HOLY FAMILY NURSING AND MIDWIFERY TRAINING COLLEGE

BEREKUM

A PATIENT/FAMILY CENTERED NURSING CARE STUDY ON BRONCHOPNUEUMONIA

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PREFACE

The patient and family care study are a detailed written account or report of the comprehensive individualized nursing care rendered to a particular patient and family within a specific period of time. This study is carried out to enable the student nurse put into practice the knowledge and skills acquired from the three (3) year training period in school to ascertain how best the theoretical knowledge could be used to nurse patients who will come under his or her care. Nursing care rendered to the patient to meet his or her physical, psychological, social and spiritual needs. It involves the interaction between the patient, family, the community in which he or she stays and the health team. The importance of the care study is to help the student nurse exhibit the skills and knowledge acquired from his or her training from the classroom into practice.

It involves the holistic and comprehensive nursing care to the patient and family within the time of admission to the time of discharge or to a peaceful death and continues with follow-up care after discharge. It is in this context that the nursing process, which includes assessment, analysis, diagnosis, planning, implementation and evaluation are employed.

The care study also helps the student nurse to acquire more knowledge on the diagnosis, causes, clinical features, complications and management of the specific disease condition studied by the student. The care study therefore helps the student nurse to have the opportunity to initiate and implement patient care.

The patient and family care study is an academic exercise carried by the final year student as part of the requirement for the award of a professional license to practice by the Nurses' and Midwives' Council of Ghana. During the study, patient and family's initials were used instead of their full names for anonymity and confidentiality.

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It is my greatest pleasure to express my sincere gratitude to my supervisor Ms. Antoinette Effum for her efforts and direction that ensured the success of the study.

Special thanks go to D.K, 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 Peadiatrics Ward of Holy Family Hospital, Techiman.

Further, I would like to extend my appreciation to my wonderful family (Anane's family), for their unending emotional, moral, spiritual, and financial support throughout the period of the study. I would like to extend my greatest gratitude goes to my lovely friend Charity.

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May God bless them.

INTRODUCTION

The patient and family care study are 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 need to arrive at a desired outcome. It also takes into account of patient's psychological and social needs in planning the care.

D.K. was admitted on 16th November, 2022 at 12:00pm at Pediatric ward of Holy Family Hospital, Techiman. He presented with breathing difficulty, cough, chest pain, general body weakness and fever. He was diagnosed of Bronchopneumonia. With the use of nursing process, the following problems were identified;

Patient could not breathe well (dyspnoea)

1. Mother complained of son feeling warm to touch. ($38.4^{o}c$)
2. Mother complained of son vomiting.
3. Mother looks anxious about son condition.
4. Mother complained of son in not having a sound sleep.
5. Family has deficient knowledge on patient condition.

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

1. Ineffective breathing pattern (dyspnoea) related to impaired oxygen exchange.
2. Hyperthermia ($38.4^{o}c$) related to infectious process in the lungs
3. Risk for fluid volume deficit related to increase frequency of vomiting.
4. Anxiety (mother) related to unknown outcome of admission and treatment.
5. Sleep pattern disturbance (insomnia) related to persistent cough.
6. Deficient knowledge related to the treatment regimen and preventive health measures.

Using the nursing care plan, effective nursing care was carried out on the patient to ensure full recovery of D.K. Among the care provided to him were bed making, monitoring of vital signs (temperature, pulse, respiration, and oxygen saturation), proper positioning in bed, administration of oxygen, and patient/family education on personal hygiene. He was discharged on 22nd November, 2022 when his condition had improved and was declared fit to go home with no complains. He reported to the hospital for review on the 28th November, 2022. 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 2nd December, 2022.

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 AND FAMILY

1.0 Introduction

Assessment is the first phase of the nursing process. It involves the systematic collection of data about a patient, his or her family and environment to identify his or her background problems and strength to enable the nurse to render an effective nursing care.

The main source of patient information will be from the patient's record, family, friends and members of the health team. The collected data is analyzed to identify patient's actual and potential problems in order to establish a data base on patient's status. This will help to institute an appropriate nursing diagnosis and interventions.

Assessment involves the use of observations, interviews and physical examination in the collection of data (subjective and objective) from the patient and his / her family.

1.1Patient's particulars

Patient's particulars are facts or details about them which are written down and kept as a record. (Collins English dictionary,2020). It is the details or information about patients' which are written down and kept as a record. This includes the patient's date of birth, age, sex, where he currently lives, address, marital status, occupation, religion and others.

D.K, 11- weeks old male, was born on the 5th of September 2022 at Ejura in the Bono East Region of Ghana and now lives at Aworowa, a suburb of Techiman which is in the Bono East Region with his family in a compound house with number TNB A501 AW. He is the first born of his parents. He is fair in complexion. According to D. K's mother, he was delivered per vaginum at home without any complications. D.K's mother is a seamstress at Aworowa. She is

a Christian who worships at Roman Catholic Church at Aworowa. D.K weighs 4.5kg with a height of 61cm. His next of kin is Madam A.B, his mother.

1.2 Patient/Family's Medical History

Patient medical history are information gathered by means that can crucially guide and direct care. (Nichol, Sundjaja and Nelson, 2021). According to D. K's mother there is no history of chronic illness, hereditary and psychiatric condition such as psychosis, hypertension, epilepsy, diabetes mellitus, asthma, sickle-cell disease in their family. She went on to say that, none of the family members had suffered any impending or chronic disease. They however suffer minor ailments such as headaches, which they mostly buy over-the-counter drugs for treatment. Both parents are alive and physically healthy. The reason for her child's hospitalization is to ensure proper nursing care to enhance good healing in the ward. According to D. K's mother, child has no known allergies being food, medications, soap etc.

1.3 Patient/Family's Socio-Economic History

Socio-economic history captures sources of support, coping styles, strengths, and fears (Bickley & Szilagyi, 2018). According to D. K's mother, there is peace, love and unity among the members of the family. The family's source of income for medical care is from what the entire family earns at the end of the month. D.K's mother is a seamstress and the father is a farmer who sells his farm products as his sources of income. The family is supported financially by the daily earnings of the father. The family source of water is pipe borne water. The family is guided by specific norms and values which helps in easy activities of the family. As a taboo, the community does not engage in farming activities on Tuesdays which parents and family adhere to. They celebrate Christian festivals such as Easter, and Christmas. Parents are Christians who worship with Roman Catholic Church at Aworowa.

1.4 Patient's Developmental History

Development is also progressive increase in skills and capacity of function or is the qualitative change in an individual where there is an increase in skills or ability to perform a task or the study of progressive changes in behavior and abilities from conception to death. (Dennis Coon, John O. Behavior, 2013)

Maturation is the orderly sequence of changes in physical and behavioral patterns including readiness to master new abilities or tasks dictated by genetic blueprints or the physical growth and development of the body, brain and the nervous system (Weller, 2014).

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 mother, D.K was born on 5th of September 2022 at full term per spontaneous vaginal delivery without any complication at home. Delivery was assisted by her grandmother. According to mother, continues exclusive breastfeeding is ensured. D.K was immunized against the vaccine preventable diseases as evidenced by the Bacillus Chalmette Guerin (BCG) scar observed on his right shoulder and Polio vaccine (IPV) No abnormalities such as heart defect, neural tube defect and down syndrome have been detected since birth. 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)

According to Erik Erickson's theory, D.K, a 3 months old infant falls between trust verses mistrust. During this stage, development centers around trust and mistrust which begins at birth and usually lasts until baby is about 18 months old. When a baby is born, they learn about the world around them. They are completely dependent on their parents. When the baby cries, you meet their needs by holding, feeding, and caring for them, they build trust overtime and when they are neglected, they develop mistrust.

1.5 Patient's Lifestyle and Hobbies

Lifestyle refers to the way in which a person or group of people lives and works.(Hornby, 2010). D.K is very sociable with other people. He sometimes wakes up at 2:00am but does not have a specific time for sleep. According mother, he empty's his bowel three times a day and bladder about four times a day. He does so without any difficulties. D.K has no favorite food apart from breast milk. He has no known allergies to medications or food. The mother said there is a normal sleeping pattern but on admission it was intermittent because of time medication is served. She added that she baths D.K twice daily and mouth care is done with a towel.

1.6 Patient's 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 mother, D.K has not been hospitalized before and this happens to be his first admission at the hospital and has not suffered any physical 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. Patient does not have any history of anaemia resulting to blood transfusion.

1.7 Patient Present Medical History

Patient medical history are information gathered by means that can crucially guide and direct care. (Nichol, Sundjaja and Nelson, 2021). According to mother, D.K was in his state of health until 16th November, 2022 where he started having feeling, chills, difficulty in breathing, excessive sweating, inability to sleep and refuses to breastfeed. He also presented with five days history of cough. D. K's condition became worse and was then rush to the emergency unit of the Holy Family Hospital, Techiman by his parents at 11am. On assessment, patient was diagnosed of Bronchopneumonia. He was detained at the emergency unit of the hospital for management and subsequently transferred to the paediatric ward to continue his treatment.

