HOLY FAMILY NURSING AND MIDWIFERY TRAINING

COLLEGE, BEREKUM

A PATIENT/FAMILY CARE STUDY ON PNEUMONIA

KONADU ADELAIDE

4120190091

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

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PREFACE

Although the origins of nursing predate the mid-19th century, the history of professional nursing traditionally begins with Florence Nightingale. Nightingale, the well-educated daughter of wealthy British parents, defied social conventions and decided to become a nurse. The nursing of strangers, either in hospitals or in their homes, was not then seen as a respectable career for well-bred ladies, who, if they wished to nurse, were expected to do so only for sick family and intimate friends. In a radical departure from these views, Nightingale believed that well-educated women, using scientific principles and informed education about healthy lifestyles, could dramatically improve the care of sick patients. Moreover, she believed that nursing provided an ideal independent calling full of intellectual and social freedom for women, who at that time had few other career options.

In 1854 Nightingale had the opportunity to test her beliefs during Britain's Crimean War. Newspaper stories reporting that sick and wounded Russian soldiers nursed by religious orders fared much better than British soldiers inflamed public opinion. In response, the British government asked Nightingale to take a small group of nurses to the military hospital at Scutari (modern-day Üsküdar, Turk.). Within days of their arrival, Nightingale and her nurses had reorganized the barracks hospital in accordance with 19th-century science: walls were scrubbed for sanitation, windows opened for ventilation, nourishing food prepared and served, and medications and treatments efficiently administered. Within weeks death rates plummeted, and soldiers were no longer sickened by infectious diseases arising from poor sanitary conditions. Within months a grateful public knew of the work of the "Lady with the Lamp," who made nightly rounds comforting the sick and wounded. By the end of the 19th century, the entire Western world shared Nightingale's belief in the worth of educated nurses.

Nursing became professionalized after the Civil War. The Nightingale system of nurse training was adopted and offered at hospitals. The first professionally trained nurse in America was Linda Roberts, who graduated from the New England Hospital of Women and Children in Boston in 1873. Another notable nurse of the time, Isabel Hampton Robb, became superintendent of the John Hopkins Nursing School in 1889.

After the war, the role of nurses evolved once again to become what it is today. Nurses became more authoritative and took control of their profession. Many had risen to senior administrative roles during the war, overseeing thousands of men, and had proved to be capable of managing large organizations. The American Nurses Association (ANA) (of which Isabel Hampton Robb served as the first president) became the leading institution for advocacy of the nursing profession. More and more, people looked to hospitals to care for the sick, and private home nursing diminished. Student nurses spent more time in traditional classrooms, so hospitals hired more graduate nurses at increased rates of pay, and hired nursing assistants and practical nurses to aid them.

Today, nurses remain the cornerstone of our healthcare system, especially those working with Clipboard Health. The field of nursing continues to grow, and more areas of specialization are open to nurses as technology evolves. Nurses continue to prove how integral they are, and at no time in recent history has this been more apparent than during the COVID-19 pandemic. Modern nursing is a profession that requires knowledge, skills and attitude. The ability to render comprehensive nursing care rests on the nurses' ability to assess the client's condition, analysis, plan, implement and evaluate the effects of management on client health status.

The Patient/ family care study is a detailed account of nursing care rendered to the Patient and family to meet their needs. The study is designed to give a comprehensive nursing

care to both patient and family from the time of admission till when patient is finally discharged to go home, as well as follow-ups or home visits for continuity of care.

The study also involves the nursing process which involves assessment of patient/ family, planning of care to be rendered, implementing the plan and evaluating care rendered to patient/ family.

The study is carried out to enable the student nurse put into practice the knowledge and skills acquired from the three year training period in school to ascertain how best the theoretical knowledge would be used to nurse patients who will come under his or her care in the near future. The study also forms part of the requirements of the Nursing and Midwifery Council of Ghana for the award of licence in General Nursing. In this study, initials of patient are used for confidentiality.

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My first and ultimate appreciation goes to the Almighty God for providing me with strength and knowledge for this project to materialize.

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Special thanks go to Mr. I.B, the subject of the study and his family for the smooth interactions and co-operation.

I am also grateful to the medical doctors and the staff nurses of the Male Surgical Ward of Regional Hospital, Sunyani.

Further, I would like to extend my appreciation to my wonderful parents, for their unending emotional, moral, spiritual, and financial support throughout the period of the study.

Lastly, I am very grateful to all the publishers and authors whose books I used during the course of my Study.

May God bless them.

INTRODUCTION

The patient and family care study is a study conducted on patient/family using the nursing process to nursing the patient and family as an individual, taking into account all the needs of the patient needs to arrive at a desired outcome. It also takes into account of patient's psychological and social needs in planning the care.

Mr. I.B. was admitted on 19th November, 2021 at 4:30pm, to the Male medical ward of Regional Hospital Sunyani. He presented with breathing difficulty, chest pains, cough, general body weakness, fatigue and headache. He was diagnosed of pneumonia. With the use of nursing process, the following problems were identified;

1. Patient could not breathe properly (dyspnoea)
2. Patient had high body temperature
3. Patient was anxious
4. Patient had chest pains
5. Patient had recurrent cough
6. Patient could not sleep properly
7. Patient Lacked knowledge on his disease condition

Based on the problems identified the following nursing diagnosis were formulated:

1. Ineffective breathing pattern (dyspnoea) related to inflammatory process of both lungs
2. Hyperthermia (38.9^{o}c) related to infectious process in the lungs
3. Anxiety related to unknown outcome of disease condition (Bronchopneumonia)
4. Acute pain (chest) related to cough
5. Persistent cough related to irritation of the mucosa lining of the respiratory tract
6. Insomnia related to interruptions for therapeutics and lighting
7. Knowledge deficit related to lack of education about the causes, clinical manifestation, treatment and prevention of disease condition

Using the nursing care plan, effective nursing care was carried out on the patient to ensure full recovery of Mr. I.B. 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. He was discharged on 23rd November, 2021 when his condition had improved and was declared fit to go home with no complains. He reported to the hospital for review on the 30th November, 2021. Goals were fully met during evaluation of care. Three home visits were paid to him to assess progress of his condition at home. There was termination of care on 12th December, 2021.

This care study comprises of six chapters as follows: Chapter one deals with assessment of patient and family. This involves collection of data about the patient to identify his problems. Chapter two deals with analysis of data. Chapter three comprises the planning phase of the nursing process and has the tabulated plan of care for the stated nursing diagnoses spanning the objective criteria, nursing orders, intervention and evaluation. Chapter four tackles the actual implementation of the care plan giving summary descriptions of activities which were undertaken from the moment of first contact with the patient at the time of admission to the ward till discharge and subsequent follow up with home visit. In chapter five, evaluation of nursing care given to the patient and family from encounter till termination of nurse-patient relationship is discussed. Chapter six focuses on the summary and conclusion of the care study report by reviewing thematic issues that arose in the care study from admission to last home visit after discharge.

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CHAPTER ONE

ASSESSMENT OF PATIENT/FAMILY

1.0 Introduction

Assessment is the first stage of the nursing process in which data about the patient's health status is collected (Jarvis, 2018). The data is collected systematically through interview, observations, and investigations, such as laboratory test, x-ray reports and others. Analysis is then made to help identify patient's problems for intervention. Assessment of patient was done through a personal interview with client and relatives as well as observations made on the patient through the period of hospitalization.

1.1 Patient Particulars

According to Hornby (2010), patient particulars are the facts or details especially one that is officially written down, usually of an individual's personal details such as name, age, sex, residential address, next of kin and telephone number and so on.

The name of the patient is Mr. I.B. He is a 35-year-old man, born on 22nd July, 1987 to Mr. A.B and Madam B.D. He comes from Susanso a suburb of Tanoso in the Bono Region of Ghana and currently resides at Susanso with house number SS114. He is dark in complexion, 1.70m tall and weighs 65kg with a Body Mass Index (BMI) of 22.4kg/m^2 which clearly indicates that he is not overweight or obese. He is the first born of his parents and an Akan by ethnicity. He started his pre- school at Assin Akropon where the father was then a presiding pastor there and completed his Junior High School at Susanso their home town where the father was later transferred to. His folder number is AAD 4575. He has four siblings and the first born. He is not married and has no child. His mother is his next of kin.

He is currently unemployed. Patient is a Christian who worships with the Presbyterian church at Susanso. He speaks Asante twi and understands basic English.

1.2 Family's Medical History

Health history is a series of questions used to provide an overview of the patient's current health status. Attention is focused on the impact of psychosocial, ethnic, and cultural background on a person's health. Information is obtained on both paternal and maternal sides of family (Hinkle & Cheever, 2018).

Patient and his family mentioned that there is no hereditary diseases or chronic diseases such as hypertension or diabetes in both the paternal and maternal side of the family. There is also no history of mental illness and communicable diseases in either family. No birth defects or congenital anomalies has been reported in the family. Currently his parents are alive and so are his siblings. His grandparents are deceased, the cause of death of grandparents are unknown to him. According to him, only his youngest brother has ever been hospitalized due to road traffic accident. The source of medical care has been a blend of herbal and orthodox medications from over the counter drug sellers and from the hospital through the outpatient department basis. According to patient there is no reported use of food supplements among the family. Food and drug allergies have never been manifested in any of the family. He further mentioned that his family is not known for risky behaviors such as alcoholism and substance abuse.

1.3 Family's Socio-Economic History

Socio-economic history captures sources of support, coping styles, strengths, and fears (Bickley & Szilagyi, 2018). Mr. I.B. has a good relationship with other members of the family. He is currently unemployed and his source of financial support is from his parents.

His father sells car spare parts and the mother is also a trader. He is a Christian who worships with the Presbyterian church at Susanso. He is youth organizer at his church. Considering their source of income, patient and family belong to the middle socio-economic class patient. Patient specified that he part-take in social events such as wedding and funeral ceremonies within the community whenever he is granted the invitation. Their hospital care is financed by the national health insurance scheme policy and they purchase over the counter drugs themselves. As a taboo, the community do not engage in farming activities on Tuesdays which patient and family adhere to. They celebrate Christian festivals such as Easter, and Christmas. They also believe in the law of karma thus 'whatever you wish for people, the same you receive' and so they believe in the principle of being good at all times.

1.4 Patient's Developmental History

Development refers to the process of growth and differentiation which involves cognitive, psychosexual and psychosocial processes. Maturation is the process of developing. Growth is the progressive development of a living thing, especially the process by which the body reaches its complete physical development (Weller, 2014).

`According to Mr. I.B., he was born on 22nd of July 1987 at full term per spontaneous vaginal delivery without any complication at Dwenemum Maternity Home in the Eastern Region. Delivery was assisted by a Midwife. He was not exclusively breastfed and was weaned at the age of two years according to what his mother told him and after explaining the meaning of exclusive breastfeeding to him.

