage:** 0.5–1 g every 4–6 hours; maximum 4g per day **Route:** oral, **i**ntravenous	**Dosage**1g tds x 3 days Route: oral and intravenous **Route:** intravenous	Analgesic (Non-Salicylic Acid)	To reduce pain.	Patient had a reduction in pain and did not experience any increase in temperature	Malaise, skin reactions, Stevens-Johnson syndrome, allergic reactions and liver damage. Patient experienced no side effects.
20/08/23	Syrup carbocisteine	**Dosage:**15mls for adults every 8 hours 10mls for child **Route:** oral	**Dosage:** 10mls tid x 7 days **Route:** oral	Mucolytic	To suppress the cough reflex by direct action on the medulla	Patient was relieved of cough.	Gastrointestinal irritation, rashes. Patient experienced no side effects.
21/08/23	Prednisolone	**Dosage:** 10mg **Route:** orally	**Dosage:** Tablet prednisolone 10mg bd × 30days. **Route:** orally	Corticosteroids	To reduce pulmonary inflammation.	Patient maintained normal pulmonary function.	Hypertension, infection, hyperglycemia. Patient experienced no side effects.

Table 2.5: Pharmacology of drugs prescribed for Mr. B.Z cont'd…

Date	Drug	Dosage and Route of Administration (Literature)	Dosage and Route of Administration for the patient	Classification	Desired Effect	Actual Action Observed	Side Effects / remarks
22/08/23	Clexane	**Dosage:** 40mg **Route:** subcutaneous	**Dosage:**40mg daily x 24 hours **Route:** subcutaneous.	Anticoagulant	To prevent unwanted blood clots from forming.	Patient did not experienced blood clotting.	Swelling, gut pain, bruising easily, nausea, irregular period. None observed.
24/08/23	Multivitamin	**Dosage**: 1 tablet daily **Route:** oral	**Dosage:**1tablet daily for 30 days **Route:** oral	Vitamin	To supplement nutritional deficiency.	Patient nutritional status improved.	Muscle weakness, tooth staining, increased urination. None observed.
28/08/23	Amoxicillin + Clavulanic Acid (Co-Amoxiclav)	**Dosage:**1.2g every twelve hours for 1 day **Route:** oral and intravenous	**Dosage:** 625mg bd x 7 days **Route:** Oral	Penicillin, Broad-spectrum with beta lactamase Inhibitor	To inhibit bacteria growth	Patient condition improved.	Cholesteric jaundice, Hepatitis, Dizziness, Headache None of these side effects were observed

E. Complications

As specified in (Harding, Kwong, Roberts, Hagler, & Reinisch, 2020) complications from pneumonia include:

1. Atelectasis
2. Pleurisy
3. Pleural effusion
4. Bacteremia
5. Pneumothorax
6. Acute respiratory failure

None of these complications were manifested by the patient because treatment was sought earlier, comprehensive assessment, diagnosis, management and effective monitoring and observations by the health team was able to prevent these occurrences

2.2 Health problems

The following were the actual and health problems identified with the Patient during the period of hospitalization.

1. Patient had difficulty in breathing. (20/08/2023)
2. Patient had chest pains. (20/08/2023)
3. Patient was coughing. (20/08/23)
4. Patient was unable to eat. (24/08/2023)
5. Patient complained of general body weakness. (24/01/20)
6. Patient exhibited lack of knowledge about the disease condition. (25/08/23)

2.3 Patient/Family strengths

Below were the identified strengths of patient/family;

1. Patient could breathe when propped up or placed in high fowler's position
2. Patient could splint chest when coughing
3. Patient could cough out sputum.
4. Patient could eat light diet served
5. Patient could perform basic tasks like eating or bathing with assistance.
6. Patient could mention two signs and symptoms about the disease condition.

2.4 Nursing Diagnosis

Nursing diagnosis is clinical judgment concerning a person's, family, or community's actual or potential health problems, state of health promotion, or potential risk that can be managed by independent nursing interventions (Hinkle, et al., 2022).

1. Ineffective breathing pattern related to accumulation of mucus as evidence by dyspnea.
2. Acute pain (chest) related to inflamed lung tissue as evidence by patient guarded behavior
3. Persistent cough related to irritation of the mucosa lining of the respiratory tract as evidence by patient verbalizing uncontrollable cough.
4. Imbalanced nutrition less than body requirement related to anorexia as evidence by patient verbalizing absence of appetite.
5. Self- care deficit related to general body weakness as evidence by patient not able to perform activities of daily living.
6. Deficit Knowledge (Patient/family) on the causes, signs and symptoms, prevention and management related to inadequate information about the condition.

CHAPTER THREE

PLANNING FOR THE PATIENT/FAMILY CARE

3.0 Introduction

Planning is development of measurable goals and outcomes as well as a plan of care designed to assist the patient in resolving the diagnosed problems and achieving the identified goals and desired outcomes (Hinkle, et al., 2022).

3.1 Objectives/ Outcome Criteria

1. Patient c by; Patient would maintain an effective breathing pattern within 24 hours as evidenced by**;**
    a. Nurse visualizing patient has a normal respiratory rate between 18-24 cycles per minute
    b. Patient verbalizing, he feels relaxed
2. Patient's chest pain will resolve within 12 hours as evidenced by;
    a. Patient rating pain as at least 3 on the 0-10 numerical pain rating scale
    b. Nurse observing patient is comfortable in bed.
3. Patient will be relieved of cough within 72 hours as evidenced by;
    a. Patient verbalizing he has a reduced cough
    b. Nurse observing a reduction in frequency of cough.
4. Patient will restore adequate nutritional status within 72 hours as evidenced by;
    a. Patient ate all the three- square meals served
    b. Nurse observing that patient had improved on his weight
5. Patient will care for himself unassisted (personal hygiene) within 48 hours as evidenced by;

   a. Patient verbalizing that he can care for himself (personal hygiene) without assistance
   b. Nurse observing patient is active and can perform daily activities.