1.8 Admission of Patient

Admission of patient means allowing and facilitating a patient to stay in the hospital unit or ward for observation, investigation and treatment of the disease he or she suffering from (Potter& Perry,2016).On 16th November, 2022 at 12:00pm, D. K was admitted at pediatric ward of Holy Family Hospital Techiman through Accident and emergency unit accompanied

by his mother and a nurse. He was diagnosed of Bronchopneumonia. 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 relatives. D.K's mother was reassured of competent staff and quality health services to aid his recovery. Patient was put in semi fowlers position. He had experienced of breathing difficulty, sweating, coughing and fever, chest pain which is aggravated by coughing, general body weakness and dizziness.

D.K.'s vital signs were checked and recorded as follows;

Temperature: - 38.4^{o}C

Pulse: - 63bpm

Respiration: - 20cpm

SPO2: - 81%

Weight - 4.5kg

After checking of vital signs, patient was tepid sponge with warm water to reduce the temperature. After 30munites time patient body temperature was rechecked. He had reduced temperature of 37.0 ^{o}C. Patient was conscious and his mother was oriented to time and place;

Mother was oriented to the ward and the protocols. D.K's mother 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 Normal

Patient was made comfortable in bed to help with breathing and also tight clothing were removed and adequate ventilation provided to help reduce temperature.

He was managed on the treatment plan as follows;

1. Intravenous Cefuroxime133mg tid, x 1
2. Intravenous Gentamycin20mg dly
3. Syrup simple linctus2ml tid x7
4. Intravenous paracetamol40mg tid x7
5. Nebulize with 2 cycles of 2ml of 3%hypertonic saline alternated with 2ml of adrenaline

Due medication was severed at 6pm. D.K.'s belonging was given to his mother. Mother was told of the visiting hours and routine practices of the ward including the doctor's rounds, medication times. D.K's mother was later oriented to the ward and its annexes and she was introduced to the patients' relatives 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 D.K.

I reintroduced myself to patient's mother as second 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. D.K's. mother and her 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 mother 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. They willingly agreed and 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 plays 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 D. K .and his family for my care study because I wanted to know more about Bronchopneumonia and how different it is from other respiratory related diseases.

1.9 Patient's Concept of Illness

Patient's concept of illness is the patient deeper understanding of the illness for casual explanations, compare different perspective for preventing complication of their illness, trust healthcare providers, and develop own strategies to manage life.(Nunstedt et al.,2017). According D. K's mother, she knew nothing about the condition, the patient father also verbalized that, he knows nothing about his son condition. D.K's mother believed that sickness forms part of human life and once in a while a person becomes sick but did not associate it with witchcraft. Mother believes that with God's intervention and good health services her son condition will improve and he will be discharged.

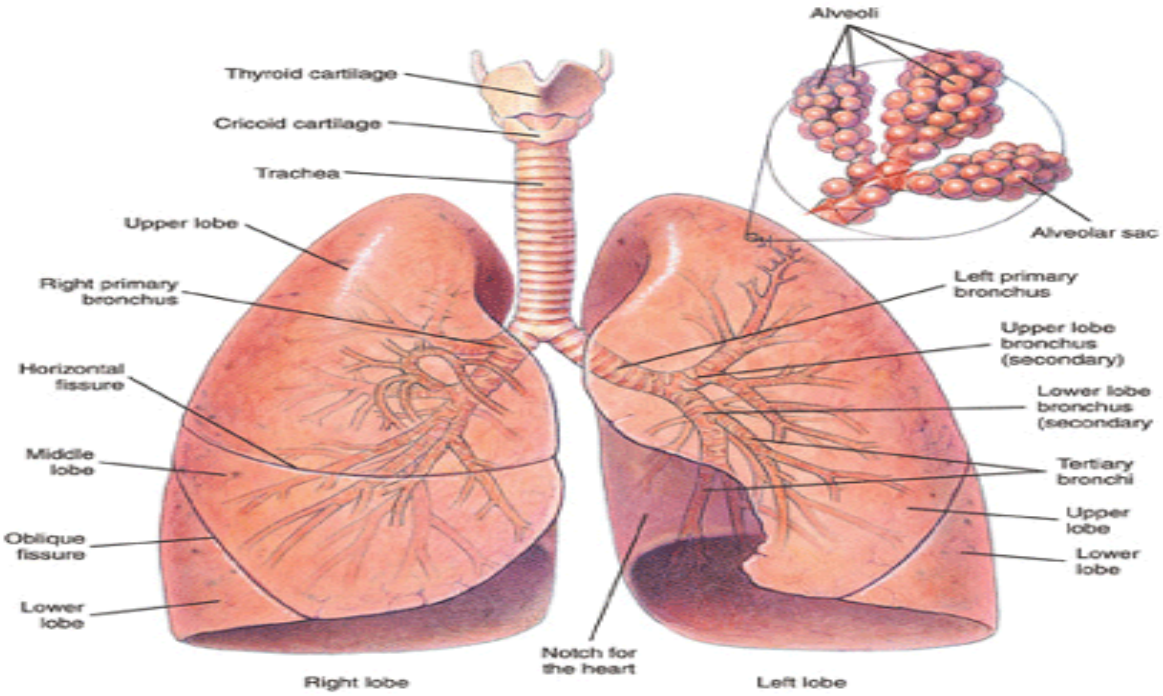
1.10 Literature Review on Bronchopneumonia

This section deals with documented information about the condition D.K 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 medical treatment
9. Standard nursing interview
10. Prevention
11. 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;

1. Superior
2. Middle
3. Inferior

It has 2 fissures; horizontal and oblique

The left lung has 2 lobes.

1. Inferior
2. 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;

1. Parietal pleura and
2. Visceral pleura

Pleural Cavity-potential, space between the visceral and parietal pleurae. The pleural helps divide the thoracic cavity, central mediastinum and the two lateral pleural compartments. If either layer of the pleural is punctured, air is sucked into the pleural space and part or all of the entire underlying lung collapses.

The Inferior of the Lungs;

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

. The Pulmonary Blood Supply

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

2. Within each pulmonary artery divides into many branches which eventually end in a dense capillary network around the alveoli.
3. 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)
4. The pulmonary capillaries merge into network of capillaries pulmonary of pulmonary nenule,

Which in turn form two pulmonary veins carrying oxygenated blood from each lung

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 1.1million 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, 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.

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

Risk Factors

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

1. Immunosuppressed patients
2. Smoking (cigarette smoke disturbs both mucociliary and macrophage activity)
3. Prolonged immobility and shallow breathing pattern.

4. Depressed cough reflex (due to medications, a debilitated state, or weak respiratory muscles)
5. Aspiration of foreign material into the lungs during a period of unconsciousness (head injury, anaesthesia, depressed level of consciousness)
6. Alcohol intoxication (because alcohol suppresses the body's reflexes, may be associated with aspiration, and decreases white cell mobilization and tracheobronchial ciliary motion).
7. Transmission of organism from health care providers
8. Respiratory therapy with improperly cleaned equipment.
9. Advanced age, because of possible depressed cough and glottic reflexes and nutritional depletion.
10. Antibiotic therapy (in very ill people, the oropharynx is likely to be colonized by gram negative bacteria).
11. 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).

Bronchopneumonia

According to Brunner and Suddarth bronchopneumonia is define as the pneumonic process that is distributed in patchy, fustian, having originated in one or more localized areas within the bronchi and extended to the adjacent surrounding lung parenchyma.

Bronchopneumonia occurs when infection spreads from the bronchi to terminal bronchioles and alveoli. As these become inflamed, fibrous exudates accumulates and there is an influx of leukocytes. Small foci of consolidation develop and there is frequent incomplete resolution with fibrosis. (Anatomy and Physiology Tenth Edition Ross and Wilson)

Incidence

Bronchopneumonia occurs most commonly in infancy and old age and death is fairly commonly especially when the condition complicates debilitating diseases. (Anatomy and Physiology Tenth Edition Ross and Wilson)

Predisposing Factors

1. Lowered resistance of the host to immunosuppressive drug therapy.
2. Exposure to noxious gases.
3. Smoking.
4. Malnutrition.
5. Pre-term baby.
6. Depressed cough reflex as in unconscious patient.
7. Debility due to example cancer, uremia, hypothermia.
8. Chronic bronchitis.