Mr. I.B. was immunized against the vaccine preventable diseases as evidenced by the Bacillus Chalmette Guerin (BCG) scar observed on his right shoulder. No abnormalities such as mental retardation and paralysis have been detected since birth. Patient sat when he was six months, crawled when he was 7months and walked when he was on his eleventh month

without any deformities. He could mention words like mama and dada at two years and started school at age six. He developed a deep voice, had broad shoulders, growth of pubic hair and other secondary sexual characteristics by the age of fourteen (14). The information gathered from Mr. I.B. indicates that he developed normally without difficulties or deformities. He started his pre- school at Assin Akropon where the father was then a presiding pastor there and completed his Junior High School at Susanso.

As specified by (Jarvis, 2018), Erik Erikson (1902 to 1994) focused on cultural and societal influences as determinants of behavior. Erickson was concerned with the growth of **ego,** the conscious, organized, rational part of the personality. He described eight stages of ego development that encompass the life span. Each stage is characterized by a distinct conflict, or crisis, relating to the person's physiologic maturation and to what society expects of a person at that age and its includes the following;

- Trust verses Mistrust (Birth to 12 months).
- Autonomy verses Shame and Doubt (1 to 3 years).
- Initiative verses Guilt (3 to 6 years).
- Industry verses Role Inferiority (6 to 12 years).
- Identity verses Role Confusion (12 to 20 years).
- Intimacy verses Isolation (20 to 40years).
- Generatively verses Stagnation (40 to 65 years).
- Integrity verses Despair (65 to death)

Mr. I.B. is within the sixth stage; Intimacy versus Isolation (20 to 35 years) during young adulthood, during which there is a conflict centered on forming intimate and loving relationships with other people and failure to establish them results in loneliness and isolation. Through various interactions with the patient, I realized patient had fulfilled

intimacy through his close relationship with his family. I also observed this from how he interacted with a number of people who visited him while on the ward.

1.5 Patient's Lifestyle /Hobbies

Lifestyle refers to the way in which a person or group of people lives and works. (Hornby, 2010). Mr. I.B. is very sociable and communicates a lot with his friends and other people. He wakes up at 7:00am but does not have a specific time for sleep. He has normal bowel and bladder elimination 1 to 2 for bowel and anytime he feels the urge to urinate he does so without any difficulties. He brushes his teeth and baths twice daily.

In the morning, he usually takes hot milo with bread or sometimes goes in for Lipton. He takes his lunch around 2pm but does not have a time for supper as it depends on when his mother will be done with food preparation but he said it is mostly between the hours of 5:00pm to 6:30pm. His favorite food is fufu and groundnut soup. He does not smoke but occasionally drinks alcohol. Upon further interaction with him, he agreed to give up the drinking because he was made aware of the harmful effects of alcohol. According him, he always plays his football game on his phone whenever he is less busy.

He goes to church on Sundays. He eats a three-square meal daily thus breakfast, lunch and supper. He does not experience any difficulties in sleeping, eating, grooming or transportation and shopping as his house is close to the road and there is a shop nearby. According to patient, he does not have any allergies to any food or drugs. His recreational activity is playing games such as 'cards' and 'Ludo' with friends. He likes to visit places of interest occasionally with friends and attends weddings and funerals when the need arises. He is an introvert and also likes to verbalize his feelings when things are not being done in the right way.

He is not very good in the use of non- verbal communication styles. He does not like to be cheated and likes to be sincere and truthful. He plays the role of a son to his parents and an elder brother to his younger siblings. Currently, patient is not in any intimate relationship with anyone. Patient does not have any allergies to food or drugs. Personally, I see patient to be a kind person.

1.6 Past Medical History

Past medical history is a narrative or record of past events and circumstances that are or may be relevant to a patient's current state of health (MediLexicon, 2018). According to Mr. I.B. he never experienced any childhood illness like whooping cough, poliomyelitis, measles, tetanus, tuberculosis, and diphtheria. He has not been hospitalized before and this happens to be his first admission at the hospital and has not suffered any disability from any previous illness. Currently he is not taking any medications such as laxatives or vitamins. He has not seen any specialist for treatment. His visits to the hospital has been on the outpatient department basis and has always been easy apart from normal delays from longer cue at the hospital. He does not embark on regular checkups but reports for medical care when he experiences problems in his system. Patient revealed that he does not patronize over the counter medications since he believe self-medication is not good. He has never had any surgeries done on him. Patient does not have any history of blood transfusion. Patient does not use any form of assistive aids such as lenses, or hearing aids. Patient does not smoke or use narcotics such as cocaine.

1.7 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 needs. The physical examination is helpful but often only validates the information obtained from the

history. A careful history assists in correct selection of appropriate diagnostic tests (Hinkle & Cheever, 2018). According to Mr. I.B , he was feeling well until 16th November, 2021 where he started having mild fever, chills, productive cough, excessive sweating and loss of appetite which he went to their community health center to seek medical intervention. After spending close to 48 hours he was then referred to Sunyani Regional Hospital since his condition was deteriorating. He arrived in an ambulance at the accident and emergency unit of Sunyani Regional Hospital on 18th November, 2021. After several assessment and monitoring. Patient was diagnosed of Bronchopneumonia by Dr. D.N. At the emergency, medications such as clindamycin, Erythromycin, IV paracetamol, IV Amoxiclav, IV Ceftriaxone were administered. He was subsequently transferred to the Male medical ward to continue his treatment.

1.8 Admission of Patient

On 19th November, 2020 at 4:30pm, Mr. I.B. was admitted at Male medical ward of Sunyani Regional Hospital through Accident and emergency unit accompanied by his mother and a nurse. He was diagnosed of pneumonia by Dr. D.N. He reported with a cannula in situ. They were welcomed and given seats at the nurses' station. Identification was confirmed by mentioning his name and cross checking with his particulars to ensure that he was the right patient and also brief introduction of staffs to client and relative. He was reassured of competent staff and quality health services to aid his recovery. He was put in already prepared admission bed which was later made a cardiac bed to suit patient's condition. He exhibited signs of breathing difficulty, coughing and complains of headache, chest pain which is aggravated by coughing, general body weakness and dizziness.

Mr. I.B.'s. vital signs were checked and recorded as follows;

Temperature: - 38.9^{o}C

Pulse: - 82bpm

Respiration: - 20cpm

Blood pressure: - 120/80mmHg.

SPO2: - 91%

Patient was conscious and oriented to time and place; patient and relatives were oriented to the ward and the protocols. patient and relatives were reassured of competent nursing care made comfortable in bed.

The following laboratory investigations were carried out:

1. Full blood count
2. Chest x-ray
3. Blood test for malaria parasite
4. Sputum examination
5. Pulse oximetry check

Patient was made to rest in a cardiac bed to help with breathing and also tight clothing were removed and adequate ventilation provided to help reduce temperature. He was also served with 500mls of cold sachet water. He was taught to splint chest when coughing to help reduce chest pain.

His initial treatment plan is as follows;

1. Intravenous Cefuroxime 1.5g Stat, then 750mg tds x 48hrs+24hrs
2. Intravenous Amoxiclav bd 1.2g x 48 hours
3. Tablet Diclofenac 50mg tds x 5 days
4. Intravenous paracetamol 1g tds x 24
5. Intravenous Normal saline 1 liter x 24 hours

6. Intranasal Oxygen 3L/min x 12 hours

7. Capsule Iron III polymaltose 1 daily x 30days
8. Tablet Azithromycin 500mg daily× 72 hours

Mr. I.B.s belonging were given to his relatives. They were told of the visiting hours and routine practices of the ward including the doctor's rounds, medication times and also meal times. He was later oriented to the ward and its annexes and introduced the patients near his bed while he was in bed because of his condition. His name was entered into the admission and discharges book, daily ward state and all procedures done was documented into the nurses' notes. He was then made comfortable in bed and allowed to rest. Nursing care plan approach was used to care for Mr. I.B.

I reintroduced myself to patient as a final year student nurse of the Holy Family Nursing and Midwifery Training College, Berekum, who would like to take him and his family for my care study. Mr. I.B. and his family were informed that the care study is a requirement by the Nursing and Midwifery Council of Ghana in partial fulfillment towards the award of Diploma in Registered General Nursing. I explained to the patient and family the concept of the patient/family care study and assured them of privacy and confidentiality. It was added that a report will be written after the entire event. I started planning for discharge. To discharge a patient from a hospital is a departure process, which could be due to attending doctors' advice to leave the hospital on required completion of treatment or patient may leave against medical advice due to personal reasons. Discharge planning begins the moment a patient is admitted to the health facility. Nurse play important role in discharge planning in the hospital, where continuity of care is important. To achieve continuity of care, nurse use critical thinking skills and apply the nursing process. To anticipate and identify patient needs, nurses work with all the members of the interdisciplinary health care team. They take lead to develop a plan of care that moves the patient from the hospital to another

level of health care such as patient home a nursing home or a nursing home. Discharge planning is a centralized, coordinated, interdisciplinary process that ensures that the patient has a plan for continuity of care after leaving the health agency. I decided to use Mr. I.B. for my care study because I wanted to know more about pneumonia and how different it is from other respiratory related diseases.

1.9 Patient's Concept of Illness

According Mr. I.B, he knew nothing about the condition, the patient mother also verbalized that, she knows nothing about her son condition. Mr. I.B. believed that sickness forms part of human life and once in a while a person becomes sick but did not associate it with witchcraft or any forces but believes it is because he has been working really hard. He believes that with God's intervention and good health services his condition will improve and he will be discharged.

1.10 Literature Review on Pneumonia

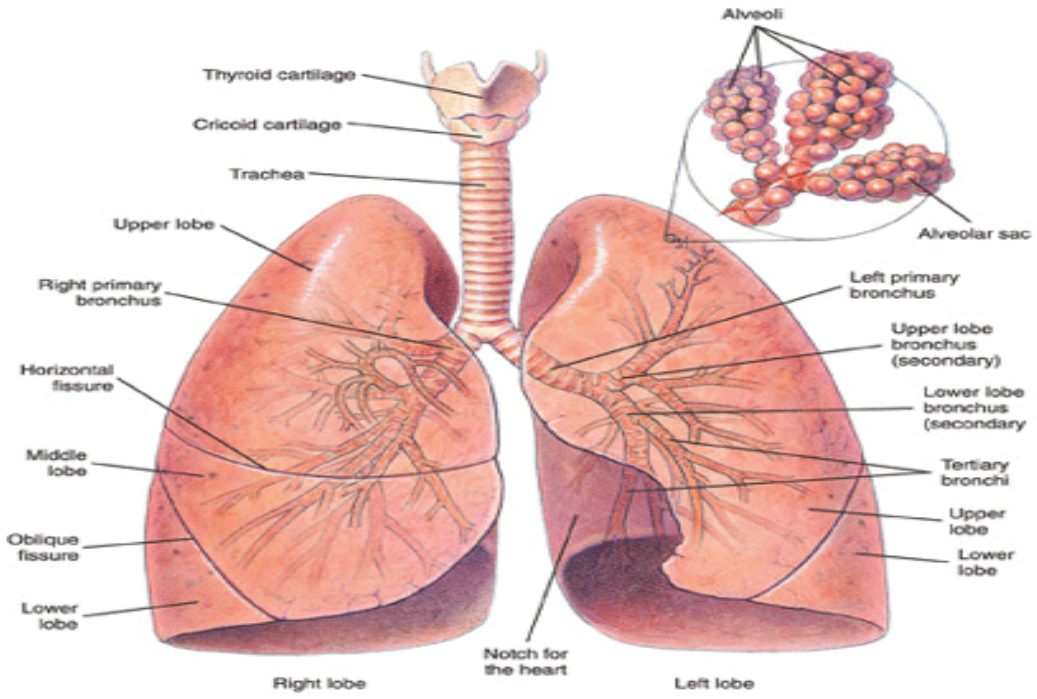
This section deals with documented information about the condition Mr. A.O. was diagnosed with, that is bronchopneumonia. Literature review of a condition gives a detailed insight into the condition. It consists of Anatomy and physiology of the respiratory system