6. Patient will obtain adequate information on disease condition within 24hours as evidenced by;
   a. Nurse observing that patient was able to state the causes, sign and symptoms, management of pneumonia
   b. Patient verbalizing, he anticipates a better prognosis of the disease condition

Table 3. 1: Nursing Care Plan For Mr. B.Z /Family Cont'd…

Date/ Time	Nursing Diagnosis	Objective/ Outcome Criteria	Nursing Orders	Nursing interventions	Date/ Time	Evaluation	Sign
20/08/23 6:00pm	Ineffective breathing pattern related to accumulation of mucus as evidence by dyspnea.	Patient would maintain an effective breathing pattern within 24 hours as evidenced by; 1. Nurse observing patient has a normal respiratory rate between 18-24 cycles per minute 2. Patient verbalizing, he feels relaxed in bed.	1.Prop patient up in bed to aid breathing. 2.Check and record vital signs (respiration, pulse and blood pressure) as well as spo2 levels. 3.Encourage patient to take copious amount of fluid to liquefy secretion. 4.Ensure patent airway by suctioning when necessary. 5.Teach and encourage deep breathing exercises 2 hourly during the day. 6.Serve prescribed drugs as ordered.	1. Patient was propped in bed. 2. Vital signs were checked and recorded. 3. Patient was encouraged to take copious amount of fluid. 4. Patient was suctioned. 5. Patient was taught and encouraged to perform deep breathing exercise. 6.Prescribed drugs were given (carbocysteine)	21/08/23 06:00pm	Goal fully met as nurse observed patient has a normal respiratory rate between 18-24 cycles per minute and Patient verbalized, he feels relaxed in bed.	Y. B. H

Table 3.1: Nursing Care Plan For Mr. B.Z /Family Cont'd…

Date/Time	Nursing Diagnosis	Objectives/Outcome Criteria	Nursing Orders	Nursing Interventions	Date and Time	Evaluation	Sign
20/08/23 06:25pm	Acute pain (chest) related to inflamed lung tissue as evidence by patient guarded behavior.	Patient would be relieved of pain within 12 hours as evidenced by 1. Patient rating pain as at least 3 on the 0-10 numerical pain rating scale 2.Nurse observing patient is comfortable in bed.	1. Assess level of pain on a scale of 0-10. 2. Put patient in a position to suit his comfort. 3.Involve patient in diversional activities such as chatting with the patient 4.Identify aggravating and alleviating factors of the pain. 5. Teach patient to splint chest when coughing and take deep breaths. 6. Administer prescribed analgesics such as paracetamol.	1.Patient level of pain was assessed on the rating scale of 0-10 2. Patient was assumed in an upright position to ease chest pain. 3. Patient was involved in diversional activities such as chatting with the patient. 4.Patient was made to voice out aggravating and alleviating factors of the pain. 5. Patient was encouraged to splint chest when coughing and also breathe deeply. 6.Paracetamol 1g tid x 7 days was served	21/08/23 06:25am	Goal was fully met as patient rate pain as at 1 on the 0-10 numerical pain rating scale 2.Nurse observed patient been comfortable in bed.	Y. B. H.

Table 3.1: Nursing Care Plan for Mr. B.Z Conti'

Date/ Time	Nursing Diagnose	Objective/Outcome criteria	Nursing Orders	Nursing Intervention	Date/ Time	Evaluation	Sign
20/08 /2023 06:50 pm	Persistent cough related to irritation of the mucosa lining of the respiratory tract as evidence by patient verbalizing uncontrollable cough.	Patient cough will resolve within 72 hours as evidenced by 1. Patient verbalizing he has a reduced cough 2. Nurse observing a reduction in frequency of cough.	1. Put patient in an upright position. 2. Encourage deep breathing and relaxation techniques. 3. Encourage patient to take in fluids 2 to 3 liters in a day. 4. Instruct patient in chest splinting techniques during coughing episodes 5. Provide sputum mug at bed side 6. Administer prescribed cough expectorants (syrup carbocisteine)	1. Patient was put in an upright position to allow expansion of the lungs. 2. Deep breathing and relaxation techniques were encouraged. 3. Patient was encouraged to take in fluids about 2 to 3 liters in a day. 4. Patient was instructed to support chest during coughing. 5. sputum mug was provided at the patient's bed side 6.Syrup carbocisteine 10mls administered.	23/08/23 06:50pm	Goal was fully met as patient verbalized he has a reduced cough And nurse observed a reduction in frequency of cough.	Y. B. H

Table 3.1: Nursing Care Plan for Mr. B.Z Conti'

Date/ Time	Nursing Diagnose	Objective/Outcome criteria	Nursing Orders	Nursing Intervention	Date/ Time	Evaluation	Sign
24/08 /23 10:30 am	Imbalanced nutrition (less than body requirement) related to anorexia as evidence by patient not able to eat half of meal served.	Patient will restore adequate nutritional status within 72 hours as evidenced by; 1.patient ate all the three-square meals served. 2.Nurse observing that patient had improved on his weight.	1. Reassure patient that with time his nutritional pattern will be restored. 2. Maintain patient oral hygiene. 3. Serve patient's favourite food at the appropriate time. 4. Involve patient/family in planning meals. 5. Serve appetizer such as fruit juice before meals. 6. Serve prescribed medication (multivitamin 1tablet daily).	1. Patient reassured that with time his nutritional status will be restored. 2. Patients oral hygiene maintained. 3. Patient favourite food was served at the appropriate time. 4. Patient/family was involved in the planning of meal. 5. Appetizers such as fruit juice was served before meal. 6. Prescribed medication served. (Multivitamin 1tablet daily).	27/08/23 10:30am	Goal fully met as patient ate all the three-square meals served. and nurse observed that patient had improved on his weight.	Y. B H

Table 3.1: Nursing Care Plan for Mr. B.Z Conti'