Pathophysiology

Macroscopically; multiple foci of consolidation are present in the local lobes of the human lung of ten bilateral. These lesions are 2-4cm in diameter, grey-yellow, dry, often centered on the bronchioles are poorly delineated and have the tendency to confluence, especially in children

Microscopically; a focus of inflammatory condensation is centered on a bronchiole with acute bronchi (is supportive exudates-pus-in the lumen and parietal inflammation). Alveolar lumen surrounding the bronchiole is filled with neutrophils Massive congestion is present inflammation foci are separated by normal aerated parenchyma. When the causative agents get into the alveoli of the lung, it initiates an inflammatory response. Inflammatory exudates are

produced which cause edema create a medium for the multiplication of bacteria which aid in the spread of infection into adjacent portions of the lung. The lobe involved undergoes consolidation that is solidification of the tissue caused by filling with exudates,

This leads to areas of the lungs to become inadequately ventilated resulting in inadequate oxygenation of the eventually hypoxia occurs. This is followed by a stage of red hepatization in which affected tissues becomes grey because of fibrin deposition and leukocytes (mainly neutrophils) in the consolidated alveoli where phagocytosis is rapidly taking place. With resolution, increasing numbers of macrophages appear in the alveolar spaces the neutrophils degenerates and the fibrin thread together with the remaining bacteria are digested by macrophages and Renate by lymphatic vessels.

Clinical Manifestations

1. Starts with sudden onset of chills with rising temperature.
2. Rhinitis and sore throat.
3. Malaise, anorexia and muscle pain.
4. There is chest pain that is aggravated by respiration and coughing.
5. Rising fever (39.5°C to 40°C)
6. The checks are flushed, eyes bright and nail and lip bed cyanotic.
7. Nasal flaming and most often the use of accessory muscle of respiration is present.
8. Rapid Respiration.
9. There is sometimes abdominal distention due to swallowing of air which occur in children
10. Profuse sweating.
11. Delirious in severe cases

Diagnostic Test

1. History of the patient (particularly of recent respiratory tract infection)
2. Physical Examination
3. Chest X-ray
4. Blood culture.
5. Sputum Examination
6. White blood cell count for bacterial pneumonia.
7. Arterial blood gas analysis.

Medical Treatment

The treatment of bronchopneumonia depends largely on giving of appropriate antibiotics and the prevention of complications.

Dosage for Adult

1. Antibiotics example are
    a) Benzyl penicillin: 1-2mu 6 hourly × 7days.
    b) Erythromycin: 500mg qid × 7days.
    c) Amoxicillin: 500mg tad × 7days.
2. Oxygen Therapy
3. Analgesics for chest pain. Example Diclofenac 50mg tid × 5days.
4. Cough Expectorants are given. Example is Berylincough mixture 15mls tds × 5days.
5. Posture drainage is carried out to bring out secretions from the lungs.

Dosage for Children

1. Antibiotics: these are given according to culture sensitivity test example are
    a. Benzyl penicillin: 1.4 50,000 units per kilogram body weight 6 hourly. If patient is allergic to penicillin, give
    b. Erythromycin 125mg qid × 7days.
    c. Amoxicillin 125mg tds × 7days.
2. Oxygen therapy when there is severe dyspnoea and cyanosis.
3. Analgesic for chest pain. Example is syrup paracetamol 10mls × 5days per kilogram body weight.
4. Cough expectorants are given eg. Beryline cough mixture 10mls tds × 5days per kilogram body weight.
5. Postural drainage is carried out to bring out secretion from the lungs.

Surgical Management

The following surgical treatment are given

1. Lobectomy: this refers to the removal of the affected lobe of the lung.
2. Pneumonectomy: this also refers to total or partial of lung.

Nursing Management

Rest and Sleep

1. Patient should be given a complete bed rest in a comfortable bed to avoid over secretion and possible exacerbation of symptoms.
2. Ensure calm and a noise free environment to enhance comfort.

3. Patient should be propped up in bed to aid breathing or put in the semi-fowler's position.
4. Restriction of visitors to promote enough rest and sleep.
5. Change clothing's and bed linens when necessary.
6. Ensure proper ventilation by opening windows.
7. Nurse patient away from drought.

Observation

1. Monitor the temperature, pulse, respiration and blood pressure every 4 hourly and record.
2. Intake and output are checked and recorded
3. Check for signs of cyanosis.
4. Observe for signs of dehydration such as poor skin turgor, cracked lips, sunken eyes.
5. Observe for signs of respiratory distress.

Personal Hygiene

1. Clean nasal especially in children to aid breathing.
2. Give mouth care if necessary.
3. Patient should be given bed bath with tepid water or warm water depending on the weather.
4. If endotracheal tube is insitu, give daily care.
5. Care for the hands and feet and treat pressure areas.

Nutrition

1. The patient should be given high caloric diet, high protein diet which is soft and easy to eat.
2. Liberal fluids should be encouraged, if the patient is fed through nasogastric tube, elevate the head of patient during feeding and always check for the position of tube before feeding.
3. If patient also has endotracheal insitu inflate the cuff and keep the hand elevated for at least half hour after feeding.
4. Serve food attractively.
5. Serve food in small frequent bits.

Psychological Support

1. Establishment of rapport to enhance communication.
2. Reassure patient and family to allay anxiety.
3. Educate patient and family members on the disease condition to clear all misconception.
4. Orientate patient and family to the ward environment and to equipment at the ward.
5. Explain into details all treatments and diagnostic investigation perform.

Health Education

1. Teach patient proper breathing and coughing exercise to clear secretions.
2. Educate the patient to wear protective clothing especially during chilling conditions.
3. Advice individual working in gas factories to avoid inhalation of noxious gases.
4. Advice patient to avoid indiscriminate use of antibiotic

5. Advice patient to ensure an environment free from dust.
6. Encourage annual influenza vaccination and prevalent pneumococcal vaccine.
7. Advice patient to report, respiratory tract infections such as catarrh, sinusitis, tonsillitis early for prompt medical treatment.

Complications

1. Atelectasis
2. Cardiac Failure
3. Emphysema/Empyema
4. Bronchiectasis.
5. Lung abscess. (Hinkle & Cheever,2018)

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 D.K. was found to be true after comparing with information obtained from patient's relative through series of interviews. 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 of data is the systematic examination of all the data collected during assessment.

This chapter includes the analysis of the information gathered to identify the needs and problems of the patient and family in order to find the appropriate solution to be implemented.

It is discussed under the following heading:

1. Comparison of data with standard
2. Patient and family strength
3. Health problems of the patient which have been identified.
4. Nursing diagnoses

2.1 Comparison of Data with Standard

This is where the information gathered on the patient is compared with the information written in the textbooks.

The following were compared with standards as in the literature review.

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

Diagnostic Investigations

The following diagnostic investigations were ordered and carried out on D.K on 16th November, 2022.

1. Blood for malaria parasites
2. Full Blood Count
3. Chest X ray

Table 1: Comparison of Diagnostic Investigations Carried on D.K with Literature Review

Diagnostic Investigations in Literature Review	**Diagnostic Investigations Carried Out on D. K**
full blood count	Was carried out on patient
1. Thoracentesis	Was not carried out
2. Chest X-ray	Was requested but not done for patient
3. Physical examination	Was carried out on patient
4. Sputum for AFB (acid fast bacilli)	Was not carried out on patient
5. Fiber optic bronchoscopy	Was not carried out on patient
6. Stool and urine for routine examination	Was not carried out on patient
7. Arterial blood gas study	Was not carried out on patient
8. Computed Tomography (CT) Scanning	Was not carried

Table 2: Diagnostic Investigations

Date	Specimen	Investigation	Result	Normal Values	Interpretation	Remark
09/03/2022	Blood	Blood film for malaria parasite	No parasite seen (negative)	There should not be plasmodium parasite in the blood	Negative indicates the absence of plasmodium parasite in the blood	No treatment was given
09/03/2022	Blood	White blood cell count (WBC)	6.89 x 10/ul	$(3.00\text{-}15)^{x}\ 10^{3/ul}$	white blood cells were within normal range indicating no infection	Antibiotic (intravenous Flagyl and Ciprofloxacin) were ordered and administered
		Haemoglobin (HGB)	10.4g/dl	For **Children**:9.5-14g/dl For **Adult men**:14-18g/dl For **Adult women**:12-16g/dl	Normal level of HGB indicates no anaemia	No treatment given

Causes of Patient Condition

With reference to the literature review, the cause of pneumonia may include Infection from viruses, bacteria, parasites and fungi, aspiration of stomach content into the lungs, introduction of foreign bodies such as swallowing of coins, inhalation of dust, inhalation of irritative gases such as fumes with other predisposing factors such as impaired airway defense mechanism, respiratory therapy with improperly cleaned equipment, depressed cough reflex due to medication or weakened respiratory muscles, advanced age, due to possible depressed cough and gag reflex. However, in the case of D. K., the cause may be as a result of bacterial.