1. The description of respiratory system
2. Incidence
3. Causative organism
4. Mode of transmission
5. Risk factors
6. Pathophysiology
7. Diagnostic investigation
8. Clinical investigation

9. Medical treatment
10. Standard nursing interview
11. Prevention
12. Complication

Review Anatomy and Physiology of the Respiratory System

The primary purpose of the respiratory system is gas exchange, which involves the transfer of oxygen and carbon dioxide between the atmosphere and the blood. The respiratory system is divided into two parts: the upper respiratory tract and the lower respiratory tract. The upper respiratory tract includes the nose, pharynx, adenoids, tonsils, epiglottis, larynx and trachea. The lower respiratory tract consists of the bronchi, bronchioles, alveolar ducts and alveoli. The right lung is divided into three lobes (the upper, middle and lower lobes) and the left lung is divided into two lobes (upper and lower) (Brown, et al., 2018).



Source: (Hoffman, 2014)

Figure 1: Structure of the Respiratory System

The Diagram Above Illustrate the Gross Anatomy of The Lungs

According to Waugh and Grant (2014) the lungs are the major organs of the respiratory system. 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.

The lungs have lobes and fissures (separate the lobes)

The right lung has 3 lobes;

- Superior
- Middle
- Inferior

It has 2 fissures; horizontal and oblique

The left lung has 2 lobes.

- Inferior
- Superior

It has a cardiac notch which is an indentation for the heart. The left lung has1 fissure; oblique.

The Pleurae

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

- Parietal pleura and
- 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;

- The lungs are composed of bronchi, smaller air passages, alveoli, connective tissue matrix.
- Each lung lobe is made up of large number of lobules.
- 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.
- Within each pulmonary artery divides into many branches which eventually end in a dense capillary network around the alveoli.
- 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)
- The pulmonary capillaries merge into network of capillaries pulmonary

Of pulmonary nenules, which in turn form two pulmonary veins carrying oxygenated blood from each lung back to the left atrium of the heart.

- The major function of the lung is to perform gas exchange.

Definition

Pneumonia is the inflammation of the lung parenchyma caused by various microorganisms, including bacteria, mycobacteria, fungi and viruses (Hinkle & Cheever, 2018). The context in which pneumonia develops is highly indicative of the likely organism(s) involved; therefore pneumonias are usually classified as community- or hospital acquired, or as occurring in immune-compromised hosts (Walker, Colledge, Ralston, & Penman, 2014).

Epidemiology

Pneumonia and Influenza is the most common causes of death from infectious diseases in the United States. Pneumonia accounted for close to 51,000 deaths in the United States in 2009 and 1.1 million discharges from hospitals (Hinkle & Cheever, 2018).

Classification

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

Community-Acquired Pneumonia (CAP)

It occurs either in the community setting or within the first 48hours after hospitalization or institutionalization. The need for hospitalization for CAP depends on the severity of the pneumonia. The specific etiologic pathogen is identified in about 50% of

cases. More than five million cases of CAP are reported each year, with more than 915,000 episodes in adults 65years and older. *S. pneumoniae* (pneumococcus) is the most common cause of CAP in people younger than 60years without comorbidity and in those 60 years and older with comorbidity. *S. pneumoniae,* a gram-positive organism that resides naturally in the respiratory tract, colonizes the upper respiratory tract and can cause disseminated invasive infections, pneumonia and other lower respiratory tract infections and upper respiratory tract infections such as otitis media and rhino sinusitis. It may occur as a lobar or bronchopneumonic form in patients of any age and may follow a recent respiratory illness (Hinkle & Cheever, 2018).

Health Care- Associated Pneumonia (HCAP)

An important distinction of HCAP is that the causative pathogens are often multidrug–resistant (MDR). Identifying this type of pneumonia in areas such as the emergency department is very crucial. Because HCAP is often difficult to treat, initial antibiotic treatment must not be delayed. Initial antibiotic treatment for HCAP is different from that for CAP due to the possibility of MDR bacteria (Hinkle & Cheever, 2018).

Hospital Acquired Pneumonia (HAP)

Hospital acquired or nosocomial pneumonia is a new episode of pneumonia occurring at least two days after admission to the hospital. It is the second most common hospital acquired infection (HAI) and leading cause of HAI-associated death. The elderly are particularly at risk, along with patients in intensive care units, especially when mechanically ventilated; in the latter case, the term ‘ventilator-associated pneumonia’ VAP is used (Walker, Colledge, Ralston, & Penman, 2014). HAP is associated with high mortality rate, because of the virulence of the organisms, the resistance to antibiotics and the patient’s underlying disorder. The common organisms responsible for HAP include the *Enterobacter*

species, *Escherichia coli, H. influezae,* and *klebsiella* species, *Proteus, Serratia marcescens, Pseudomonas aeruginosa,* methicillin-resistant or methicillin sensitive *Staphylococcus aureus* (MRSA), and *S. pneumoniae.* Most patients with HAP are colonized by multiple organisms (Hinkle & Cheever, 2018).

Ventilator-Associated Pneumonia

As noted earlier, VAP can be thought of as a subtype of HAP; however, in such cases, the patient has been endotracheally intubated and has received mechanical ventilator support for at least 48hours. VAP is the most common infection seen in intensive care units (ICUs); it accounts for 25% of the infections occurring in critically ill patients. It contributes significantly to the morbidity and mortality of ICU patients, with an estimated attributable mortality rate of 8% to 15% (Hinkle & Cheever, 2018).Other forms of pneumonia include Aspiration pneumonia and pneumonia in immunocompromised host (Hinkle & Cheever, 2018).

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. 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 lung defenses, cause inflammatory changes, and lead to bacterial growth and a resulting pneumonia (Hinkle & Cheever, 2018).

Pneumonia in the immunocompromised hosts: includes pneumocystis pneumonia (PCP), fungal pneumonias, and mycobacterium tuberculosis. The organism that that causes

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) (Hinkle & Cheever, 2018).

Types of Pneumonia

According Waugh and Grant (2014), types can be based on anatomical position. They are lobar pneumonia and Bronchopneumonia.

Bronchopneumonia

This involves patchy inflammation of the airway and the alveoli. This is the less dramatic pneumonia but more prevalent the lobar pneumonia. The area affected is usually smaller than in the lobar pneumonia. The inflammation is localized in the bronchi (Waugh & Grant,2014).

Lobal Pneumonia

This the inflammation of part of the lo\be or the entire lobe of the lung. When both lungs are affected, the disease is called double or bilateral lobar pneumonia (Waugh & Grant, 2014).

Causative Organism

According to Hinkle and Cheever (2018), pneumonia is cause by number of infectious agents, including virus, bacteria, and fungi.

- Bacteria streptococcus pneumonia; the most common cause of bacterial pneumonia on children.

- Haemophilous influenza a type B(HiB); the second most common cause of bacterial pneumonia.
- 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.
- Non microorganism cause of pneumonia includes; radiation, ingestion of chemicals and aspiration of gastric secretion,foods or fluids,(aspirational pneumonia).

Risk Factors

According to Hinkle and Cheever (2018), the following are the risk factors of pneumonia;

- Immunosuppressed patients
- Smoking (cigarette smoke disturbs both mucociliary and macrophage activity)
- Prolonged immobility and shallow breathing pattern.
- Depressed cough reflex (due to medications, a debilitated state, or weak respiratory muscles)
- Aspiration of foreign material into the lungs during a period of unconsciousness (head injury, anaesthesia, depressed level of consciousness)
- Alcohol intoxication (because alcohol suppresses the body's reflexes, may be associated with aspiration, and decreases white cell mobilization and tracheobronchial ciliary motion).
- Transmission of organism from health care providers
- Respiratory therapy with improperly cleaned equipment.
- Advanced age, because of possible depressed cough and glottic reflexes and nutritional depletion.

- Antibiotic therapy (in very ill people, the oropharynx is likely to be colonized by gram negative bacteria)
- Nothing –by-mouth (NPO) status; placement of nasogastric, orogastric or endotracheal tube.

Pathophysiology

Normally, the upper airway prevents potentially infectious particles from reaching the sterile lower respiratory tract. Pneumonia arises from the 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 blood borne organisms that enter the pulmonary circulation and are trapped in the pulmonary capillary bed (Hinkle & Cheever, 2018).

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 and alveoli, with a resultant decrease in alveolar oxygen tension. Bronchospasm may also occur in patients with a reactive airway disease. Because of hypoventilation, a ventilation perfusion (V/Q) mismatch occurs in the affected area of the lung. 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 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 & Cheever, 2018).

Clinical Manifestation

Pneumonia varies in its signs and symptoms depending on the type, causal organism, and presence of an underlying disease. According to Hinkle and Cheever (2018), the following are the signs and symptoms of pneumonia;

1. Purulent sputum production sometimes blood stained
2. Rapid and bounding pulse
3. A sudden onset of fever and chills
4. Respiratory distress (Shortness of breath)
5. Pleuritic chest pain that is aggravated by deep breathing and coughing
6. Patient may be delirious in severe attacks
7. Coughing
8. Hypoxemia and signs of central cyanosis
9. Patient prefers to be propped up in bed because of the cough which is short and painful
10. Tachypnea (25 to 45 breaths/min)
11. Nasal congestion or sore throat
12. Poor appetite

Assessment and Diagnostic Findings

As specified in Hinkle and Cheever (2018), the following are the diagnostic investigations for pneumonia;

1. Physical examination and history (particularly of a recent respiratory tract 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 [bacteraemia] occurs frequently)
5. Sputum examination
6. Full blood count: white blood cell count shows leucocyte elevation

Prevention

1. Vaccination
2. Encourage smoke cessation
3. Promote frequent oral hygiene
4. Reposition frequently to prevent aspiration
5. Promote frequent turning, early ambulation and mobilization
6. Encourage effective coughing and breathing exercise
7. Maintain adequate nutrition to boost immune system

   (Hinkle & Cheever, 2018)

Medical Management

- Antibiotics such as penicillin are prescribed on the basis of gram stain results and antibiotic guidelines (resistance patterns, risk factors, aetiology 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.
- Supportive treatment includes hydration, antipyretics, antitussive medications, or nasal decongestants and pain medications.
- Oxygen therapy is given for hypoxemia (Hinkle & Cheever, 2018)

Nursing Management

Nursing assessment is critical in detecting pneumonia. It is important to assess older adult patients for unusual behavior, altered mental status, dehydration, excessive fatigue, and concomitant heart failure. (Hinkle & Cheever, 2018).