Date/ Time	Nursing Diagnose	Objective/Outcome criteria	Nursing Orders	Nursing Intervention	Date/ Time	Evaluation	Sign
24/08 /23 10:30 am	Self-care deficit (personal hygiene) related to general body weakness as evidence by patient not able to perform activities of daily living (ADLs)	Patient will care for himself (personal hygiene) within 48 hours as evidenced by; 1. Patient verbalizing that he can care for himself (personal hygiene) without assistance. 2. Nurse observing patient is active and can perform daily activities.	1. Reassure patient/family that they are in good hands. 2. Perform comfort measures to relieve weakness. 3. Assist patient to perform mouth care twice daily. 4. Assist patient to perform proper nail care. 5. Ensure proper hand washing before and after eating. 6. Arrange items needed at the reach of patient.	1. Patient/family were reassured that, they are in good hands. 2. Comfort measures such as warm bath and massaging were given to relieve pains 3. Patient was assisted in performing mouth care twice daily. 4. Patient was assisted in performing proper care of the nail. 5. Proper hand washing was ensured before and after eating. 6. Patient needed items was arranged.	26/08/2 3 10:30 am	Goal fully met as patient verbalized that he can care for himself (personal hygiene) without assistance. And nurse observed patient been active and can perform daily activities.	Y. B. H

Table 3.1: Nursing Care Plan for Mr. B.Z Conti'

Date/ Time	Nursing Diagnose	Objective/Outcome criteria	Nursing Orders	Nursing Intervention	Date/ Time	Evaluation	Sign
25/08/23 8:00am	Knowledge deficit (patient /family) related to inadequate knowledge about disease condition as evidence by patient do not know the cause, symptoms and prevention of the condition.	Patient will obtain adequate information and knowledge on the disease condition within 24 hour as evidence by Nurse observing that patient was able to state the causes and signs of pneumonia 2. Patient verbalizing he anticipates a better prognosis of the disease condition.	1. Reassure patient that the disease can be cured. 2. Assess patient's family level of awareness of the condition. 3. Educate patient on the disease condition. 4. Present teaching aids to enhance learning 5.Educate them on disease condition. 6.Encourage patient and relatives to ask questions and tactfully answer them.	1. Patient was reassured that the disease can be cured. 2. Patient's family were assessed on the condition. 3. Patient was educated on the disease condition. 4.Pictures and other materials were 5.Patient/family educated on disease condition 6. Questions asked were tactfully answered.	26/08 /23 08:00 am	Goal fully met as Nurse observed that patient been able to state the causes and signs of pneumonia And Patient verbalized he had again better prognosis of the disease condition.	Y. B. H

CHAPTER FOUR

IMPLEMENTING PATIENT/FAMILY CARE

4.0 Introduction

The implementation phase of the nursing process involves carrying out the proposed plan of nursing care. The nurse assumes responsibility for implementation and coordinates the activities of all those involved in implementation, including the patient and family, and other members of the health care team so that the schedule of activities facilitates the patient's recovery. Implementation includes direct or indirect execution of the planned interventions. It is focused on resolving the patient's nursing diagnoses and collaborative problems and achieving expected outcomes, thus meeting the patient's health needs (Hinkle, Cheever, & Overbaugh, 2022) .

4.1 Summary of Actual Nursing Care

This involves the actual implementation of the nursing orders in the nursing care plan. A comprehensive nursing care was rendered to Mr. B.Z from the day of admission, which was on the 20th of August, 2023 and continued till he was discharged on the 28th of August, 2023. The nursing care rendered to the patient are summarized on daily basis as follows;

First Day of Admission (20th August, 2023)

On the 20th August, 2023 at 05:50pm, patient reported into the emergency ward in conscious state accompanied by his wife. The patient and relative were warmly welcomed and offered a seat at the nurses' station. I collected his folder number from the accompanied nurse to confirm patient particulars. His wife (Madam H.B) was reassured on the competency of staff nurses and doctors in the care of her husband. I introduced myself as a student nurse and also introduced other nurses who were present. On direct questioning, patient complained of cough, difficulty in breathing, chest pain, anorexia and fatigue. Quick assessment was made

and patient was generally sick, therefore a cardiac bed was made for the patient since he was finding it difficult to breath. Vital signs were checked and recorded as follows;

1. Temperature - 37.5 ºC (degree Celsius)
2. Pulse - 98 beats per minute
3. Respiration - 28 cycles per minute
4. Blood pressure - 120/81mmHg (millimeters of mercury)

Patient random blood sugar was checked and recorded as;

Random blood sugar 8.9mml/L

Oxygen saturation 94%

Patients name, sex, in-patient number were all written into the admission and discharge book and unto the daily ward state. Since patient was weak, his wife was oriented on the ward environment, lavatory, visiting hours, ward routines and time for ward rounds

The patient was placed on the following treatment plan:

1. Intravenous Ceftriaxone 2g bd x 48 hours
2. Tablet Azithromycin 500mg daily x 3 days
3. Intravenous Dextrose 5% in Normal Saline 500ml
4. Oxygen prn
5. Syrup Carbocysteine 10mls tid x 7 days
6. Intravenous paracetamol 1g tid x 3 days

Dextrose 5% in normal saline 500ml and Ceftriaxone Injection 2g as stat dose and oxygen set up to help enhance breathing. The respective prescribed treatments were all served. A care plan was drawn for necessary interventions to be implemented on the various health problems identified. The following investigation were also conducted.

1. Full blood count
2. Erythrocyte sedimentation rate (ESR)
3. BUN/Creatinine test
4. Chest X-ray
5. Sputum for culture and sensitivity.

Preparation of patient and relatives towards discharge such as assessing the level of their understanding of the condition, discussing of continuation of care at home, giving medication and others were done. Patient was made to understand that his stay in the ward was on temporal bases. As a student nurse of Holy Family Nursing and Midwifery Training College, Berekum, I then reintroduced myself once again to the patient and relative and informed them of my intention of taking him as the patient for my care study to enable me obtain my license to practice as a professional general nurse. I decided to choose this patient for the study because I wanted to know more about pneumonia and identify ways of preventing it since most people come with this condition.

They agreed and granted me the opportunity and promised to cooperate throughout our interaction.