Table 3: Clinical Features Manifested by D.K. In Comparison with Standard In Literature

Clinical Manifestations Indicated in The Literature Review	**Clinical Manifestations Exhibited by D.K.**
1. It has a sudden onset.	1. Patient experienced a sudden onset of the cough
2. Cough	2. Patient experienced coughing
3. Chest pain (aggravated by breathing and coughing).	3. Patient cannot voice out chest pain.
4. Fever which usually ranges from (38.0^0C-40.5^0C)	4. Patient had fever of 38.4 ^{o}C
5. Rapid pulse.	5. Patient had normal pulse rate.
6. Shortness of breath.	6. Patient exhibited shortness of breath
7. Headache.	7. Patient cannot voice out slight headache
8. Shallow painful respiration.	8. Patient did not complain of shallow painful respiration
9. Rapid shallow respiration.	9. Normal respiration of cycles per minute was not recorded.
10. Unproductive cough during unset and latter productive.	10. Patient exhibited dry cough
11. Difficulty in breathing.	11. Difficulty in breathing was present
12. Cyanosis	12. Patient was not cyanosed
13. Weakness.	13. Patient was weak
14. Poor appetite.	14. Patient had loss of appetite
15. Nausea and vomiting.	15. Patient exhibited vomiting.

Treatment Given to D.K.

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

The following drugs were prescribed and given to D. K.:

1. IV DNS 400 mls × 24 hrs
2. IV paracetamol 40mg tds × 24 hrs
3. IV cefuroxime 133 mg tds × 24 hrs
4. IV gentamycin 20mg dly × 24 hrs
5. Syrup simple linctus 2mls tds ×24 hrs
6. 3% hypertonic saline nebulization, 2mls tds ×24hrs
7. Adrenaline1:1000 2mls ×24hrs for nebulization
8. Oral zincovit drops 1 tds × 24 hrs

Table 4: Pharmacology of Drugs Administered to D.K. In Comparison with Standard in the Literature

Date	Drug	Route of Administration	Dosage/Route of Administration Given To Patient	Drug Classification	Desired Effect	Actual Effect Observed	Side Effect	Remarks
16/11/22	Dextrose normal saline (DNS)	Depends on the individual requirement Route: intravenous (IV)	400 mls × 24 hrs Route: Intravenously	Fluid And Electrolyte	Electrolyte balance and maintenance of calories for hydration and energy	Patients was well hydrated and energy restored	Confusion, glycosuria, pulmonary oedema, Unconsciousness.	None of these were observed

Table 4: Pharmacology of Drugs Administered to D.K. In Comparison with Standard in the Literature

Date	Drug	Route of Administration	Dosage/Route of Administration Given To Patient	Drug Classification	Desired Effect	Actual Effect Observed	Side Effect	Remarks
16/11/22	Paracetamol (acetamino-phen)	By mouth, 0.5–1 g every 4–6 hours to a max. of 4 g daily. By intravenous infusion: Child over 50 kg, 1 g every 4–6 hours, max. 4 g daily; Adult and Child 10–50 kg, 15 mg/kg every 4–6 hours, max. 60 mg/kg daily Neonate And Child less than 10 kg, 7.5 mg/kg every 4–6 hours, max. 30 mg/kg daily	40mg tds × 24 hrs Route: IV	Analgesics and antipyretic	Antipyretic: reduces fever by acting directly on the hypothalamic heat-regulating center to cause vasodilation and sweating, which helps dissipate heat.	Patient temperature was reduced normal range 36.3ºC	Rashes, blood disorders (including thrombocytopenia, Leucopenia, neutropenia), hypotension.	None of these side effects were exhibited by patient

TABLE 4: Pharmacology of Drugs Administered to D.K. In Comparison with Standard in the Literature

Date	Drug	Route of Drug Administration	Dosage /Route of Administration Given to Patient	Classifications of Drug	Desired Effect	Actual Effect Observed	Side Effect	Remarks
16/11/22	Cefuroxime	By mouth, adult and children over 12 years are given 500 mg bd for 20 days. Children over 3 months, 125 mg bd. By IM injection or IV injection or infusion: 750 mg every 6–8 hours; 1.5 g every 6–8 hours in severe infections; single doses over 750 mg IV route only. Children usual dose is 60 mg/kg daily (range 30–100 mg/kg dly) in 3–4 divided doses. Neonate may be given similar total daily dose but administered in 2-3 divided doses	133 mg tds × 24 hrs Route: IV	Antibiotic (cephalosporin)	It is active against a wide range of sensitive Gram-positive and Gram-negative organism.	Patient infection was controlled	Diarrhoea, nausea and vomiting, abdominal discomfort, Headache; allergic reactions including rashes, pruritus, urticaria, serum sickness-like reactions with rashes, fever and arthralgia, and anaphylaxis; Stevens-Johnson syndrome, toxic epidermal necrolysis.	None of these side effects were observed in patient

TABLE 4: Pharmacology of Drugs Administered to D.K. In Comparison with Standard in the Literature

Date	Drug	Route Of Drug Administration	Dosage/Route of Administration Given To Patient	Drug Classification	Desired Effect	Actual Effect Observed	Side Effect	Remarks
16/11/22	Gentamycin	Multiple daily dose regimen, by intramuscular or by slow intravenous injection over at least 3 minutes or by intravenous infusion, 3–5 mg/kg daily in divided doses every 8 hours. Once daily dose regimen by intravenous infusion Child 1 month–18 years initially 7 mg/kg, then adjusted according to serum-gentamicin concentration	20mg dly × 24 hrs Route: IV	Aminoglycosides	A broad spectrum for the treatment of infection	Patient infection was controlled	Vestibular and auditory damage, nephrotoxicity; rarely, hypomagnesaemia on prolonged therapy, stomatitis, nausea, vomiting, rash, and blood disorders.	None was observed in the patient.

TABLE 4: Pharmacology of Drugs Administered to D.K. In Comparison with Standard in the Literature

Date	Drug	Route Of Drug Administration	Dosage / Route of Administration Given To Patient	Drug Classification	Desired Effect	Actual Effect Observed	Side Effect	Remarks
16/11/22	Syrup simple linctus	Oral Child 1 month–12 years 5–10 mL 3–4 times daily Adult and child over 12 years 5 mL 3–4 times daily	2mls tds ×24 hrs Route: orally	Expectorant and demulcent cough preparations	Relieve a dry irritating cough. Contain soothing substances such as syrup or glycerol and believe to relieve a dry irritating cough.	Patient was relieved from coughing	Headache, Diarrhoea, stomach upset	None of the above was experience in patient
16/11/22	3% hypertonic saline nebulizatio n	By inhalation of nebulized solution, 4 mL twice daily	2mls tds ×24hrs Route: nasal	Mucolytic	Hydrate airway and thin the mucus in the lungs	patient was relieved of respiratory distress	Increased coughing, chest tightness and sore throat	None of the above were not observed in child

TABLE 4: Pharmacology of Drugs Administered to D.K. In Comparison with Standard in the Literature

Date	Drug	Route of Drug Administration	Dosage / Route of Administration Given to Patient	Drug Classification	Desired Effect	Actual Effect Observed	Side Effect	Remarks
16/11/22	Adrenaline	By inhalation of nebulized solution of adrenaline 1 in 1000 (1mg/ml) Child 1month to 12 years 400micogram/kg (mix 5mg) repeated after 30minutes if necessary	2mls tds ×24hrs for nebulization Route: nasal	Vasoconstrictor sympathomimetics	Reduce respiratory secretion and mucosa edema, relaxation of airway smooth muscle and inhibition of inflammatory process	Symptoms of difficulty in breathing subsides.	Nausea, vomiting; tachycardia, arrhythmias, palpitation, cold extremities, hypertension (risk of cerebral haemorrhage)	None of the above side effects was exhibited by patient.

TABLE 4: Pharmacology of Drugs Administered to D.K. In Comparison with Standard in the Literature

Date	Drug	Route Of Drug Administration	Dosage / Route of Administration Given to Patient	Drug Classification	Desired Effect	Actual Effect Observed	Side Effect	Remarks
18/11/22	Oral zincovit drops	15mls oral drop in bottle	1 drop tds × 24 hrs Route: orally	Multi-vitamin and multi-mineral supplement	Boost the immunity level and prevent vitamin and mineral deficiency	The immunity of the patient was boosted	Nausea, Vomiting, diarrhoea and stomach upset	None of the above side effects was exhibited by patient.

Complications

With reference to the complication outlined in the literature review which includes; Pleural effusion, Respiratory failure, Lung abscess, Meningitis, Septicaemia, Empyema, pneumothorax, pulmonary oedema, and hypoxaemia. D.K did not develop any complication as a result of effective care rendered.

2.2 Patient/Family Strength

Strength refers to the ability to do things that need lot of physical or mental effort (Weller, 2014). Strengths are factors that contribute to a patient's state of well-being. It is the ability of the patient and family to help in the achievement of health goals set for early recovery. Patient and family strength includes healthy physiological functioning, emotional health, cognitive abilities, coping skills and interpersonal strength. These strengths of the patient and family will assist the nurse to be able to plan an effective nursing care for the patient. Since patient is a child, he depends on the mother for most of his needs, the following strengths were identified;

1. Patient would be able to breath well when in semi fowler's position.
2. Mother was willing to tepid sponge her son.
3. Patient was able to tolerate breastfeeding.
4. Mother was able to describe the level of anxiety.
5. Patient is able to sleep 4-5hours at night.
6. Patient's family was willing to know more able their son's condition.