Assessment

1. Assess for fever, chills, night sweats, pleuritic- type pain, fatigue, tachypnea, use of assessor muscles for breathing, bradycardia or relative bradycardia, coughing, and purulent sputum.
2. Monitor patient for the following: changes in temperature and pulse, amount, odour, and colour of secretions, severity and frequency of cough and degree of tachypnea (Surrena, 2010).

Nursing Diagnoses

1. Ineffective airway clearance related to copious tracheobronchial secretions.
2. Activity intolerance related to impaired respiratory function
3. Risk for deficient fluid volume related to fever and a rapid respiratory rate.
4. Imbalanced nutrition less than body requirement
5. Deficient knowledge about treatment regimen and preventive measures.

Planning of Goals

The major goals of the patient include to improve airway patency, rest to conserve energy, maintenance of proper fluid volume, maintenance of adequate nutrition, an understanding of the treatment protocol and preventive measures, and absent of complications.

Nursing Interventions

Improving Airway Patency

1. Encourage hydration; fluid intake (2 to 3L/day) to loosen secretions.
2. Provide humidified air using high humidity face mask
3. Encourage patient to cough effectively and provide correct positioning, chest physiotherapy, and incentive spirometry.
4. Provide nasotracheal suctioning if necessary.
5. Provide appropriate method of oxygen therapy and monitor effectiveness (Hinkle & Cheever, 2018)

Promoting rest and conserving energy

1. Encourage 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 as well as pulmonary ventilation and perfusion.
3. Instruct outpatients not to overexert themselves and to engage in only moderate activity during initial phases of treatment (Hinkle & Cheever, 2018)

Promoting fluid intake and maintaining Nutrition

1. Encourage fluids (2L/day minimum with electrolytes and calories).
2. Administer IV fluids and nutrients, if necessary (Hinkle & Cheever, 2018)

Promoting patients' knowledge

1. Educate patient on cause of pneumonia, management of symptoms, signs and symptoms that should be reported to the physician or nurse and the need for follow – up.
2. Explain treatments in simple manner and using appropriate language; provide written instructions and information and alternative formats for patients with hearing or vision impairment.
3. Repeat instructions and explanations as needed (Hinkle & Cheever, 2018)

Monitoring and preventing potential complications

1. Monitoring for continuing symptoms of pneumonia (patients usually begin to respond to treatment within 24 to 48hours after antibiotic therapy is initiated).
2. Assess for signs and symptoms of shock, multisystem organ failure, and respiratory failure (e.g., evaluate vital signs, pulse oximetry, and haemodynamic monitoring parameters).
3. Assess for atelectasis and pleural effusion
4. Assist with thoracenthesis, and monitor patient for pneumothorax after procedure.
5. Assess for confusion or cognitive changes; assess underlying factors (Hinkle & Cheever, 2018)

Promoting Home and Community-Based Care

1. Instruct patient to continue taking full course of antibiotics as prescribed.
2. Teach patient about their proper administration and potential side effects.
3. Instruct patient about symptoms that require contacting the health care provider such as difficulty in breathing, worsening cough, increasing fever etc.

4. Advice patient to increase activity gradually after fever subsides.
5. Advise patient that fatigue and weakness may linger.
6. Encourage breathing exercises to promote lung expansion and clearing.
7. Encourage follow up chest x-rays.
8. Encourage patient to stop smoking
9. Review principles of adequate nutrition and rest.
10. Refer patient for home care to facilitate adherence to therapeutic regimen, as indicated (Hinkle & Cheever, 2018)

Complications

According to Hinkle and Cheever (2018), the following are complications of pneumonia;

1. Shock
2. Respiratory failure
3. Atelectasis
4. Pleural effusion
5. Confusion

1.11 Validation of Data

Validation is the extent to which a measure, indicator, or a method of data collection possesses the quality of being sound or true as far as it can be judged (Weller, 2014). All the information gathered from Mr. I.B. was found to be true after comparing with information obtained from patient's relative through series of interviews. Also, the patient's folder provided the information to confirm the data collected. The information from the literature review also confirmed the data gathered. After collecting all these information, I realized that the data collected were similar and so considered valid for the study.

CHAPTER TWO

ANALYSIS OF DATA

2.0 Introduction

Analysis is a statistic that measures differences among group means and uses a statical technique to equate the groups under study in relation to another given variable. (Weller, 2014). This chapter deals principally with analysis of data collected in chapter one. It comprises of all the information collected from the client's medical history, nursing interventions, laboratory investigations and literature review of the condition. In data analysis, critical and logical study with arrangement is done about an object under study. This is an approach to help in the interpretation of data which were collected in chapter one as mentioned earlier on.

2.1 Comparison of Data with Standards

According to Mclntosh (2013), comparison is the fact of considering something similar or equal quality to something else. It also involves comparing the cause, clinical manifestation, treatment, diagnostic measures and complications of the patient's condition(pneumonia) with those stated in textbooks. The pharmacology of drugs prescribed is also captured as well as patient/family strength and health problems are identified Nursing diagnosis are then formulated for rendering of care. According to (Weller, 2014), Diagnosis is the determination of the nature of a disease and Test is defined as an examination or trial. Investigation refers to procedures performed to establish a diagnosis, to monitor a person's health, disease or the effectiveness of treatment. (Weller, 2014).

A. Diagnostic Investigations / Tests

The following diagnostic investigations were carried out on Master I.B to help in his treatment:

1. Full blood count.
2. Chest x-ray.
3. Blood test for malaria parasite
4. Sputum examination
5. Pulse oximetry check

Table 1: Comparison of diagnostic investigation with literature

Test outlined in literature review	**Test 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 check	3. Pulse oximetry was checked
4. Blood culture	4. Blood culture was not done for patient
5. Sputum examination	5. Sputum examination was done.
6. Full blood count	6. Full blood count was done
7. Blood test for malaria parasite was not in literature review	7. Blood test for malaria parasite was done

Sputum examination and blood culture were not done because, patient could not provide sputum after several attempts were made. Blood for malaria parasites was also done to rule out malaria.

Table 2: Diagnostic Investigations Carried Out on Patient

Date	Specimen	Investigations	Results	Normal Values	Interpretation	Remarks
19/11/21	Blood	Full blood count: Neutrophils	82.48%	40.0-75.0%	Indicates the presence of infections	Amoxiclav and Cefuroxime was administered
		White blood cells	$12.33\times10^{\wedge}{}^{9}/_{l}$	$3.5\text{-}9.5\times10^{\wedge}{}^{9}/_{l}$	Indicates the presence of infections	Amoxiclav and Cefuroxime was administered
		Red blood cells	$4.17\times10^{\wedge}{}^{12}/_{l}$	$4.3\text{-}5.8\times10^{12}/_{l}$	Slightly low	Iron III polymaltose was prescribed
		Haemoglobin	$10.8.5^{g}/_{dl}$	$11.0\text{-}18^{g}/_{l}$	Slightly low	Iron III polymaltose was prescribed
		Haematocrit	47.5%	40.0-50.0%	Normal	No treatment required.
19/11/21	Blood	Malaria parasite estimation	Absence of malaria parasite	0/field	Parasites not seen in the blood, indicating that patient is free from malaria	No treatment required
20/11/21	Lungs	Chest x-ray	Shows consolidation on the right and left lower lung zones.	Intact lung with no consolidation	Indicates the presence of infection in the lungs	Amoxiclav and Cefuroxime was administered
20/11/21	Sputum	Pneumococcal bacteria	Distributed clouds in the lungs	Lungs should be clear without any clouds	Indicating patchy consolidation due to inflammation as a result of infection	Amoxiclav and Cefuroxime was administered

B. Causes of Patients Illness

According to Mclntosh (2013) a cause is the reason why something, especially something bad happens to bring about an effect or a result. Comparing patient's laboratory with those in text books, it was realized that Master I.B.'s illness was caused by inhalation of smoke into the lungs. With reference to the causes indicated, the literature review, and the various laboratory investigations carried out. It was investigated that client's condition was caused by the Pneumococcal bacteria.

Table 3: Comparison of Clinical Manifestation in the Text Book with those Exhibited by The Patient

Clinical Features in The Literature Review	Clinical Features Presented by Patient
1. Purulent sputum, sometimes blood stained	1. Absence of purulent sputum.
2. Rapid and bounding pulse	2. Presence of rapid bounding pulse.
3. Sudden onset of fever and chills.	3. There was sudden onset of fever (38.9^{o}C) and chills
4. Respiratory distress (Shortness of breath)	4. Patient exhibited shortness of breath.
5. Pleuritic chest pain aggravated by coughing and deep breathing.	5. Chest pain was pleuritic in nature and aggravated by coughing and deep breathing.
6. Patient may be delirious in some severe attacks.	6. Patient was not delirious.
7. Coughing	7. He experienced coughing.
8. Hypoxemia and signs of central cyanosis	8. Absence of hypoxemia and no signs of central cyanosis.
9. Patient prefers to be propped up in bed because of the cough which is short and painful.	9. He preferred to be propped up in bed.
10. Tachypnea (25 to 45 breaths/min)	10. Patient did not experience tachypnea
11. Nasal congestion or sore throat	11. Patient did not present nasal congestion or sore throat
12. Poor appetite	12. Patient did not have poor appetite

Patient exhibited most of the clinical manifestations of pneumonia hence the patient was truly having pneumonia.

C. Treatment for Patient

According to Weller (2014), Treatment refers to the mode of dealing with a patient or disease.

The following drugs were used in the treatment of the condition:

1. Intravenous Cefuroxime 1.5g Stat, then 750mg tds x 48hrs+24hrs
2. Intravenous Amoxiclav bd 1.2g x 48 hours
3. Tablet Diclofenac 50mg tds x 5 days
4. Intravenous paracetamol 1g tds x 24
5. Intravenous Normal saline 1 liter x 24 hours
6. Intranasal Oxygen 3L/min x 12 hours
7. Capsule Iron III polymaltose 1 daily x 30days
8. Tablet Azithromycin 500mg daily× 72 hours

Table 4: Treatment Given to Patient as Compared with Literature Review

Treatment as in literature review	**Treatment given to my patient**
1. Penicillin	1. Amoxiclav was prescribed for patient.
2. Cephalosporin such as ceftriaxone or cefuroxime	2. Cefuroxime was prescribed for patient.
3. Flouroquinolone such as ciprofloxacin may be prescribed.	3. Flouroquinolone was not prescribed for patient.
4. Hydration	4. Normal saline infusion was prescribed
5. Antipyretics for fever.	5. Paracetamol was prescribed for the patient.
6. Antitussives or nasal decongestants may be prescribed.	6. No antitussives or nasal decongestants were prescribed.
7. Macrolides such as azithromycin may be prescribed.	7. Azithromycin was prescribed for patient.
8. Pain medications may be prescribed for pain.	8. Paracetamol and Diclofenac were prescribed for patient.
9. Oxygen therapy is given for hypoxemia.	9. Oxygen was given to patient.
10. Iron supplement was not in literature review	10. Iron III polymaltose was prescribed

Most of the drugs given to patient were in line with literature and that is to say, patient was given the right treatment which aided in his timely recovery. Iron III polymaltose was prescribed for patient because he had low haemoglobin level.