At 6:00pm patient complained of difficulty breathing so a nursing diagnosis of Ineffective breathing pattern related to accumulation of mucus as evidence by dyspnea. A goal to help patient maintain an effective breathing pattern within 24 hours was set and the following intervention were carried out; Patient was propped in bed, Vital signs were checked and recorded, Patient was encouraged to take copious amount of fluid, Patient was suctioned, Patient was taught and encouraged to perform deep breathing exercise and Prescribed drugs were given.

At 06:25pm patient complained of chest pain so a nursing diagnosis of Acute pain (chest) related to inflamed lung tissue as evidence by patient guarded behavior. Objective was set to resolve patient cough within 72 hours. The following intervention were carried out; Patient level of pain was assessed on the rating scale of 0-10, Patient was assumed in an upright position to ease chest pain, patient was involved in diversional activities such as chatting with the patient, Patient was made to voice out aggravating and alleviating factors of the pain and Patient was encouraged to splint chest when coughing and also breathed deeply.

At 06:50pm patient complained of persistent cough so a nursing diagnosis of Persistent cough related to irritation of the mucosa lining of the respiratory tract as evidence by patient verbalizing uncontrollable cough. The following intervention were set; Patient was placed in an upright position to allow expansion of the lungs, Deep breathing and relaxation techniques were encouraged, Patient was encouraged to take in fluids about 2 to 3 liters in a day, Patient was instructed to support chest during coughing, sputum mug was provided at the patient's bed side and Syrup carbocisteine 10mls administered.

In the evening, Patient was educated on the importance of eating nutritious meals. He ate one third of meal (rice and stew with vegetables) served as supper. Prescribed medications were served around 6:00 pm. and he brushed his teeth, took his bath with assistance and was made comfortable in bed.

At 10:00pm, Patient vital signs were checked and recorded as shown in the appendix. Patient slept around 10:15pm.

Second Day of Admission (21st August, 2023)

According to patient, he woke up around 5:00am in the morning and performed his prayers, assisted him to bath and brushed his teeth Patient was served wheat with milk.

At 6:00am, vital signs were checked and recorded as in the appendix.

On 21st August, 2023, at 06:25am, objective set to relieve patients' pain within 12 hours was evaluated and goal was fully met as patient rate pain as at 1 on the 0-10 numerical pain rating scale and the nurse observed patient been comfortable in bed.

Patient bed linen was changed and prescribed medication were administered. Through my interaction with the patient there were no complains. During ward rounds the doctor review the patient and ordered tablet prednisolone 10mg bd for 30days.

In the afternoon around 12:40 pm, patient was served with rice and beans stew and four slices of orange as dessert. Patient's prescribed medications were administered and 2:00pm vital signs were checked and recorded as in appendix.

On 21st August, 2023, at 06:00pm, objective set to maintain an effective breathing pattern within 24 hours was evaluated and goal was fully met as nurse observed patient has a normal respiratory rate between 18-24 cycles per minute and patient verbalized, he feels relaxed in bed. Afterwards, patient vital signs were checked and recorded as in appendix and due medications were administered.

In the evening around 6:30pm, He took his bath and was served with T.Z with okra soup as supper. He brushed his teeth after the meal. With regards to his problems the appropriate interventions were carried out in the care plan. I therefore asked permission from patient and the staff on duty to leave. At 10pm vital signs were checked and recorded as showed in the appendix. Patient slept around 10:45 pm.

Third Day of Admission (22nd August, 2023)

On this day, patient woke up around 5:30am. brushed his teeth, emptied his bowel, took his bath and was fed with porridge and bread. Patient managed to eat half cups of the meal been served. At 6:00am, vital signs were checked and was recorded as indicated in the appendix.

Patient bed linen was changed and prescribed medication were administered.

At 9:00 am, during ward rounds patient treatment plan was reviewed and subcutaneous clexane was added. I therefore reassured and encourage him to continue with his medication.

In the afternoon around 12:00 pm, patient was served with jollof rice with salad and chicken and three slices of apple as dessert. Patient's due medications were administered and 2:00pm vital signs were checked and recorded as in appendix.

In the evening around 6:00 pm, patient vital signs were checked and recorded as in appendix. He took his bath and was served with rice ball and groundnut soup as supper. He brushed his teeth after the meal. Due medications were served. With regards to his problems the appropriate interventions were carried out in the care plan. At 10:00pm vital sign were checked and recorded as in the appendix. Patient slept around 10:30pm.

Fourth Day of Admission (23rd August, 2023)

Patient was out of bed around 5:00 am, he brushed his teeth, emptied his bowel and took his bath. At 6:00am, morning ward routines such as straightening of bed linen, serving of medications and vital signs were checked and recorded in the appendix. Patient took tea and bread as breakfast. Due medications were also administered. Mr. B.Z had no complains so the doctor did not give any other medication. I reassured him that if his condition remains stable he will be discharged home to continue his work.

At 12:30 pm, he had his lunch which was Jollof rice and fried fish. During an interaction with Mr. B.Z I realized that he lacks knowledge on his disease condition. Hence an objective was set to educate him on the disease condition. This was implemented in the care plan.

At 6:00 pm patient was served with fufu and light soup. He took his bath after the meal and due medications were also administered.

On 23rd August, 2023, at 06:50pm, objective set to resolve patients cough within 72 hours was evaluated and goal was fully met as patient verbalized, he has a reduced cough and Nurse observed a reduction in frequency of cough.

At 10:00pm vital signs were checked and recorded as in the appendix. Patient went to bed around 10:30pm.

Fifth Day of Admission (24TH August, 2023)

According to night nurse he woke up at 5:30am. He was assisted to brushed his teeth and bath as he complained of general weakness and took little amount of porridge with bread as breakfast.

At 6:00am, vital signs were checked and recorded as showed in the appendix.

Through interaction with the patient previous night, he complained loss of appetite. it was assessed and a nursing diagnosis was made imbalance nutrition (less than body requirement) related to anorexia. An objective was made to restore normal nutritional status within 72 hours and nursing intervention was made as follows; Patient assured that with time his nutritional status will be restored, Patients oral hygiene maintained, Patient favourite food was served at the appropriate time, Patient/family was involved in the planning of meal, Appetizers such as fruit juice was served before meal and Prescribed medication served. (Multivitamin 1tablet daily).