2.3 Health Problem Identified

Problem is defined as a situation, person that need attention and needs to be dealt with or solved (Weller, 2014).

These are conditions that can affect the patient's physically, mentally, and socially which can hinder speedy recovery if they are not identified and immediately addressed. Thorough assessment was made of the patient's health status and through data collection by observation, interview and physical examination. The following health problems were identified on patient:

2.3.1 D. K and Family Health Problem

1. Mother complained of son not breathing well. (16/11/22)

2. Mother complained of son warm to touch (38.4^{o}c). (16/11/22)

3. Mother complained of son vomiting. (16/11/22)

4. Mother was anxious about her son condition. (16/11/22)

5. Mother complained son in not having a sound sleep. (17/11/22)

6. Family has deficient knowledge on patient condition. (19/11/22)

2.4 Nursing Diagnosis

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

The nursing diagnosis describes patient's actual and potential health problems and clinical judgments made by the nurse. Accurate and valid nursing diagnoses guide the selection of

interventions that are likely to produce the desired treatment effects and determine nurse-sensitive outcomes. The following diagnoses were made;

1. Ineffective breathing pattern related to impaired oxygen exchange.
2. Hyperthermia (38.4 $^{o}_{C}$) related to infectious process in the lungs.
3. Risk for fluid volume deficit related to increase frequency of vomiting
4. Anxiety (mother) related to unknown outcome of admission and treatment
5. Sleep pattern disturbance (Insomnia) related to persistent coughing
6. Deficient knowledge related to the treatment regimen.

CHAPTER THREE

PLANNING OF PATIENT AND FAMILY CARE

3.0 Introduction

This is the third stage of the nursing process and it entails identifying patient health problems and formulating them into statement of diagnosis, objectives, for which the diagnosis were made and nursing orders for intervention.

3.1 Objectives Outcome Criteria

The following objectives outcome criteria were set;

Patient's breathing patterns will be restored to normal throughout hospitalization as evidenced by

1. Mother verbalizing son is breathing well without difficulty.
2. Nurse observing patient breathing pattern is normal and recording the oxygen saturation (Spo2) of 96%.

Patient's body temperature will be restored to normal ($36.2^{o}C$-$37.2^{o}C$) within two (2) hours as evidenced by:

1. Mother verbalizing that his son is no warmer to touch.
2. Nurse recording patient's temperature reads within normal range of $36.2^{o}C$-$37.2^{o}C$.

Patient will have normal body fluid throughout admission as evidence by

1. Mother verbalizing son no longer vomit.
2. Nurse observing that patient has no sign of dehydration.

Mother relieved of anxiety within 2 hours as evidenced by;

1. Mother verbalizing that she no longer feels anxious about his son admission and treatment
2. Nurse observing that mother look relaxed with cheerful facial expression.

Patient will have sleeping pattern restored and maintained throughout hospitalization as evidenced by;

Mother lodging the complain that son had a sound sleep through the night

1. Nurses observing that patient had uninterrupted sleep during the night.

Patient's relatives will be able to understand the cause, sign and symptoms and management of Bronchopneumonia within 72 hours as evidence by

1. Patient's relatives verbalizing they understand the cause of hospitalization.
2. Nurse answering questions asked by the relatives.

Table 5: Nursing Care Plan for D.K

Date & Time	Nursing Diagnosis	Objective/ Outcome Criteria	Nursing Orders	Nursing Intervention	Date & Time	Evaluation	Signature
16/11/22 12:35pm	Ineffective breathing pattern related to impaired oxygen exchange	Patient's breathing patterns will be restored to normal within 24hours as evidenced by: Mother verbalizing son is breathing well without difficulty. Nurse recording spo2 of 96%	1. Reassure patient and family. 2. Assess for respiratory rate, depth and oxygen saturation. 3. Put patient into a comfortable position. 4. Remove all tight cloths around patient. 5. Put patient on oxygen. 6. Administer prescribed medication. 7. Document procedure.	1. Patient family was reassured of the competency of staffs and that they will help relieve and maintain patient breathing pattern. 2. Patient's respiratory rate, depth and oxygen saturation was assessed and recorded as 98% 3. Patient was assisted to assume semi fowlers position. 4. Tight cloths around patient were removed. 5. Oxygen was placed on patient to assist in breathing. 6. Patient was nebulized with 3% hypertonic saline 2mls and 2ms of adrenaline to help improve breathing. 7. All procedures carried out on patient were documented.	22/11/22 10:30am	Goal fully met as evidenced by; Mother verbalizing son is breathing well without difficulty. Nurse recorded that patient breathing pattern is normal(98% of oxygen) and no wheezing.	A.V

Date & Time	Nursing Diagnosis	Objective/ Outcome Criteria	Nursing Orders	Nursing Intervention	Date & Time	Evaluation	Signature
16/11/22 12:40pm	Hyperthermia related to infectious process in the lungs (38.4 ^{o}C).	Patient's body temperature will be restored to normal (36.2^{o}C-37.2^{o}C) within two (2) hours as evidenced by: Mother verbalizing that his son no long warm touch. Nurse recording patient's temperature reads within normal range of 36.2^{o}C-37.2^{o}C.	1.Reassure patient and mother. 2. Check baseline temperature. 3. Tepid sponge patient. 4. Remove tight and extra cloths on patient. 5. Explain the procedure for tepid sponging to patient. 6. Rechecked temperature and record within 30 minutes after tepid sponging. 7. Document all procedure done on patient in the nurse's notes.	1. Patient and mother was reassured. 2. Patient temperature was checked and recorded as 38.4^{o}C. 3. Patient was tepid sponged with warm water. 4. Patient's extra sheet and tight cloth were removed. 5. The procedure for tepid sponging was explained to mother to gain her cooperation. 6. Patient body temperature was rechecked and recorded as 36.6^{o}c. 7. All procedures done on patient were documented.	16/11/22 3: 40pm	Goal fully met as evidenced by; Mother verbalizing that his son no more feels warm. Nurse observing that patient's temperature reads within the normal range (36.6-37.2 ^{o}C)	A.V

Date & Time	Nursing Diagnosis	Objective/ Outcome Criteria	Nursing Orders	Nursing Intervention	Date & Time	Evaluation	Signature
16/11/22 12:40pm	Risk for fluid volume deficit related to frequent vomiting	Patient will maintain normal body fluid throughout admission as evidence by Mother verbalizing son no longer vomit Nurse observing that patient has good skin turgor.	1. Reassure patient and mother. 2. Observed for sign of dehydration. 3. Daily weighing of patient. 4. Monitor fluid intake and output. 5. Encourage breastfeeding. 6. Administer prescribed fluid.	1. Patient and mother was reassured. 2. Patient was observed for signs of dehydration such as dry lips and sticky mouth. 3. Patient's weight was checked daily by using the weighing scale. 4. The amount of both intravenous infusion and oral fluid such as breastmilk and urine passed were recorded. 5. Mother was encouraged to breastfed son. 6. Prescribed intravenous fluid (DNS 400mls) was administered.	22/11/22 10:30am	Goal fully met as evidenced by; Mother verbalizing son no longer vomit Nurse observing that patient has no sign of dehydration.	A. V

Date & Time	Nursing Diagnosis	Objective/ Outcome Criteria	Nursing Orders	Nursing Intervention	Date & Time	Evaluation	Signature
16/11/22 12:45pm	Anxiety (mother) related to unknown outcome of admission and treatment regimen.	Mother will be relieved of anxiety within 2 hours as evidenced by; Mother verbalizing that she no more feels anxious about his son admission and treatment regimen Nurse observing that mother look relaxed with cheerful facial expression.	1. Reassure mother. 2. Educate mother on the need for the hospitalization. 3. Explain all procedures to be carried out on patient to mother. 4. Clarify mother of misconceptions about his son condition if there is any. 5. Encourage mother to express her fears by asking questions bothering patient. 6. Orient mother to the ward and its annexes. 7. Give diversional therapy (conservation) to distract patient and family attention from anxiety.	1. Mother was reassured. 2. Mother was educated that; hospitalization will enable adequate monitoring and treatment of patient to promote recovery. 3. All procedures to be carried out on patient were explained to mother. 4. Misconception about the condition of his son was corrected through continuous education on son condition. 5. The mother was encouraged to verbalize all current needs and concern so that the appropriate information and care can be given. 6. Mother was oriented to the ward and other places like the nurses' station, bathroom, toilet and pantry to help them familiarized with the new environment. 7. Mother was engaged in conversation to distract their attention from anxiety.	16/11/22 2:45pm	Goals fully met as evidenced by: Mother verbalizing that she no more feel anxious about his son admission and treatment Nurse observing that mother look relaxed with cheerful facial expression.	A.V