Table 5: Pharmacology of Drugs Administered to Patient Cont'd…

Date	Drug	Dosage/ Route of Administration (Literature)	Dosage/ Route of Administration Given to Patient	Classification	Desired Effect	Actual Action	Side Effect/ Remedies
19/11/21	Normal saline	**Dosage:** Depends on patient's fluid and electrolyte level **Route** IV	**Dosage:** 1.0L for 24 hours **Route:** Intravenously	Isotonic solution of sodium chloride	To correct fluid and electrolyte imbalance	Patient's body fluids and electrolytes were raised	Oedema, over hydration, hypocalcaemia. None of these side effects were observed.
19/11/21	Cefuroxime	**Dosage** 750 mg every 6–8 hours **Route** Oral, IV, IM	**Dosage** 1.5g Stat, then 750mg tds x 48hrs+24hrs **Route** Intravenously	Second generation' Cephalosporin	Cephalosporins are antibacterials that attach to penicillin binding proteins to interrupt cell wall biosynthesis, leading to bacterial cell lysis and death.	Clients infection was controlled	Gastrointestinal disorders, Cutaneous vasculitis. None of these side effects were observed.

Table 5: Pharmacology of Drugs Administered to Patient Cont'd…

Date	Drug	Dosage/ Route of Administration (Literature)	Dosage/ Route of Administration Given to Patient	Classification	Desired Effect	Actual Action Observed	Side Effects/Remedies
19/11/21	Amoxicillin + Clavulanic Acid (Co-Amoxiclav)	**Dosage:** 1.2g every twelve hours for 1 day **Route:** Oral and IV	**Dosage:** 1.2g bd for 24hours **Route:** Intravenously	Antibacterial (Penicillins, Broad-spectrum with betalactamase Inhibitor)	To inhibit bacteria growth	Patients condition improved	Cholesteric jaundice, Hepatitis, Dizziness, Headache None of these side effects were observed.
19/11/21	Paracetamol	**Dosage** 0.5–1 g every 4–6 hours; maximum 4g per day **Route** Oral and IV	**Dosage** 1g tds x 24 hours **Route** Intravenously	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.
19/11/21	Oxygen	**Dosage**: Amount depends on oxygen saturation level **Route**: Nasal	3litres ×12hours nasally	Oxidant	It increases oxygen saturation of haemoglobin, It is necessary for metabolism.	Ineffective breathing pattern was corrected with the oxygen in situ.	Retinopathy of prematurity, seizures, oxidative damage. None was observed.

Table 5: Pharmacology of Drugs Administered to Patient Cont'd…

Date	Drug	Dosage/ Route of Administration (Literature)	Dosage/ Route of Administration Given to Patient	Classification	Desired Effect	Actual Action Observed	Side Effects/ Remedies
19/11/21	Diclofenac	**Dosage:** **Oral**: 75-150mg daily **Rectum**: 75-150mg IM: 75mg daily **Route:** Oral, Rectal, IM	**Dosage:** 50mg tds for 5days **Route:** Orally and Rectally	Nonsteroidal anti-inflammatory drug	Diclofenac inhibits cyclooxygenase-1 and -2, the enzymes responsible for production of prostaglandins.	Patients pain reduced	**A**ppetite decreased, diarrhoea, dizziness, gastrointestinal discomfort. None was observed in patient
19/11/21	Azithromycin	**Dosage** 500 mg once daily for 5days **Route** Oral	**Dosage** 500mg once daily for 3 days **Route** Orally	Macrolides	To inhibit bacteria growth	Patient condition improved	Arthralgia, Numbness, oedema. None of these side effects were observed.
19/11/21	Iron III polymaltose	**Dosage** One capsule daily **Route** Oral	**Dosage** 1 capsule daily x 30days **Route** Orally	Iron supplement	To help increase oxygen delivery and blood cells	Patient condition improved	Diarrhoea, vomiting, restlessness, heartburn, muscle pain. None of these side effects were observed.

D. Complications of Pneumonia

According Hinkle and Cheever (2018) complications of pneumonia includes;

- Shock
- Respiratory Failure
- Atelectasis
- Pleural effusion
- Confusion

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 Patient / Family Strengths

Strength refers to the ability to do things that need lot of physical or mental effort (Weller, 2014). The following strengths were observed in patient and family during their period of hospitalization.

1. Patient could breathe when propped up or placed in high fowler's position.
2. Patient could tolerate cold drinks.
3. Patient could stay calm.
4. Patient could tolerate analgesics to help relieve pain.
5. Patient could splint chest when coughing
6. Patient was able to sleep when the environment was quiet.
7. Patient is ready to learn about disease condition.

2.3 Patient Problems

Problem is defined as a situation, person that needs attention and needs to be dealt with or solved (Weller, 2014). From the data collected during assessment, the following health problems were noticed on patient:

1. Patient could not breathe properly (dyspnoea) (19/11/21)
2. Patient had high body temperature (19/11/21)
3. Patient was anxious (19/11/21)
4. Patient had chest pains (20/11/21)
5. Patient had recurrent cough (20/11/21)
6. Patient could not sleep properly (21/11/21)
7. Patient lacked knowledge on his disease condition (22/11/21)

2.4 Nursing Diagnosis

According to Hinkle and Cheever (2018), nursing diagnosis is the organization, analysis, synthesis and summarization of data collected and determines the patient's need for care.

1. Ineffective breathing pattern (dyspnoea) related to inflammatory process of both lungs (19/11/21)
2. Hyperthermia (38.9^{o}c) related to infectious process in the lungs (19/11/21)
3. Anxiety related to unknown outcome of disease condition (Bronchopneumonia) (19/11/21)
4. Acute pain (chest) related to cough (19/11/21)
5. Persistent cough related to irritation of the mucosa lining of the respiratory tract (20/11/21)
6. Insomnia related to interruptions for therapeutics and lighting (21/11/21)
7. Knowledge deficit related to lack of education about the causes, clinical manifestation, treatment and prevention of disease condition (22/11/21)

CHAPTER THREE

PLANINNG FOR PATIENT/FAMILY CARE

3.0 Introduction

Planning is the process in which the nurse and patient together consider the goals to achieve in meeting the patient's identified or potential problems in daily life and produce an individual care plan (Weller, 2014). Planning comprises of four main principles. These are:

1. **Setting Priorities**: This means stating the nursing diagnosis in order of importance or urgency. Priorities are established to identify which nursing intervention should be directed first when the individual has multiple problems. When setting priorities, the nurse and the client both select the problem to be addressed first on the plan. This gives the nurse the ability to direct resources towards achieving the set goals (Jarvis, 2018).

2**. Establishing objectives and outcome criteria**: Goals are desired outcomes and these goals are written in terms of what is expected to be done or achieved. An outcome means the results of an activity and criteria is a standard measure for goals. Outcome criteria are used to direct intervention to achieve the desired changes. It measures validity and effectiveness of the interventions (Esena, 2011).

3. **Planning nursing strategies**: These are nursing actions performed to achieve the established goals for the patient. They include decision making and formulation of a number of alternative nursing actions that are likely to solve the problems of the patient. One or more of nursing strategies which are considered best among the alternative actions are selected (Esena, 2011).

4. **Writing of the nursing care plan**: This is a written guide for nursing care actions. It is the action taken by the nurse to enable him or her meet the patient's identified problems

and stated goals. It organizes information about the patient's health into a meaningful one (Jarvis, physical examination and health assessment, 2000)

The writing of the nursing care plan comprises the following:

1. Nursing diagnosis.
2. Objective and outcome criteria.
3. Nursing orders.
4. Interventions.
5. Evaluation.

3.1 Objectives and Outcome Criteria

1. 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 in bed.
2. Patient temperature would reduce to normal after 6 hours as evidenced by;
    a. Nurse observing patient temperature has reduced by recording a temperature within the normal range (36.2^0c-37.2^0c).
    b. Patient verbalizing, he no longer feels hot.
3. Patient would be less anxious within 24hours as evidenced by;
    a. Patient anticipating a positive outcome and verbalizing he feels less anxious
    b. Nurse observing patient has a cheerful face and is relaxed in bed.
4. Patient would be relieved of pain and made comfortable within 48hours 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.
5. Patient's cough would be reduced within 48 hours as evidenced by;

a. Patient verbalizing, he has a reduced cough

b. Nurse observing a reduction in frequency of patient cough.

6. Patient would attain optimal sleep and rest within 24 hours as evidenced by;

   a. The nurse visualizing patient having a sound uninterrupted sleep for at least 6-8 hours.

   b. Patient verbalizing, he feels well rested.

7. Patient would understand and gain more insight to his disease condition within 2 hours as evidenced by;

   a. Nurse observing patient is able to answer simple questions asked about the disease condition.

   b. Patient verbalizing he anticipates a better prognosis of the disease condition.

Table 6: Nursing Care Plan for Patient

Date/ Time	Nursing Diagnosis	Objective/ Outcome Criteria	Nursing Orders	Nursing Intervention	Date/ Time	Evaluation	Sign
19/11/21 4:30pm	Ineffective breathing pattern related to inflammatory process of both lungs.	Patient would maintain an effective breathing pattern within 24 hours as evidenced by; 1. Nurse visualizing patient has a normal respiratory rate between 18-24cycles per minute. 2. Patient verbalizing he feels relaxed in bed.	1. Reassure client that respiration will normalize with proper interventions. 2. Assess for impaired respiratory function. 3. Prop patient up in bed and support him with pillows. 4. Loosen tight clothing around the neck and the chest. 5. Teach patient deep breathing exercise. 6. Monitor and record respiratory rate. 7. Administer intranasal oxygen (INO_2) as prescribed.	1. Patient was reassured that his respiration will normalize. 2. Patient was assessed for shallow and rapid respirations function to enhanced breathing. 3. Patient was propped up in bed and supported with pillows to enhance breathing. 4. Tight clothing around neck and chest were loosened. 5. Patient was taught deep breathing exercise. 6. Respiratory rate and depth were monitored and recorded. 7. INO_2 3L/min was administered for 12 hours	20/11/21 4:30pm	Goal fully met as patient's respiratory rate within normal range (24cycles per minute) and patient verbalizes he is relaxed.	