At 10: 30am, he complained of general body weakness, it was assessed and a nursing diagnosis of Self-care deficit (personal hygiene) related to general body weakness as evidence by patient not able to perform activities of daily living (ADLs). An objective was set to restore patient ability to care for himself unassisted (personal hygiene) within 48 hours. Patient/family were reassured that, they are in good hands, Comfort measures such as warm bath and massaging were given to relieve pains, Patient was assisted in performing mouth

care twice daily, Patient was assisted in performing proper care of the nail, Proper hand washing was ensured before and after eating and Patient needed items was arranged at the bed side.

At 12:30 pm, patient took his lunch which was plantain with garden eggs stew. He was able to eat about two third of the food served.

Patient was advised to take short walk around the hospital premises if it would be okay for him. At 2:00pm, due medications were served and vital signs was checked recorded as indicated in the appendix.

I went for my first home visit at 02:35pm after work with the help of the information I gathered during the admission process. The purpose was to know patient residence and the environment in which she lives to verify the information given to me and also to identify the risk factors such as poor sanitation that can lead to her condition

Mr. B.Z had supper which was jollof and chicken after which he performed oral hygiene and took his warm bath. Due medications were administered.10:00pm vital sign were checked and recorded as indicated in the appendix. Patient slept around 10:20pm.

Sixth Day of Admission (25TH August, 2023)

He woke up quite early in the morning in good condition and with a healthy and cheerful facial expression around 6:00am. The night nurse told me of how well the patient had slept through the night. His personal hygiene was done and vital signs were checked and recorded as showed in the appendix

Patient was served with hot tea with toasted bread and eggs as breakfast and he managed to eat little of the food served though it was encouraging.

During an interaction with Mr. B.Z, I realized that he lacks knowledge on his disease condition so a nursing diagnosis of Knowledge deficit (patient /family) related to inadequate knowledge about disease condition as evidence by patient do not know the cause, symptoms and prevention of the condition. An objective was set for patient to understand and gain more insight to his disease condition within 24hours. intervention carried out were; Patient was reassured that the disease can be cured, Patient's family were assessed on the condition, Patient was educated on the disease condition, Pictures and other materials were, Patient/family educated on disease condition and Questions asked were tactfully answered.

Seventh day of admission (26th August, 2023)

Patient was out of bed around 5:00am, he brushed his teeth, emptied his bowel and took his bath. At 6:00am, morning ward routines such as straightening of bed linen, serving of medications and vital signs were checked and recorded as indicated in the appendices.

On 26th August 2023, at 8:00am, objective set to enable patient gain knowledge on disease condition (pneumonia) was evaluated and goal was fully met as the nurse observed that patient been able to state the causes and signs of pneumonia and patient verbalized he had again better prognosis of the disease condition.

On 26th August 2023, at 10:00am, objective set to enable patient care for himself within 48 hours was evaluated and goal was fully met as patient verbalized that he can care for himself (personal hygiene) without assistance and nurse observed patient been active and can perform daily activities.

At 10:00am, during ward rounds the doctor reviewed patient treatment, reassured and encourage him to continue with his medication.

In the afternoon around 12:00pm, patient was served with T.Z with groundnut soup.

At 2: 00pm, Patient's due prescribed medications were administered and vital signs checked and recorded as in appendix.

In the evening around 6:00pm, patient vital signs were checked and recorded as indicated in appendix and due medications were administered. Took his bath and was served with rice and stews as supper. He brushed his teeth after the meal.

With regards to his problems the appropriate interventions were carried out in the care plan. I therefore asked permission from patient and the staff on duty to leave.

At 10:00pm, Vital signs was checked and recorded as in the appendix. Patient slept around 10:40 pm.

Eighth Day of Admission (27th August 2023)

Patient was out of bed around 5:30 am, he brushed his teeth, emptied his bowel and took his bath. At 6:00am, morning ward routines such as straightening of bed linen, serving of medications and vital signs were checked and recorded as indicated in the appendix and due medications were also administered.

Patient took tea and bread as breakfast.

During ward rounds at 10:00am, Mr. B.Z had no complains. The doctor performed tolerable assessment and no problem found and patient was stable and in good condition, doctor said discharge would be considered a day later if patient condition improves further.

On 27th August, 2023, at 10:30am, objective set to restore adequate nutritional status within 72 hours was evaluated and goal was fully met as patient ate all the three-square meals served and nurse observed that patient had improved on his weight.

At 12:30 pm, he had his lunch which was waakye and fried fish.

At 2:00pm vital signs were checked and recorded as indicated in the appendix

At 5:00 pm patient was served with fufu and light soup. He took his bath after the meal and due medications were also administered.

At 10:00pm, Vital signs was checked and recorded as in the appendix and due medications were administered. Patient went to bed around 10:40pm.

Ninth Day of Admission (28th August, 2023)

Patient was out of bed around 5:00 am, he brushed his teeth, emptied his bowel and took his bath. At 6:00am, morning ward routines such as straightening of bed linen, serving of medications and vital signs were checked and recorded as in the appendices.

During the morning rounds at 8:30am, the doctor discharged patient after thorough assessment of his health status which he found to be stable. All outstanding medical bills were paid. Patient was put on the following medications; Syrup carbocysteine 10mls tid ; tab paracetamol 1g tid x 7days and Tab. Amoxiclav 625mg bd x 7 days. Mr. B.Z was scheduled to come back for review on 05/09/2023.

Patient and family were educated on issues such as the need to continue with his medications and how to take them whiles in the house and the need to eat nutritious diet that would keep them healthy. The need to come back for review on the scheduled date was stressed. I then entered his name into the admission and discharge book as well as the daily ward state and they were informed of my next home visit.

After helping Patient and family in packing their belongings, they expressed their appreciations to the entire staff on the ward for the care rendered to them. They ceased that opportunity to bid other patients in the ward as well as the entire staff on duty goodbye. They

were escorted from the ward to the entrance where they picked a taxi and departed at 11:00 am. The bed linen was discarded and the mattress disinfected with 0.5% bleach.