Date & Time	Nursing Diagnosis	Objective/ Outcome Criteria	Nursing Orders	Nursing Intervention	Date & Time	Evaluation	Signature
17/11/22 8:16am	Sleep pattern disturbance (Insomnia) related to persistent coughing	Patient will have sleeping pattern restored and maintained throughout hospitalization as evidenced by; Mother observing her son had a sound sleep through the night Nurses observing patient had uninterrupted sleep during the night.	1. Reassure child's mother. 2. Give warm bath. 3. Make bed comfortable 4. Encourage breastfeeding. 5. Reduce noise on the ward. 6. Perform all procedures on the child at a goal 7. Assess for airway for mucus production 8. Served prescribed medication	1. Child and the mother were reassured that all necessary measures will be in place so that child would have enough sleep. 2. Child was given a warm bath to help dilate peripheral blood vessel to induce sleep. 3. Child was made comfortable in bed by making bed free from creases. Semi fowlers position. 4. Mother was encouraged to breastfeed since breast milk can induce sleep. 5. Noise on the ward was reduced by lowering the volume of the radio and television set to enhance sleep. 6. All procedures on the child were done at a goal in other not to disturb the child during sleep. 7. Child airway patency was assessed for mucus secretions that can hinder child sleep 8. Syrup simple linctus 2mls was served to relieve coughing. Child also nebulize to reduce airway secretions.	22/11/22 11:30am	Goals fully met as evidenced by; Mother verbalized that son had a sound sleep through the night Nurses observing that patient had uninterrupted sleep during the night.	A.V

Date & Time	Nursing Diagnosis	Objective/ Outcome Criteria	Nursing Orders	Nursing Intervention	Date & Time	Evaluation	Signature
19/11/22 8:34am	Deficient knowledge related to treatment regimen.	Patient's relatives will be able to understand the causes, signs and symptoms and management of within 72 hours as evidenced by; 1. Mother verbalizing they understand the cause of hospitalization 2. Nurse answering questions asked by patient relatives	1.Assess the level of knowledge on the disease on patient's relatives 2. Educate patient's relatives on child condition 3. Encouraged patient relatives to ask questions 4. Answers all questions tactfully ask by patient's relatives. 5. Explain all procedures and teach patient's relatives of need to perform them 6. Explain all diagnostic test and result to patient's relatives	1. Patients relatives' level of knowledge was assessed on pneumonia. 2.Patient's relatives were educated on pneumonia. 3. Patient's relatives were encouraged to ask question and bring out any misconception 4. All questions was answered tactfully asked by patient's relatives 5. All procedure performed on the patient and the need to perform them were explained to patient relatives to their understanding 6. All the diagnostic investigations and result were explained to patient's relatives	22/11/22 10:30am	Goal fully met evidence by patient's relatives verbalizing the understanding of the cause, sign and symptoms and the management of pneumonia Nurse asking patient's relatives questions about the disease and they were able to answer it.	A. V

CHAPTER FOUR

IMPLEMENTATION OF PATIENT/FAMILY CARE PLAN

4.0 Introduction

Implementation is the fourth stage of the nursing process. It entails the actual nursing care rendered to the patient and family from the time of admission till the time of discharge. The primary focus of the implementation component is the provision of individualized nursing care which involves putting into practice all the nursing orders planned for the patient and family.

During the process of implementation, the nurse bears in mind the individuality of patient, the culture, religion and socio-economic status. Patient and family are encouraged to participate in the care for the patient's recovery. This chapter discuses summary of the actual nursing care rendered to patient, preparation of patient and family towards discharge and rehabilitation as well as follow up/home visit/continuity of care.

4.1 Summary of Actual Nursing Care

The nursing care rendered to D.K. started on the day of his admission which was 16th of November, 2022 at 12:32pm and continued until he was discharged on the 22nd of November, 2022 at 10:30am. The nursing care given throughout this period at the emergency ward and the pediatric ward was aimed at meeting his psychological, physical and spiritual needs. The cares are summarized on daily basis as follows:

4.1.1 Day of Admission (16TH November, 2022)

On 16th November, 2022 at 12:00pm, D. K was admitted at pediatric ward of Holy Family Hospital Techiman through Accident and emergency unit accompanied by his mother and a nurse. He was diagnosed of Bronchopneumonia. 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 relatives. D.K's mother was reassured of competent staff and quality health services to aid his recovery. He was put in semi fowler's position. He exhibited signs of breathing difficulty, sweating, coughing and fever, chest pain which is aggravated by coughing, general body weakness and dizziness.

D.K.'s vital signs were checked and recorded as follows;

Temperature: - 38.4^{o}C

Pulse: - 63bpm

Respiration: - 20cpm

SPO2: - 81%

Weight - 4.5kg

After checking of vital signs, patient was tepid sponge with warm water to reduce the temperature. After 30munites time patient body temperature was rechecked which was reduced to 38.0 ^{o}C. After rechecking of body temperature (36.6) tepid sponge was done. Patient was conscious and his mother was oriented to time and place;

mother was oriented to the ward and the protocols. D.K's mother and relatives were reassured of competent nursing care.

The following laboratory investigations were carried out:

4. Full blood count
5. Chest x-ray
6. Blood test for malaria parasite Normal

Patient was made comfortable in bed to aid with breathing and also tight clothing was removed and adequate ventilation provided to help reduce temperature.

He was managed on the treatment plan as follows;

6. Intravenous Cefuroxime133mg tid, x 1
7. Intravenous Gentamycin20mg dly
8. Syrup simple linctus2ml tid x7
9. Intravenous paracetamol40mg tid x7
10. Nebulize with 2 cycles of 2ml of 3%hypertonic saline alternated with 2ml of adrenaline

Prescribed medications were served. I reintroduced myself to patient's mother as second 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. D.K's mother and her 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 mother 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. They willingly agreed and I started planning for discharge. The mother was oriented on the hours and routine practices of the ward and places like dispensary, laboratory etc. D.K's mother was later oriented again such as visiting time; 5:30am – 6:30am in the morning and 5:30pm – 6:30pm in the evening and she was introduced to the patient's relatives within the same cubicle. His name was entered into the admission and discharge book. He was then made comfortable in bed and allowed to rest. Nursing care approach was used to care for D.K.

D. K particular's such as the name, age, sex, address, religion, and next of kin were checked and confirmed by his mother. D. K was being seen by the medical officer intravenous fluid dextrose

normal saline 400mls using the dorsiflow at 50l/m was setup to maintain fluid electrolyte balance and blood sample was taken to the laboratory. The mother was re-assurance that, her son is in the hands of competent staff and that the mother should be looking forward to see his son doing well.

The following laboratory investigations were requested to assist in diagnose, treatment and ascertain the progress of treatment,

- Blood for full blood count (FBC)
- Blood for malaria parasite (MP's)

Blood samples was labeled with patient name and hospital identification number, the ward, date and the specific investigation ordered was sent to the laboratory for the requested investigations to be done. At 12:35pm, mother complains of son having difficulty in breathing. A nursing diagnosis of ineffective breathing pattern related to impaired oxygen exchange was formulated. Objective was set to restore patient breathing pattern throughout the period of hospitalization. Patient respiratory rate, depth and oxygen saturation was assessed, tight cloths around patient were removed and oxygen was given to patient to assist him in breathing. At 12:40pm, mother complained of son feeling warm to touch. A nursing diagnosis of hyperthermia ($38.4^{o}c$) related to infectious process in the lung was formulated. An objective was set to restore patient's body temperature to normal ($36.2^{o}c$-$37.2^{o}c$) within 3hours. Patient body temperature was checked and recorded with clinical thermometer, all nearby doors and windows were opened to ensure adequate ventilation and patient was tepid sponged. At the same time mother complained of son vomiting. A nursing diagnosis of risk for fluid volume deficit related to increase in frequent vomiting was formulated. Patient was observed for signs of dehydration,

prescribe intravenous fluid were administered. At 12:45pm, patient mother was seen anxious. Objectives was set with regards to the problem identified to help relieve mother from anxiety within 2hours. Madam A. B. was encouraged to ask questions about the condition to allay fears and clear misconceptions. All discussion and procedures carried out on D. K. was explained to mother.

Mother was provided with accurate information and clearing misperception the mother was having about the condition. Separation can bring anxiety and depression due to its accompanied psychological reaction, in view of this the mother and the child were given a gradual psychological preparation towards the termination phase.

The mother was informed that admission was temporal and will be discharged home as soon as his condition improves. She was therefore encouraged to take active part in the care to ensure speedy recovery. This was done to prepare the patient and the mother for discharge and termination of care.

Patient's mother was educated on National Health Insurance Scheme (NHIS) that they would pay some amount of money as top-up since some services and medications at the hospital are not covered by the National Health Insurance Scheme.

These were prioritized and managed using the nursing process as indicated in the nursing care plan. At 2pm vital signs were checked and recorded as presented in appendix. At 2:40pm, objective set on the nursing diagnosis anxiety (mother) related to unknown of admission and treatment was fully met as mother verbalizing that she no more feel anxious about his son admission and treatment and nurse observing that mother look relaxed with cheerful facial expression. At 3:40pm, objective formulated to reduce patient's temperature was fully met as

mother verbalized that son is no more feeling warm and nurse observing that patient's temperature reads within normal range (36.2-37.2^{o}c) with the use of clinical thermometer.