Table 6: Nursing Care Plan for Patient

Date/ Time	Nursing Diagnosis	Objective/ Outcome Criteria	Nursing Orders	Nursing Intervention	Date/ Time	Evaluation	Sign
19/11/21 4:35pm	Hyperthermia (38.9^{o}C) related to infectious process in the lungs.	Patient temperature would reduce to normal within 6 hours as evidenced by: 1. Nurse recording a temperature within the normal range (36.2^{0}C-37.2^{0}C). 2. Patient verbalizing he no longer feels hot.	1. Reassure patient that temperature can be restored to normal. 2. Remove tight and heavy clothing on patient. 3. Ensure proper ventilation by opening windows and rolling up curtains. 4. Serve cold drinks to patient. 5. Monitor patient temperature. 6. Serve prescribed antipyretics to patient.	1. Patient was reassured that temperature will restore to normal. 2. Tight and heavy clothing on patient were removed. 3. Windows were opened and curtains rolled up to ensure proper ventilation. 4. 500mls of cold sachet water was served to patient. 5. Patient's temperature was monitored hourly. 6. IV paracetamol 1g was administered.	19/11/21 10:35pm	Goal fully met as nurse recorded a temperature within the normal range (36.6^{0}C) and patient verbalized he no longer feel hot	

Table 6: Nursing Care Plan for Patient

Date/ Time	Nursing Diagnosis	Objective/ Outcome Criteria	Nursing Orders	Nursing Intervention	Date/ Time	Evaluation	Sign
19/11/21 5:00pm	Anxiety related to unknown outcome of disease condition.	Patient would be less anxious within 24hours as evidence by; 1. Patient verbalizing that he is feeling less anxious and anticipates a positive outcome of his condition. 2. nurse observing patient has a cheerful face and is relaxed in bed.	1. Reassure patient that the condition is curable. 2. Assess for signs and symptoms of anxiety. 3. Allow patient to voice out his fears and ask questions. 4. Introduce other patients who have recovered from same condition to patient and allow him to interact with them. 5. Introduce health team members to him. 6. Explain all procedures to patient and seek consent before carrying them out.	1. Patient was reassured that there is cure for the condition. 2. Patient's anxiety level was assessed by asking him of his fears and worries. 3. Patient was allowed to voice out his feelings and questions were tactfully answered. 4. Patient was allowed to interact with other patients with the same condition to share their experience. 5. Health team members were introduced to patient. 6. All procedures were explained to patient and consent was sought before being carried out.	20/11/21 5:00pm	Goal fully met as patient verbalized that he feels less anxious and anticipating a good prognosis of his condition and nurse observed patient has a cheerful face and relaxed in bed	

Table 6: Nursing Care Plan for Patient

Date/ Time	Nursing Diagnosis	Objective/ Outcome Criteria	Nursing Orders	Nursing Intervention	Date/ Time	Evaluation	Sign
20/11/21 9:00am	Acute pain related to cough	Patient would be relieved of pain and made comfortable within 48hours 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. Reassure patient. 2. Assess the patient's level of pain. 3. Put patient in the high fowler's position. 4. Identify aggravating and alleviating factors of the pain. 5. Teach patient to splint chest when coughing and take deep breaths. 6. Provide calm and restful environment for patient. 7. Administer prescribed analgesics.	1. Patient and family were reassured that chest pain is common with pneumonia and will subside with treatment. 2. Patient's level of pain was assessed using the 0-10 numerical pain rating scale 3. Patient was put in the high fowler's position in bed. 4. Patient was made to voice out aggravating and alleviating factors of the pain. 5. Patient was encouraged to splint chest with pillows when coughing and also breathe deeply. 6. Calm and restful environment was provided. 7. Tablet Diclofenac 50mg served.	22/11/21 9:00am	Goal fully met as patient rated pain as 2 on the 0-10 numerical pain rating scale and nurse observed patient was comfortable in bed and interacting with relatives.	

Table 6: Nursing Care Plan for Patient

Date/ Time	Nursing Diagnosis	Objective/ Outcome Criteria	Nursing Orders	Nursing Intervention	Date /Time	Evaluation	Sign
20/11/21 9:30am	Persistent cough related to irritation of the mucosa lining of the respiratory tract.	Patient's cough would be reduced within 48hours as evidenced by; 1. Patient verbalizing he has a reduced cough. 2. Nurse observing a reduction in frequency of cough.	1.Reassure patient 2. Teach patient deep breathing and coughing exercise. 3. Prop patient up in bed. 4. Teach patient to splint chest when coughing. 5. Protect patient from exposure to irritants 6. Provide sputum mug at bed side.	1. Patient was reassured that the cough is a manifestation of his condition and will subside with treatment. 2. Patient was taught deep breathing and coughing exercises. 3. Patient was propped up in bed. 4. Patient was advised to splint his chest with pillows when coughing and breathe deeply 5. Patient was protected from exposure to irritants such as perfume and dust with a nose mask. 6. Sputum mug was provided at patient's bedside.	22/11/21 9:30am	Goal not met as patient still complains of cough and nurse observed a reduction in the frequency of cough	

Table 6: Nursing Care Plan for Patient

Date/ Time	Nursing Diagnosis	Objective/ Outcome Criteria	Nursing Orders	Nursing Intervention	Date/ Time	Evaluation	Sign
21/11/21 8:00am	Insomnia related to interruptions for therapeutics and lighting.	Patient would attain optimal sleep and rest within 24hours as evidenced by; 1. Nurse visualizing patient having a sound uninterrupted sleep for at least 6-8 hours. 2. Patient verbalizing that he feels well rested.	1. Reassure patient. 2. Plan time for treatment and assessment with the patient. 3. Restrict and Limit visitors 4. Provide warm bath. 5. Ensure dim light at night. 6. Ensure adequate ventilation.	1. Patient was reassured that all actions will be done at the right time. 2. Time for assessment and treatment were planned with the patient. 3. The number of visitors and their length of stay were restricted and limited. 4. Patient took a warm bath in the evening to induce sleep. 5. Room light was turned off in the night. 6. Doors and windows were opened to ensure adequate ventilation.	22/11/21 8:00am	Goal fully met as patient attained optimal amount of sleep as evidence by nurse visualizing patient having a sound sleep for 8 hours an patient verbalized he had a good night sleep.	

Table 6: Nursing Care Plan for Patient

Date/ Time	Nursing Diagnosis	Objective/ Outcome Criteria	Nursing Orders	Nursing Intervention	Date/ Time	Evaluation	Sign
22/11/21 8:40am	Knowledge deficit related to lack of education about the cause, clinical manifestation, treatment and prevention of disease condition.	Patient would understand and gain more insight to his disease condition within 4hours as evidenced by; 1. Nurse observing Patient is able to answer simple questions asked about the disease condition. 2. Patient verbalizing he anticipates a better prognosis about condition.	1. Reassure patient. 2. Ensure a quiet and conducive environment. 3. Assess patient's and relative's level of knowledge on condition 4. Educate them on disease condition. 5. Present teaching aids to enhance learning. 6. Encourage patient and relatives to ask questions and tactfully answer them.	1. Patient was reassured that bilateral pneumonia is treatable. 2. Conducive environment was ensured during the education section. 3. Patient and relatives were asked about the knowledge they had on his condition. 4. Education on disease condition, desired and adverse effects of drugs were provided to patient and relatives. 5. Pictures and other materials were provided to aid their understanding. 6. Questions asked were tactfully answered.	22/11/21 12:40pm	Goal fully met as patient could answer simple questions asked about disease condition and also was relaxed in bed hoping to return to normal activities at home.	

CHAPTER FOUR

IMPLEMENTATION OF PATIENT/ FAMILY CARE PLAN

4.0 Introduction

Implementation is the process by which the nurse and the patient put into practice the planned care. It involves putting into action the nursing and medical orders to meet the patient's needs. During the process of implementation, the patient is the central focus of activities (Jarvis, physical examination and health assessment, 2018).

4.1 Summary of The Actual Care Rendered to Patient

Day of Admission (19th November, 2021)

On 19th November, 2021 at 4:30pm, Mr. I.B. was admitted at Male medical ward of Sunyani Regional Hospital. It was a planned admission through the accident and emergency bay in a wheel chair accompanied by his mother and a nurse. He was diagnosed of pneumonia by Dr. D.N. He reported with a cannula in situ. They were welcomed and given seats at the nurses' station. Identification was confirmed by mentioning his name and cross checking with his particulars to ensure that he was the right patient and also brief introduction of staffs to client and relative. He was reassured of competent staff and quality health services to aid his recovery. He was put in already prepared admission bed which was later made a cardiac bed to suit patient's condition. He exhibited signs of breathing difficulty, coughing and complains of headache, chest pain which is aggravated by coughing, general body weakness and dizziness.

Mr. I.B.'s. vital signs were checked and recorded as follows;

Temperature: - 38.9^{o}C

Pulse: - 82bpm

Respiration: - 20cpm

Blood pressure: - 120/80mmHg.

SPO2: - 91%

Patient was conscious and oriented to time and place; patient and relatives were oriented to the ward and the protocols. patient and relatives were reassured of competent nursing care made comfortable in bed.

The following laboratory investigations were carried out:

1. Full blood count
2. Chest x-ray
3. Blood test for malaria parasite
4. Sputum examination
5. Pulse oximetry check

Patient was made to rest in a cardiac bed to help with breathing and also tight clothing were removed and adequate ventilation provided to help reduce temperature. He was also served with 500mls of cold sachet water. He was taught to splint chest when coughing to help reduce chest pain.

His initial treatment plan is as follows;

1. Intravenous Cefuroxime 1.5g Stat, then 750mg tds x 48hrs+24hrs
2. Intravenous Amoxiclav bd 1.2g x 48 hours
3. Tablet Diclofenac 50mg tds x 5 days
4. Intravenous paracetamol 1g tds x 24
5. Intravenous Normal saline 1 liter x 24 hours

6. Intranasal Oxygen 3L/min x 12 hours
7. Capsule Iron III polymaltose 1 daily x 30days
8. Tablet Azithromycin 500mg daily× 72 hours

Mr. I.B.'s belonging was given to his relatives. They were told of the visiting hours and routine practices of the ward including the doctor's rounds, medication times and also meal times. He was later oriented to the ward and its annexes and introduced the patients near his bed while he was in bed because of his condition. His name was entered into the admission and discharges book, daily ward state and all procedures done was documented into the nurses' notes. He was then made comfortable in bed and allowed to rest. Nursing care plan approach was used to care for Mr. I.B.

At 4:30pm, Patient had difficulty in breathing. A diagnosis of ineffective breathing pattern related to inflammatory process in both lungs was formulated. A goal to maintain effective breathing pattern within 24 hours was set. Patient was reassured that his respiration will normalize, patient was assessed for shallow and rapid respirations function to enhanced breathing, patient was propped up in bed and supported with pillows to enhance breathing, tight clothing around neck and chest were loosened, patient was taught deep breathing exercise, respiratory rate and depth were monitored and recorded, INO_2 3L/min was administered for 12 hours.