4.2 Preparation of Patient and Family for Discharge and Rehabilitation

The preparation of patient and family towards discharge started on the day of admission till the day he was discharged. Even though Patient and family were anxious and worried about his hospitalization, they were reassured that, his admission was a temporal measure to give proper medical and nursing care. They were assured of the competent health personnel's and equipment which were available to help improve patient's condition and facilitate his discharge as early as possible.

Series of health education on the condition was given to patient and family right from admission till discharge. Education was given based on patient and family's knowledge by telling them the predisposing factors, signs and symptoms, treatment and preventive measures. Education of preventive measures were focused on the avoidance of risk factors such as overcrowding, opening of his chest especially during cold seasons, excessive alcohol intake, smoking and too much exposure to dust and fumes. He was advised to avoid self-medication and the need to come to the hospital anytime for proper treatment and even if review date is not due. Patient and family were educated on the need for Follow-up visits and on the dose, action and adverse effects of the medications that were given.

On 28th August, 202 during ward rounds, Mr. B.Z was discharged on cough mixture, tablet paracetamol 1g tid x 7 days orally and Amoxiclav 1.2mg 8 hourly x 24. Patient was told to come back on the 5th September, 2023 for review. The date and time of discharge were entered into the admission and discharge book and the daily ward state. All bills were covered and

Patient and family were helped to pack their belongings and left the hospital at 11:00 am.

4.3 Follow up / home Visit / Continuity of Care

According to Mayor M., (2018), Home visit is the visit made to the Patient in their home to prevent illness or disability to promote and maintain health, encourage individuals and families to live a healthy life and improve their health standards.

Follow up care or home visit is a friendly but an important role in the care of the patient after discharge. It helps to observe the health and environmental conditions of the Patient. It also helps to know the predisposing factors and other hazards which could be dangerous to the health of the patient and family. It also provides the patient a second chance to ask questions and get education too. It also provides the nurse the chance to provide new information about the condition if there is any.

First Home Visit (24th August,2023)

Direction by the patient, I set off around 2:00 pm and got to his house around 2:35pm. The road to the house was very dusty. I met his daughter, greeted them and introduced myself to them as a student nurse taking care of Mr. B.Z at the hospital for a study and they welcomed me. I was offered a seat and water to drink. Upon arrival at the house a quick observation was made. It was two rooms. The house is built with blocks, plastered and well roofed with aluminum iron sheets. Toilet and bath was built far from the house. Their main source of fuel for cooking is gas and charcoal. They had a very dusty compound which was well swept but was dusty. Some part of their environment which was away from the house was unhygienic. Their source of water was a dug up well in the compound. Their refuse was kept in a bucket without a lid at the back of the house. I enquired about how they dispose of their rubbish and was told they dug up a hole behind the house in which rubbish was been disposed and burnt periodically. Their electricity source was from Techiman.

I asked for permission to enter their room and was granted. There was poor ventilation and overcrowding in the room with clothing. I encouraged and educated them to keep the environment always neat to prevent the outbreak of communicable diseases like cholera, malaria and typhoid fever and also their belongings in room should be neatly and nicely arranged at one side of the room. With permission from the family, I left the house around 4:30 pm and promised them of another visit.

Second Home Visit (1st September, 2023)

My second visit was on 1st September, 2023 after he had been discharged and gone home. I got there at 10:37am. The second home visit was to assess the health of the patient and to know whether the education given to patient and family during the period of hospitalization and first home visit was adhered to.Mr. B.Z. received me, offered me a seat and water to drink. I met his children. As usual, I asked about their health especially about Mr. B.Z who said he had not experienced any problems since he came home. I requested for his drugs to ensure that he had really been taking them and was happy to see that he followed the said instruction given him at the hospital. He expressed his gratitude to me for my care and the education I gave them and promised to adhere to everything I said, especially to lifestyle modifications. We talked about other social matters and later asked permission to leave at 12:04pm after reminding him of the date for his review which was on 5th September, 2023

Day OF Review (5th September, 2023)

On Tuesday 5th September,2023, Mr. B.Z reported for review on the date scheduled by the doctor at 9:30am. He was accompanied to the outpatient department by his wife. I went and met him looking cheerful as noted from his facial expression. I helped him to activate his folder from the records. Upon my interaction with patient, I observed that his condition had really improved. He was seen by the medical doctor, the medical doctor did a general examination from head to toe and declared him very fit. His vital signs were;

1. Temperature -36.9oC,
2. Pulse - 67bpm,
3. Respiration - 18cpm,
4. Blood pressure - 100/70mmhg
5. Oxygen saturation - 99%

He lodged no complains and so no drugs were given to him. He was again reminded to protect himself against the dusty environment, maintain his personal hygiene and to report to the facility when he was not feeling well. He was advised again on that factors that contributes to the condition and ways to prevent it such as the use of masks at the workplace and also avoidance of alcohol and smoking since these factors are the main contributing factors for patient. He was escorted to the hospital gate to board a vehicle back home.

Third Home Visit (10th September, 2023)

On the 10th of September, 2023, Mr. B.Z and his family were visited at home. I had told him I would be visiting. I asked about their health and they were all doing well. They were informed about my termination of care on Mr. B.Z. since he had fully recovered from pneumonia and all signs and symptoms were no longer exhibited. I also told them it was the end of my clinical period. I told Mr. B.Z family that because I am a student and I will have to go back to campus to continue my education, I cannot stay with them forever. But I promised to always come and pay them unofficial visits. They were very grateful for help and care rendered to him and told me I am always welcome to their place. I handed him over to his wife and reminded them of the modifications they had to do. I thanked them for the support they gave me and their cooperation, before they escorted me to board a vehicle back home.