In the evening at 6:30 pm, D. K was assisted to take his bath. He was breast fed by the mother. Other nursing duties such as vital signs and drug administration for the rest of the day were carried out and documented in the vital signs sheet as well as the drug administration was recorded on the medication.

4.1.2 Second Day of Admission (17th November, 2022)

Patient slept intermittently at night according to the night nurse. He seemed better as compared to the previous day in terms of respiratory distress. Patient was assisted to perform daily routine of ensuring good personal hygiene. He was breast fed in the morning. At 6am vital signs were checked and recorded as follows;

Temperature: 36.2 ^{o}C

Pulse: 100 bpm

Respiration: 30cpm

Oxygen saturation 96%

Patient due medications which were IV Cefuroxime 133mg, IV Gentamycin 20mg, IV Paracetamol 40mg and Syrup Simple Linctus 2mls and nebulized with 2mls of Adrenaline were administered. At 8:16am, mother complains of son not having a sound sleep. A nursing diagnosis of sleep pattern disturbance (insomnia) related to persistent coughing. Mother was reassured, mother was encouraged to breastfed son and all nursing procedures was done at a goal in other not to disturb the child during sleep. Patient was reviewed at 9:23am and plan was to continue treatment. Also D. K is still having breathing difficult but not as compare to previous day. After checking patient SpO_2 of 93%. Patient was put in semi-Fowler's position to facilitate breathing.

Mother was reassured of the competency of staff and availability of resources to help restore and maintain child sleeping pattern throughout admission. At 10am patient was nebulized with 2mls of Hypertonic Saline and vital signs were check and recorded as presented in appendix. All nursing interventions that were carried out are indicated in the nursing care plan. At 2pm Patient due medications which were IV Cefuroxime 133mg, IV Paracetamol 40mg and Syrup Simple Linctus 2mls were administered and vital signs were checked and recorded as presented in appendix. At 3pm patient was nebulized with 2mls of Adrenaline. At 6pm vital signs were checked and recorded as presented in appendix. All routine care such as bathing and feeding were carried out on patient. At 10pm, vital signs were checked and recorded as presented in appendix. D. K went to bed at 10:30 pm whiles on the mother thigh after night medications which were; IV Cefuroxime 133mg, IV Paracetamol 40mg and Simple Linctus 2mls were administered. At 11pm patient was nebulized with 2mls of Adrenaline.

4.1.3 Third Day of Admission (18TH November, 2022)

Patient wake up around 5:50am. According to the night nurse sleep pattern of patient was not disturbed and he experienced a good sleep. He went through daily activities including his personal hygiene done by the mother. At 6am Vital signs was checked and recorded. His due medications which were IV Paracetamol 40mg, IV Cefuroxime 133mg, IV Gentamycin 20mg, Simple Linctus 2mls was administered.

Temperature: 36.9^{o}c

Pulse: 89bpm

Respiration: 27cpm

Oxygen saturation 96%

At 10am vital signs were checked and recorded and presented in appendix. During ward round at 10: 05am mother lodged no complains. Oral zincovit drop 1 tds x 1/12 was added to his medications. At 2pm vital signs were checked and recorded as presented in the appendix. His due medications which were IV Cefuroxime 133mg, Syrup Simple Linctus 2mls were served and he was nebulized with 2mls of Adrenaline. Mother continue to breastfed son. At 6pm vital signs were checked and recorded as presented in appendix and he was nebulized with 2mls of Hypertonic Saline. All routine care such as bathing and feeding were carried out on patient. At 10pm, vital signs were checked and recorded as seen in appendix and his due medication which was IV Paracetamol 40mg was served.

4.1.4 Fourth Day of Admission (19th November, 2022)

Patient's condition had improved this day. He woke up cheerfully because he was able to sleep well then previous night and looking so refreshing. Oxygen source disconnected and nasal prone removed as the oxygen saturation ranging within normal. He maintained personal hygiene with assistance by the mother. Vital signs were checked and record as follows;

Temperature: 36.0^{o}C

Pulse: 92bpm

Respiration: 29cpm

Oxygen saturation 100%

His due medications IV Paracetamol 40mg and Oral Zincovit 1 drop were administered. At 08:34am, another problem identified was that, patient's family have deficient knowledge on patient condition. A nursing diagnosis of deficient knowledge related to treatment regimen was formulated. An objective was set to enable patient's relatives to understand the causes, signs and

symptoms and management of Bronchopneumonia within 72hours. Patient's relatives' level of knowledge was assessed, they were educated on child condition and they were encouraged to ask questions to bring out any misconception. At 10am, vital signs were checked and recorded as presented in appendix. At 2pm, his due medication IV Paracetamol 40mg was served and he was nebulized with 2mls of Adrenaline. I went for the first home visit with the help of his mother's direction. During the ward routine rounds in the afternoon at 2:35pm, plan was to continue treatment.

At 6pm vital signs were checked and recorded as presented in appendix and documented in the nurses note. All other routine care such as bathing and feeding was done to patient. At 10pm his due medication IV Paracetamol 40mg was served and vital signs were checked and recorded in appendix.

4.1.5 Fifth Day of Admission (20th November, 2022)

In the morning of this day, patient was looking cheerful. According to the night report, patient did have a good night rest. At 6am, due medications IV paracetamol 40mg, IV cefuroxime 133mg and was nebulized with 2mls of hypertonic saline solution were served . Vital signs were checked and recorded as follows

Temperature	36.6ºC
Pulse	99bpm
Respiration	26cpm
Oxygen saturation	100%

At 8: 15am during the ward round mother lodged no complains. Plan was to continue monitoring patient and render nursing care. At 10am vital signs were check and recorded as seen in appendix. At 2pm, vital signs were check and recorded as in seen appendix. IV paracetamol

40mg, nebulized with 2mls of adrenaline were served and he was breast fed. patient was made comfortable in bed. At 6pm vital signs were checked and recorded as seen in appendix and he was nebulized with 2mls of hypertonic saline solution were served, patient was given a warm bed bath. At 10pm, vital signs checked and recorded as seen in appendix. IV paracetamol 40mg and nebulized with 2mls of adrenaline were served.

4.1.6 Sixth Day of Admission (21st November, 2022)

Patient's mother did not have any complain on this day and he was looking cheerful and neat in bed. At 6am vital signs were check and recorded as follows. Due morning medications which were IV cefuroxime 133mg, syrup simple linctus 2mls and IV Gentamycin 20mg were served and documented.

Temperature: 36.9 ^{O}C

Pulse: 110bpm

Respiration: 31cpm

Oxygen saturation: 100%

During ward round at 9:30am, patient was reviewed and assured of possible discharge the following day. The mother was happy about the rapid recovery. Patient IV paracetamol was switched to oral syrup paracetamol 2.5mls tds x 5 days. At 10am, patient was nebulized with 2mls of adrenaline and vital signs were checked and recorded as presented in appendix. Mother continue breastfeed child. At 2pm, vital signs were checked and recorded as seen in appendix and due medications which were oral paracetamol 2.5mls and IV cefuroxime133mg were severed. At 6pm, patient vital signs were checked and recorded as shown in appendix. All other routine care such as bathing and feeding were carried out.

4.1.7 Seventh Day of Admission/ date of discharge (22nd November, 2022)

This was D.B. K's Day of discharge. D. K. woke up quite early in the morning in good condition and with a healthy and cheerful facial expression though in bed. His personal hygiene was maintained by the mother. All other routine care were carried out and documented. D.K. vital signs were checked and documented in temperature, pulse, respiration and oxygen saturation chart sheet and the nurses' notes on the computer. Vitals signs was checked and recorded as follows;

Temperature	36.6 ^{o}C
Pulse	90 bpm
Respiration	31cpm
Oxygen saturation	100%

At 9:45am, D.K. was reviewed during general ward rounds. He was discharged. Mother was informed of son's discharge and review date which was on the 28th of November, 2022. Patient was discharged on oral paracetamol, oral cefuroxime, syrup simple lintus, and oral zincovit. At 10:30am, objective set on 16th November, 2022 at 12:35pm on ineffective breathing pattern was fully met as mother verbalizing that her son is breathing well without difficulty and nurse observing that patient breathing pattern is normal, no wheezing and high level of oxygen saturation (90% off oxygen). At the same time, objective set on 16th November,2022 on the nursing diagnosis risk for fluid volume deficit related to frequent vomiting was fully met as I nurse observing that patient vitals are normal and skin elasticity maintained and mother verbalizing that her son no longer vomit.

On 22nd November, 2022 at 10:30am goal was fully met as patient's mother verbalized the understanding of the cause, signs and symptoms and management of pneumonia and nurse

asking patient relatives questions about the disease and they were able to answer it. On 22th November, 2022 at 11:30am, goal was fully met as mother verbalized that child had sound sleep through the night and nurse observing that patient had uninterrupted sleep during night.