At 4:35pm, patient had a high body temperature. Hyperthermia (38.9^{o}C) related to infectious process in the lungs.was formulated. An objective was set that patents temperature will reduce to normal within 6 hours. The following interventions were implemented: Patient was reassured that temperature will restore to normal, tight and heavy clothing on patient were removed, windows were opened and curtains rolled up to ensure proper ventilation, 500mls of cold sachet water was served to patient, patient's temperature was monitored hourly, IV paracetamol 1g was administered.

At 5:00pm, patient was anxious. A diagnosis of Anxiety related to unknown outcome of disease condition was formulated. An objective was set that Patient will be less anxious within 24hours. Patient was reassured that there is cure for the condition, His anxiety level was assessed by asking him of his fears and worries, He was allowed to voice out his feelings and questions were tactfully answered, Patient was allowed to interact with other patients with the same condition to share their experience, Health team members were introduced to patient, All procedures were explained to him and his consent was sought before being carried out on him.

He was served with 'Banku' and groundnut soup as supper. He brushed his teeth after eating and at 7:30pm. At 10:00pm, His vital signs were checked and recorded in the vital signs sheet and documented in the nurses' notes. He was due for medication which was IV cefuroxime 750mg so it was administered. He slept around 10:20pm. At 10:35pm, objective formulated at 4:35pm to reduce patient's temperature was fully met as nurse recorded a temperature within the normal range (36.6^0C) and patient verbalized he no longer feel hot.

Second Day of Admission (20th November, 2021)

Patient woke up at 5:30am. At 6:00am vital signs were checked and recorded as follows on the vital signs sheet.

Temperature - 36.2^0C

Pulse - 80 beats per minute

Respiration - 20cycles per minute

Blood pressure - 100/60mmhg

He was assisted to the bathroom to have his bath and oral hygiene. He took Tom brown with milk and bread for breakfast.

At 09:00am, patient complained of chest pain. Acute pain related to cough was the diagnosis formulated and a goal was set that patient will be relieved of pain within 48hours. Patient and family were reassured that chest pain is common with pneumonia and will subside with treatment. His level of pain was assessed using the 0-10 numerical pain rating scale. He was put in the high fowler's position in bed. He was made to voice out aggravating and alleviating factors of the pain. He was encouraged to splint chest with pillows when coughing and also breathe deeply. Calm and restful environment was provided for patient to have enough rest and Tablet Diclofenac 50mg was served and documented in the nurses' notes.

At 9:50am, patient was reviewed by physician assistant P. and plan was to continue current treatment while awaiting x-ray results. Patient's laboratory results showed increased levels of white blood cells which indicated presence of infection. He was advised to have enough rest.

At 09:30am, nursing diagnosis of Persistent cough related to irritation of the mucosa lining of the respiratory tract was formulated and objective was patient cough will reduce within 48 hours. Patient was reassured that the cough is a manifestation of his condition and will subside with treatment. He was taught deep breathing and coughing exercises. He was propped up in bed. He was advised to splint his chest with pillows when coughing and breathe deeply. He was also protected from exposure to irritants such as perfume and dust with a nose mask. Sputum mug was provided at his bedside.

At 2:15pm, Vital signs was also checked and recorded. He took 'Kenkey' and pepper with fried fish and 500mls of sachet water as lunch, afterwards he ate sliced mango and was

made to rest in bed. I went for the first home visit with the help of his mother's direction on this day.

At 4:30pm, objective on ineffective breathing pattern set at 4:30pm was fully met as

He was weaned off the intranasal oxygen and was made comfortable in bed with his SPO2 recording as 97%.

patient's respiratory rate was normal (24 cycles per minute), breathed without the use of accessory muscles and was relaxed in bed.

At 5:00pm, an objective set on 19/11/21 on anxiety related to unknown outcome of disease condition was fully met as patient verbalized that he feels less anxious and anticipating a good prognosis of his condition and nurse observed patient has a cheerful face and relaxed in bed.

At 6pm, patient vital signs were checked and recorded on the vital signs sheet. He then took supper of 'Banku' with groundnut soup and took his bath around 7:15pm.

At 10pm, patient was served with iv cefuroxime 750mg and tab Diclofenac 50mg and vital signs checked and recorded on the vital signs sheet. He went to bed at 10:30pm.

Third Day of Admission (21st November, 2021)

Mr. I.B woke up at 6am and his vital signs was checked and recorded as follows:

Temperature - 35.9^0c

Pulse - 73 beats per minute

Respiration - 20cycles per minute

Blood pressure - 100/60mmhg

Patient had his bath and oral hygiene at 7:30am. He took porridge and bread for breakfast at 7:40am. At 10am, his vital signs were checked and recorded on the vital signs sheet.

Patient was reviewed by Dr. A.D at 10:15am and plan included to continue current treatment and to take IV cefuroxime 750mg 8 hourly for 24hours and continue monitoring.

At 8:00am, patient complained of not being able to sleep well the previous night. Prolonged awakenings related to interruptions for therapeutics and lighting was made and objective was set for patient to obtain optimal sleep and rest within 24 hours. Patient was reassured that all actions will be done at the right time. Time for assessment and treatment were planned with the patient. The number of visitors and their length of stay were restricted and limited. He took a warm bath in the evening to induce sleep. Room light was turned off in the night. Doors and windows were opened to ensure adequate ventilation.

At 2pm, Vital signs was checked and recorded. His x-ray report was received from the x-ray department and awaiting review. He was served Yam and garden eggs stew for lunch.

At 4pm, patient x-ray report was reviewed by Dr. A.D it showed consolidation on the lower zones of both the left and right lungs indicating presence of infection. His plan was to continue the treatment.

At 6pm vital signs were checked and recorded and patient was made to walk around the ward as a form of exercise. He later took his supper of rice and stew with meat and had his bath and oral hygiene.

At 10pm vital sign was checked and recorded. Tab Diclofenac 50mg and IV cefuroxime750mg was served. Patient was made comfortable in bed and he was bid a good night.

Fourth Day of Admission (22nd November, 2021)

Patient woke up at around 6:00am for the 6am vital signs. It was checked and recorded as:

Temperature - 36.1^0c

Pulse - 62bpm

Respiration - 22cpm

Blood pressure - 110/60mmhg

Patient had his bath and oral hygiene at 7:00am.

At 8:00am, objective set on 21/11/21 on difficulty in sleeping was fully achieved as the nurse visualized patient having a sound sleep for at least 8 hours the previous night and the patient verbalized he had a good night sleep.

At 8:40am, Knowledge deficit related to lack of education about the cause, clinical manifestation, treatment and prevention of disease condition was formulated and an objective was set for Patient to understand and gain more insight to his disease condition within 2hours. Patient was reassured that bilateral pneumonia is treatable. Conducive environment was ensured during the education section. Patient and relatives were asked about the knowledge they had on his condition. Education on disease condition, desired and adverse effects of drugs were provided to patient and relatives. Pictures and other materials were provided to aid their understanding. Questions asked were tactfully answered.

At 10am, vital sign was checked and recorded on the vital signs sheet. At 10:32am, patient was reviewed by doctor during the ward rounds and patient complained of cough. Doctor advised him that is a physiologic process by which the body gets rid of fluid and other

irritants from the lungs. Doctor said he was clinically improving, and to be monitored for frequency of cough hopefully for suppression and a possible discharge the next day.

At 09:00am, objective set on 20/11/21 on acute pain was fully met as patient participated in daily activities. Patient rated pain as 2 on the 0-10 numerical pain rating scale and nurse observed patient was comfortable in bed and interacting with relatives.

At 12:40pm, objective set at 8:40am on knowledge deficit was fully met as Patient could answer simple questions asked about disease condition and also was relaxed in bed hoping to return to normal activities at home.

At 09:30am, evaluation of the set objective on 20/11/21 to relieve patient from cough was don and goal was fully met as patient verbalized cough was subsiding and nurse observed a decrease in the frequency of the cough.

At 2pm, vital signs were checked and recorded on the vital signs sheet. Patient was then served with 'waakye' with egg and an orange for his lunch. At 6pm, patient vital signs were checked and recorded on the vital signs sheet. Patient was served rice and stew with meat as supper at 7:34pm.

Patient had a warm bath and oral hygiene at 8:04pm. At 10pm, vital signs were checked and recorded on the vital signs sheet. Patient was then made comfortable in bed and was bid a good night.

Fifth Day of Admission/Day of Discharge (23rd November, 2021)

Mr. I.B woke up at 5:50am, his vital signs were checked and recorded at 6:00am as:

Temperature - 36.6^0c

Pulse - 65bpm

Respiration - 21cpm

Blood pressure - 100/60mmhg

Patient lodged no new complain.

At 7:55am, patient had personal and oral hygiene. Patient conversed with his visitors and was served breakfast of 'Waakye' and meat at 8:38am. At 10am vital signs were checked and recorded on the vital signs sheet. Doctor came for rounds at 10:48am to review patient. The doctor said patient was looking clinically well, not pale, well hydrated, patient was afebrile, chest pain had subsided and cough was subsiding. Patient was well hydrated, conscious and alert. To be discharged home and come for review in two weeks. He was to continue tab Diclofenac 50mg for 72 hours and start tab cefuroxime 500mg bd x 7days.

4.1 Preparation of Patient/Family for Discharge

Preparation towards discharge started from the day of admission to the day he was finally discharged. This preparation was carried out with the aim of helping the patient and the family to understand the disease condition, causes, signs and symptoms, management, complications and the need for review and follow up care. It was also to assure Mr. I.B and his family that admission was temporal and would soon be discharged to enable him fit back into society.

For the period of time that he spent at the hospital, his relatives who visited him were educated on the disease. They were earlier informed about the possible discharge to enable them prepare adequately towards it. The family members were educated to know the dangers of taking unprescribed drugs, proper hand washing before and after visiting the toilet, proper means of disposing home waste, eating of balanced meals, maintaining proper personal hygiene.

Mr. I.B was advised to wear protective clothes in cold weather and avoid dusty places, also he was advised to put on a nose mask to prevent inhalation of particles and also quit the habit of smoking and drinking. He was discharged on the daily ward state, admission and discharge book. He was told to come for review on 30th November, 2021 at the main OPD. He was helped to pack his belongings. I finally escorted them to the hospital gate to board a taxi home. I bid them good bye and reminded him of my second home visit. I returned to the ward to remove bed linen and decontaminate the bed.

4.3 Follow Up/Home Visit for Continuity of Care

This is the act of visiting the patient in his own home and environment to assess the home situation and see how your patient is faring. This helps to ensure proper evaluation of care to client after discharge, identify health hazards in the home and environment. Home visits can lead to improved medical care through the discovery of unmet healthcare needs.

First Home Visit (20th November, 2021)

On 20th November, 2021 I went to Susanso a suburb of Tanoso whiles Mr. I.B. was still admission. I was given direction to the house by his mother. I was welcomed by patients' father and was given a seat and water to drink. They live in a self-contained with three bed rooms. The house was supplied with pipe borne water from a standing tap. They had access to electricity, the room was well ventilated with a two in one louver system at the front and three in one system at the back. Each room had their own bathroom and toilet facility which was a water closet. Their refuse is gathered into a big bucket with lid and emptied every morning at a public refuse site.