CHAPTER FIVE

EVALUATION OF CARE RENDERED TO PATIENT AND FAMILY

5.0 Introduction

Evaluation is determination of the patient's response to nursing interventions and the extent to which the outcomes have been achieved (Hinkle, Cheever, & Overbaugh, 2022) . Evaluation in simple terms is the outcome of nursing actions against the anticipated goals and it is the final step in the nursing process . Depending on the outcome, partially met or unmet goals are re-examined, modified and re-prioritized after a proper assessment for an effective nursing care to be rendered. It is an ongoing activity involving the nurse, patient, the family and the health team. It consist of statement of evaluation of achieved and unachieved goals, amendment of nursing care plan and termination of care.

5.1 Statement of Evaluation

The nursing care was based on the nursing process. During the period of his stay at the hospital a nursing care plan was designed to aid in delivery of quality care to the patient with emphasis on the nursing diagnosis. During the nursing care, actual and potential problems were identified, objectives were set, plans for patient's and family care implemented and later evaluated

Mr. B.Z was admitted on 20/08/2023 with the diagnosis of community acquired pneumonia. On admission six problems were identified and objectives set for the resolution of each problem. The degree to which the objectives were achieved has been discussed below.

1. Patients Breathing Pattern was restored to normal.

On the 20 Augusst,2023 at 6:00pm patient complained of difficulty breathing so a nursing diagnosis of Ineffective breathing pattern related to accumulation of mucus as evidence by dyspnea. A goal to help patient maintain an effective breathing pattern within 24 hours was

set and the following intervention were carried out; Patient was propped in bed, Vital signs were checked and recorded, Patient was encouraged to take copious amount of fluid, Patient was suctioned, Patient was taught and encouraged to perform deep breathing exercise and Prescribed drugs were given.

On 21st August, 2023, at 06:00pm, objective set to maintain an effective breathing pattern within 24 hours was evaluated and goal was fully met as nurse observed patient has a normal respiratory rate between 18-24 cycles per minute and patient verbalized, he feels relaxed in bed.

2. Patient was relieved from chest pain

Assessment on admission at 6:25 pm, patient had chest pain. a nursing diagnosis of acute pain (chest) related to inflamed lung tissue as evidence by patient guarded behavior. Objective was set to relieve patient's chest pain within 12 hours. The following intervention were carried out; Patient level of pain was assessed on the rating scale of 0-10, Patient was assumed in an upright position to ease chest pain, Patient was involved in diversional activities such as chatting with the patient, Patient was made to voice out aggravating and alleviating factors of the pain, Patient was encouraged to splint chest when coughing and also breathe deeply, Paracetamol 1g tid x 7 days was served.

On 21st August, 2023, at 06:25am, objective set to relieve patients' pain within 12 hours was evaluated and goal was fully met as patient rate pain as at 1 on the 0-10 numerical pain rating scale and the nurse observed patient been comfortable in bed.

3. Patient's cough was subsided

On 20th August, 2023 at 6:50pm, patient complained of persistent cough so a nursing diagnosis of Persistent cough related to irritation of the mucosa lining of the respiratory tract as evidence by patient verbalizing uncontrollable cough. An objective was set to help relieve

patient of cough within 72 hours. In order to achieve this objective, the following intervention were set; Patient was placed in an upright position to allow expansion of the lungs, Deep breathing and relaxation techniques were encouraged, Patient was encouraged to take in fluids about 2 to 3 liters in a day, Patient was instructed to support chest during coughing, sputum mug was provided at the patient's bed side and Syrup carbocisteine 10mls administered.

On 23rd August, 2023, at 06:50pm, objective set to resolve patients cough within 72 hours was evaluated and goal was fully met as patient verbalized, he has a reduced cough and Nurse observed a reduction in frequency of cough.

4. Nutritional status was restored.

On 24th of August at 10:30 am, patient had loss of appetite. It was assessed and a nursing diagnosis was made imbalance nutrition (less than body requirement) related to anorexia. An objective was set to restore patient nutritional pattern within 72 hours. Patient reassured that with time his nutritional status will be restored, Patients oral hygiene maintained, Patient favourite food was served at the appropriate time, Patient/family was involved in the planning of meal, Appetizers such as fruit juice was served before meal and Prescribed medication served. (Multivitamin 1tablet daily).

On 27th August, 2023, at 10:30am, objective set to restore adequate nutritional status within 72 hours was evaluated and goal was fully met as patient ate all the three-square meals served and nurse observed that patient had improved on his weight.

5. Patient regained energy to care for himself.

On the 24th August, 2023 at 10:30 am, patient complained of general body weakness, it was assessed and a nursing diagnosis of Self-care deficit (personal hygiene) related to general body weakness as evidence by patient not able to perform activities of daily living (ADLs).

An objective was set to restore patient ability to care for himself unassisted (personal hygiene) within 48 hours. Patient/family were reassured that, they are in good hands, Comfort measures such as warm bath and massaging were given to relieve pains, Patient was assisted in performing mouth care twice daily, Patient was assisted in performing proper care of the nail, Proper hand washing was ensured before and after eating and Patient needed items was arranged at the bed side.

On 26th August 2023, at 10:00am, objective set to enable patient care for himself within 48 hours was evaluated and goal was fully met as patient verbalized that he can care for himself (personal hygiene) without assistance and nurse observed patient been active and can perform daily activities.

6. Patient gained adequate knowledge on pneumonia

On the 25th August,2023 at 8:00am, patient lacks knowledge on his disease condition so a nursing diagnosis of Knowledge deficit (patient /family) related to inadequate knowledge about disease condition as evidence by patient do not know the cause, symptoms and prevention of the condition. An objective was set for patient to understand and gain more insight to his disease condition within 24hours. intervention carried out were; Patient was reassured that the disease can be cured, Patient's family were assessed on the condition, Patient was educated on the disease condition, Pictures and other materials were, Patient/family educated on disease condition and Questions asked were tactfully answered.

On 26th August 2023, at 8:00am, objective set to enable patient gain knowledge on disease condition (pneumonia) was evaluated and goal was fully met as the nurse observed that patient been able to state the causes and signs of pneumonia and patient verbalized he had again better prognosis of the disease condition.

5.2 Amendment of partially met or unmet outcome criteria.

During hospitalization, six problems were identified and objectives were set to deal with the problems through various nursing intervention. All objectives set for patient/family were fully achieved therefore there was no need for amendment of care.

5.3 Termination of Care

Termination of care is one of the most difficult but essential aspect of every nurse-patient interaction. It is the break in the therapeutic relationship established between the patient /family and the nurse. At this stage, the patient/family and the nurse had established good interpersonal relationship and had great feeling and memories for each other.

The patient and family were made aware on admission that, our interaction would come to a halt someday, as the patient would become well and will be discharged to continue his everyday activities. Patient and family were given a gradual psychological preparation; they were told that, our relationship was a therapeutic one and was temporal, which would last for a reasonable period. When Mr. B.Z was reviewed by the doctor, he was declared fit and looked very healthy with no complains. During my last visit to his home the third time, I observed that his general condition was encouraging and therefore terminated my care with him on 10th September, 2023 by finally advising him on eating balanced meals and having enough rest and officially handed over to his wife since there was no community health nurse. I wished him the best in life and told him to report to the hospital whenever he is feeling ill. Also, I thanked him and his family for their cooperation

CHAPTER SIX

SUMMARY AND CONCLUSION

6.0 Introduction

Summary refers to an overview of a content that provides a reader with the main theme, but does not expand on specific details, (business dictionary). Conclusion is something that you decide when you have thought about all the information connected with the situation. (Weller, 2010).

6.1 Summary

Mr. B.Z a 65 year old man was admitted on 20th August, 2023 at 5:50pm, through accident and emergence to the Male medical ward of Holy Family hospital Techiman. He presented with breathing difficulty, chest pains, cough, general body weakness, fatigue and anorexia. He was diagnosed of pneumonia by Dr. B.A.N. With the use of nursing process, the six problems identified were developed into nursing diagnosis with nursing orders which were implemented to help solve these problems and promote recovery. Among the care provided to him were bed making, monitoring of vital signs (temperature, pulse, respiration, and blood pressure), proper positioning in bed, administration of oxygen, and patient/family education on personal hygiene.

The treatment plan included:

1. Intravenous Ceftriaxone 2g bd x 48 hours
2. Tablet Azithromycin 500mg daily x 3 days
3. Intravenous Dextrose 5% in Normal Saline 500ml
4. Oxygen prn
5. Syrup Carbocysteine 10mls tid x 7 days
6. Intravenous paracetamol 1g tid x 3 days

7. Tablet Prednisolone 10mg bd × 30 days
8. Clexane 40mg daily x 24 hours
9. Multivitamin 1 tablet × 30 days
10. Tablet Amoxiclav 625mg bd x 7 days

He was discharged on 28th August, 2023 when his condition had improved and was declared fit to go home with no complains. Three home visits were paid to him to assess progress of his condition at home. The first home visit was on 24th August, 2023, second home visit on 1st September, 2023 and third home visit on 10th September, 2023. He reported to the hospital for review on the 5th September, 2023. There was termination of care on 10th September, 2023.

6.2 Conclusion

The patient care study has helped me gain knowledge about nursing care rendered to patients, this study has also helped me to know how to collect relevant information from patients, identify health problems, analyze and formulate a nursing care plan using the nursing process approach. Recommendations of patient /family, medical team, opinions and appraisal of their co-operation towards the achievement of goals which promoted the wellbeing of patient / family physically, psychosocially and spiritually. This study has enabled me to put into practice the knowledge acquired during my three-year training in the institution, it has helped me to be prepared to nurse patients effectively in the near future regardless of their condition with the help of nursing process adopted. I therefore recommend that the patient/family case study should be maintained as a facade of the nurse trainee and fully establish in the country health care delivery system to aid in the improvement of health for the country.

APPENDIX

Table 6. 1: Vital Signs of Mr. B. Z throughout the period of hospitalization

Date	Time	Temperature (°C)	Pulse (bpm)	Respiration (cpm)	Blood pressure (mmHg)
20/0823	5:50pm	37.5	98	28	120/81
	10:00pm	37.2	78	24	115/66
21/08/23	6:00am	37.3	92	20	108/68
	10:00am	36.7	60	22	110/70
	2:00pm	36.4	69	21	110/78
	6:00pm	37.1	76	19	120/79
	10:00pm	36.6	65	28	100/60
22/08/23	6:00am	36.8	92	22	113/93
	10:00am	36.4	73	20	112/76
	2:00pm	36.9	70	24	110/60
	6:00pm	37.0	70	22	112/80
	10:00pm	36.5	65	19	100/68
23/08/23	6:00am	36.4	73	24	101/62
	10:00am	36.5	70	21	120/80
	2:00pm	36.1	74	20	110/70
	6:00pm	36.2	73	19	100/62
	10:00pm	36.8	68	22	110/70
24/08/23	6:00am	36.5	98	21	120/80
	10:00am	36.9	62	24	105/60
	2:00pm	37.0	67	22	110/65
	6:00pm	37.3	68	20	100/70

	10:00pm	36.4	68	18	105/70
25/08/23	6:00am	36.4	65	24	110/60
	10:00am	36.3	66	22	92/70
	2:00pm	36.5	65	19	115/72
	6:00pm	36.4	72	21	95/72
	10:00pm	36.4	70	20	105/63
26/08/23	6:00am	36.5	73	20	120/65
	10:00am	36.3	69	17	115/67
	2:00pm	36.4	72	21	1112/65
	6:00pm	36.2	76	22	108/78
	10:00pm	36.3	72	18	99/68
27/08/23	6:00am	36.3	93	19	95/62
	10:00am	36.4	88	18	116/76
	2:00pm	36.6	92	18	110/60
	6:00pm	36.5	85	20	100/68
	10:00pm	36.2	85	19	118/78
28/08/23	6:00am	36.4	76	19	112/64
	10:00am	36.6	72	18	108/75

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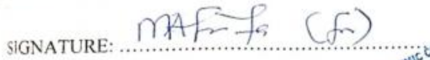

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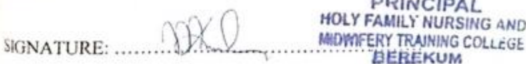

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