Health education was given to Mr. I.B.'s mother on ways of preventing home accident, infection prevention and practice of personal hygiene, the need to help her son in the performance of certain activities on his return home from the hospital. She was given

ample time to ask questions about causes, signs and symptoms and prevention of the condition and simple answers were provided to her understanding and she promised to put an end to all unhealthy lifestyle as well as helping her son to do so. I expressed my profound gratitude to her for her welcome and she also thanked me for my piece of advice and information. I asked to leave and told her I will visit again when client is discharged. Finally, I left there and returned to Sunyani.

Second Home Visit (28th November, 2021)

My second visit was on 28th November, 2021 after he had been discharged and gone home. I got there at 10:37am. Mr. I.B. received me, offered me a seat and water to drink. I met his parents.

As usual, I asked about their health especially about Mr. I.B 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 30th November, 2021.

Day of Review (30th November, 2021)

Mr. I.B reported for review on the date scheduled by the doctor which was 30th November, 2021 at 9:30am. He was accompanied to the outpatient department and consulting room by his mother. The medical doctor did a general examination from head to toe and declared him very fit. His vital signs were;

Temperature - 36.9^{o}C,

Pulse - 67bpm,

Respiration - 18cpm,

Blood pressure - 100/70mmhg

He lodged no new 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 my client. He was escorted to the hospital gate to board a vehicle back home.

Third Home Visit (12th December, 2021)

On 12th December, 2021, Mr. I.B 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. I.B. 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. 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 mother and reminded them of the modifications they had to do and I was happy to know that he had not smoke nor taken alcohol since his return home. 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 RENDED TO PATIENT AND FAMILY

5.0 Introduction

Evaluation is the process of measuring the effectiveness of nursing actions, medical care and forms of health care by other providers. It helps to determine whether outcome criteria have been met and how care for the patient might be improved (medical dictionary for the health professions, 2012).

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 client 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.

A. Patients Breathing Pattern was restored to normal

On 19th November, 2021 at 4:30pm, Patient had difficulty in breathing. A diagnosis of ineffective breathing pattern related to inflammatory process in both lungs was formulated. A goal to maintain effective breathing pattern within 24 hours was set. Patient was reassured that his respiration will normalize, patient was assessed for shallow and rapid respirations function to enhanced breathing, patient was propped up in bed and supported with pillows to enhance breathing, tight clothing around neck and chest were loosened, patient was taught deep breathing exercise, respiratory rate and depth were monitored and recorded, INO_2 3L/min was administered for 12 hours.

At 4:30pm, objective on 19th November,2021 ineffective breathing pattern set at 4:30pm was fully met as patient's respiratory rate was normal (24 cycles per minute), breathed without the use of accessory muscles and was relaxed in bed.

B. Patient's Temperature was restored to Normal

On 19th November, 2021 at 4:35pm, patient had a high body temperature. Hyperthermia (38.9^{o}C) related to infectious process in the lungs was formulated. An objective was set that patents temperature will reduce to normal within 6 hours. The following interventions were implemented: Patient was reassured that temperature will restore to normal, tight and heavy clothing on patient were removed, windows were opened and curtains rolled up to ensure proper ventilation, 500mls of cold sachet water was served to patient, patient's temperature was monitored hourly, IV paracetamol 1g was administered.

At 10:35pm, objective formulated on 19th November 2021 to reduce patient's temperature was fully met as nurse recorded a temperature within the normal range (36.6^{0}C) and patient verbalized he no longer feel hot.

C. Patient was Relieved of Anxiety

On 19th November, 2021 at 5:00pm, patient was anxious. A diagnosis of Anxiety related to unknown outcome of disease condition was formulated. An objective was set that Patient will be less anxious within 24hours. Patient was reassured that there is cure for the condition, His anxiety level was assessed by asking him of his fears and worries, He was allowed to voice out his feelings and questions were tactfully answered, Patient was allowed to interact with other patients with the same condition to share their experience, Health team members were introduced to patient, All procedures were explained to him and his consent was sought before being carried out on him.

At 5:00pm, an objective set on 19/11/21 on anxiety related to unknown outcome of disease condition was fully met as patient verbalized that he feels less anxious and anticipating a good prognosis of his condition and nurse observed patient has a cheerful face and relaxed in bed.

D. Patient was relieved from chest pain

On 20th November, 2021 at 9:00am, patient complained of chest pain. Acute pain related to cough was the diagnosis formulated and a goal was set that patient will be relieved of pain within 48hours. Patient and family were reassured that chest pain is common with pneumonia and will subside with treatment. His level of pain was assessed using the 0-10 numerical pain rating scale. He was put in the high fowler's position in bed. He was made to voice out aggravating and alleviating factors of the pain. He was encouraged to splint chest with pillows when coughing and also breathe deeply. Calm and restful environment was provided for patient to have enough rest and Tablet Diclofenac 50mg was served and documented in the nurses' notes.

At 09:00am, objective set on 20/11/21 on acute pain was fully met as Patient participated in daily activities. Patient rated pain as 2 on the 0-10 numerical pain rating scale and nurse observed patient was comfortable in bed and interacting with relatives.

E. Patient's cough was subsided

On 20th November, 2021 at 9:30am, nursing diagnosis of Persistent cough related to irritation of the mucosa lining of the respiratory tract was formulated and objective was patient cough will reduce within 48 hours. Patient was reassured that the cough is a manifestation of his condition and will subside with treatment. He was taught deep breathing and coughing exercises. He was propped up in bed. He was advised to splint his chest with

pillows when coughing and breathe deeply. He was also protected from exposure to irritants such as perfume and dust with a nose mask. Sputum mug was provided at his bedside.

At 09:30am, evaluation of the set objective on 20/11/21 to relieve patient from cough was don and goal was fully met as patient verbalized cough was subsiding and nurse observed a decrease in the frequency of the cough.

F. Patient had Optimal Sleep

On 21st November, 2021 at 8:00am, patient complained of not being able to sleep well the previous night. Prolonged awakenings related to interruptions for therapeutics and lighting was made and objective was set for patient to obtain optimal sleep and rest within 24 hours. Patient was reassured that all actions will be done at the right time. Time for assessment and treatment were planned with the patient. The number of visitors and their length of stay were restricted and limited. He took a warm bath in the evening to induce sleep. Room light was turned off in the night. Doors and windows were opened to ensure adequate ventilation.

At 8:00am, objective set on 21/11/21 on difficulty in sleeping was fully achieved as the nurse visualized patient having a sound sleep for at least 8 hours the previous night and the patient verbalized he had a good night sleep.

G. Patient gained adequate knowledge on pneumonia

On 22nd November, 2021 at 8:40am, Knowledge deficit related to lack of education about the cause, clinical manifestation, treatment and prevention of disease condition was formulated and an objective was set for Patient to understand and gain more insight to his disease condition within 2hours. Patient was reassured that bilateral pneumonia is treatable. Conducive environment was ensured during the education section. Patient and relatives were

asked about the knowledge they had on his condition. Education on disease condition, desired and adverse effects of drugs were provided to patient and relatives. Pictures and other materials were provided to aid their understanding. Questions asked were tactfullly answered.

At 12:40pm, objective set at 8:40am on knowledge deficit was fully met as Patient could answer simple questions asked about disease condition and also was relaxed in bed hoping to return to normal activities at home.

5.2 Amendment of Nursing Care Plan for Patient Partially Met Or Unmet Outcome Criteria

The objectives and goals that were set during the nursing care of Mr. I.B. were fully met hence no amendments were made.

5.3 Termination of Care

This is the time in which the nurse brings to an end the therapeutic treatment and nursing care with the patient and family. Every nurse-patient relationship at the hospital needs to be terminated. However, this is a very difficult step to take after a good rapport has been established. Because of this, the reality of termination of care has to be made known to both patient and family from the day of admission. 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. I.B. was reviewed by the doctor, he was declared fit and looked very healthy with no complains. During my visit to his home especially the third time, I observed that his general condition was encouraging and therefore terminated my care with him on 12th December, 2021 by finally advising him on eating balanced meals and having enough rest and officially handed over to his mother 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 OF CARE RENDERED TO PATIENT AND FAMILY

6.0 Summary

Mr. I.B. was admitted on 19th November, 2021 at 4:30pm, to the Male medical ward of Regional Hospital Sunyani. He presented with breathing difficulty, chest pains, cough, general body weakness, fatigue and headache. On examination, he was diagnosed of pneumonia by Dr. D.N. With the use of nursing process, the problems identified were developed into nursing diagnosis with nursing orders which were implemented to help solve these problems and promote recovery.

Using the nursing care plan, effective nursing care was carried out on the patient to ensure full recovery of Mr. I.B. 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. He was discharged on 23rd November, 2020 when his condition had improved and was declared fit to go home with no complains.

Goals were fully met during evaluation of care. Three home visits were paid to him to assess progress of his condition at home. He reported to the hospital for review on the 30th November, 2021. There was termination of care on 12th December, 2021.

6.1 Conclusion

The patient care study has helped me gain knowledge about nursing care rendered to clients, 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 well-being 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 clients 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.

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APPENDIX

Table 7: Observation of Vital Signs Chart for Patient

Date	Time	Temperature (°C)	Pulse (bpm)	Respiration(cpm)	Blood Pressure(mmHg)
19/11/21	10:00am	37.4	86	26	120/70
	2:00pm	38.1	85	24	120/70
	6:00pm	37.8	82	24	120/80
	10:00pm	37.3	82	19	110/60
20/11/21	6:00am	36.2	80	20	100/60
	10:00am	36.3	82	20	100/70
	2:00pm	36.5	72	21	100/60
	6:00pm	36.3	76	20	100/60
	10:00pm	36.8	73	20	100/60
21/11/21	6:00am	35.9	73	20	100/60
	10:00am	36.2	69	21	100/60
	2:00pm	35.7	60	21	100/70
	6:00pm	36.5	72	20	110/60
	10:00pm	36.4	70	17	100/70
22/11/21	6:00am	36.1	62	22	110/60
	10:00am	36.3	78	20	100/60
	2:00pm	36.4	66	20	100/60
	6:00pm	36.6	65	21	100/60
	10:00pm	36.2	68	20	100/60
23/11/20	6:00am	36.6	65	21	100/60
	10:00am	36.3	60	20	110/60

SIGNATORIES

1. NAME OF CANDIDATE:.....KONADU ADELAIDE

SIGNATURE.....

DATE..11th October, 2022.....

2. NAME OF WARD IN-CHARGE:....PATRICIA A BOATENG

SIGNATURE.....

DATE.....11/10/2022.....

3. NAME OF SUPERVISOR:.....AMOS OWUSU

SIGNATURE.....

DATE.....11/10/2022.....

4. NAME OF PRINCIPAL:.....MONICA NKRUMAH

SIGNATURE.....

DATE.12th October, 2022.....

ACADEMIC CO-ORDINATOR - NURSING
HOLY FAMILY NURSING & MIDWIFERY
TRAINING COLLEGE, SEFEKUM