Mother was given a discharge chit to be taken to the revenue department for assessment of son's bills which were catered for by the national health insurance. Non-insured bills settled by the mother. Mother was educated on issues such as the need to continue with medications and how to take them whiles in the house and the need for breastfeeding. Mother was also made known the importance of coming back with the son for review when then date is due.

After helping patient and mother in packing their belongings, mother expressed her appreciations to the entire staff on the ward for the care rendered to them. Mother ceased that opportunity to bid other patients in the ward as well as the entire staff on duty goodbye. They were escorted from the ward at 2:30pm. The patient's bed linen and pillow case were decontaminated.

4.2 Preparation of Patient / Family for Discharge and Rehabilitation

Discharge is a release of a patient from hospital, clinic or therapy program. (weller,2014) Preparation of patient and family towards discharge commenced as soon as patient was admitted for care and continued until discharged. While patient was on admission, the mother was informed that he will go home as soon as his condition improves. They were therefore encouraged to take active part in the care to ensure speedy recovery.

The aim was to give the mother insight into son's condition which included the cause, complication, prevention of the disease, the need to complete his medication and the need to report to the hospital early when there is any sign of an illness. Mother was also reminded of the

payment of uninsured bills during the day of discharge. Mother was educated on the need for good personal hygiene.

The mother was educated on the need to adhere to good nutrition especially to include enough protein to help in to produce enough breast milk of his son. They were also informed to take enough vegetables. The mother was educated on the drug given to her for his son and the need to comply with the treatment regimen. Information was given to her on the need for regular visit to the hospital and also to come for review on the specific date given to them.

4.3 Follow-up / Home Visits / Continuity of Care

Follow –up is a nurse family interaction that enable the health professional to evaluate the home and family situation in order to deliver the required nursing care and health related services (Weller,2014). Follow-up and home visit play a vital role in the care of patient after discharge. It is done to find out how patient and family are faring at home and the use of available resources within the patient's environment to solve any problem. It also helps to determine if there are any predisposing factors to patient's condition so that the needed health education will be given to prevent any recurring disease.

4.3.1 First Home Visit (19th November, 2022)

On the 19th November, 2022, I went to Aworowa a suburb of Techiman while patient was still on admission. I made the visit in the afternoon around 2:00pm to Aworowa where they lived. The reason for the visit was to assess the home environment of patient and to detect predisposing factors and any contributing cause to patient's disease in the environment. Also, to assess how patient will cope with the home environment after discharge. I was given direction by his mother. I was welcomed by patient Grandfather. He offered me a seat and water to drink. On observation, they lived in a compound house with three bedrooms with toilet and bath. All

window in the house were fixed with louver blades. They had assessed to electricity. Their refuse is gathered into a big bucket without a lid. They emptied every morning at a public refuse site. They always fetch water from nearby house which is pipe borne water.

They were educated to maintain clean environment to prevent the spread of other diseases. I then reassured them of patient's progressing condition and sought permission to leave.

4.3.2 Second Home Visit (26th November, 2022)

My second visit was on 26th November, 2022 after he had been discharged and gone home. I arrived aworowa at 10:37am. Patient's Mother received me, offered me a seat and water to drink. I asked about their health especially about D.K. and mother said he had not experienced any problems since he came home. I asked for his drugs to ensure if he had been given and I was happy to see that mother was following the said instruction given her at the hospital.

His parent expressed their 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 mother of the date for his review which was on 28th November, 2022.

4.3.3 Day of Review (28TH NOVEMBER, 2022)

Patient and mother arrived at the hospital around 7:30am. I helped them to activate the hospital card to assess health care. D.K's vital signs were assessed and recorded as follows;

Temperature	36.4^{o}C
Pulse	80 bpm
Respiration	28 cpm
Oxygen saturation	99%
Weight	4.8kg

The mother was asked if child had any complains. she logged no complain. No laboratory investigation or new medications were prescribed. I then advised the mother to continue with drugs and to report to the hospital if child experienced any abnormalities in his state of health. I discussed my intention next home visit with her and bid her goodbye.

4.3.4 Third Home Visit (2nd December, 2022)

The last home visit paid to patient and family was to see how he was faring after review, and to terminate the care. After patient came on review on the 28th November, 2022, a third home visit was made with a public health nurse, Mrs. V.A who lived within the same locality but works at Holy Family Hospital. On 2nd December, 2022, patient and mother were met in the house.

This was purposively done to meet the family in their natural environment and to see how patient was faring and responding to treatment after discharge. The family welcomed us home and offered us seats. Patient and family were in good health with clean surroundings as well. Mrs. V.A. was then introduced to them as a public health nurse whom she would be ensuring continuity of care of the family. The family welcomed Mrs. V.A. and she also showed her appreciation to the family enabling her to ensure continuity of care.

Mrs. V.A. gave her number to the family to call when the need arise even though she will be paying the family a visit as time goes on. I enquired for any problem but there were none. The family was advised to maintain good personal and environmental hygiene to maintain good health. The family shown their appreciation to me for the immense care given

CHAPTER FIVE
EVALUATION OF CARE RENDERED TO PATIENT / FAMILY

5.0 Introduction

Evaluation is the final stage in the nursing process. It focuses on the outcome of the objectives set in the nursing care plan and the effectiveness of the care given. It also determines the extent to which goals have been achieved or the measurement of the success or failure of the nursing care plan. To initiate the evaluation phase, the nurse must review and reflect on the goals set in the original nursing care plan. If the goals have not been met in the specified time or if implementation is not successful a particular intervention may need to be revised to solve the problem. This chapter will cover the following;

1. Statement of evaluation
2. Amendment of nursing care
3. Termination of care

5.1 Statement of Evaluation

1. Patients breathing pattern was restored to normal

On 16th November, 2022 at 12:35pm, Patient had difficulty in breathing. A diagnosis of ineffective breathing pattern related to impaired oxygen exchange was formulated. An objective was set to restore patient breathing pattern to normal throughout the period of hospitalization. The following interventions were given; Patient family were reassured of the competency of staff and that they will help to relieve and maintain patient breathing pattern, patient was assessed for respiratory rate, depth and oxygen saturation, patient was assisted to assume position (semi fowler ‘s) to improve breathing, tight clothing around neck and chest were removed.

On 22nd November, 2022 at 10:30am, objective on 16th November, 2022 ineffective breathing pattern set at 12:35pm was fully met as mother verbalized that her son is breathing well without difficulty and nurse recorded patient breathing pattern is normal, no wheezing and high level of oxygen saturation (96% off oxygen).

2. Patient's temperature was restored to normal

On 16th November, 2022 at 12:40pm, patient had a high body temperature. A nursing diagnosis of hyperthermia (38.4^{o}C) related to infectious process in the lungs was formulated. An objective was set to reduced patents body temperature to normal (36.2^{o}C-37.2^{o}C) within 2 hours. The following interventions were carried out; Mother was reassured of the competency of staff and that they will help regain and maintain patient body temperature to a normal, heavy clothing on patient were removed, all nearby doors and windows were opened to allow for fresh air within the ward, patient was sponged with tepid water and towel, leaving drop of water on the skin to evaporate taking away heat.

At 3:40pm, objective formulated on 16th November 2022 to reduce patient's temperature was fully met as mother verbalized that son is no longer warm to touch and nurse recording patient's temperature reads within normal range (36.2-37.2^{o}c) with the use of clinical thermometer.

3. Patient was relieved from vomiting

On 16th November, 2022 at 12:40pm, patient was vomiting frequently. A nursing diagnosis of risk for fluid volume deficit related to frequent vomiting was formulated. An objective was set to restored patient body fluid to normal throughout the period of admission. The following interventions were implemented; patient weight was checked daily using the weighing scale to determine an increase or loss in weight, prescribed intravenous fluid was administered the

amount of both intravenous infusion and oral fluid taken such as breast milk and amount of urine passed were recorded in the intake and output chart daily to check for fluid and electrolyte balance or deficit.

On 22nd November, 2022 at 10: 30am, objective set on 16th November,2022 on the nursing diagnosis risk for fluid volume deficit related to frequent vomiting was fully met as I nurse observing that patient vitals are normal and skin elasticity maintained and mother verbalizing that her son no longer vomit.

4. Mother was relieved of anxiety

On 16th November, 2022 at 12:45pm, patient mother was anxious. A nursing diagnosis of anxiety (mother) related to unknown outcome of admission and treatment was formulated. An objective was set to relieved mother from anxious within 2hours. The following interventions were carried out; mother was reassured of competency of staff and that they will help resolve patient's condition, mother was introduced to other patient relatives on the ward with the same condition who are responding well to treatment to share their experiences to boost the moral and also reduce fear and anxiety, mother was encouraged to verbalize all current needs and concern so that the appropriate information and care can be given, mother was educated that hospitalization will enable adequate monitoring and treatment of patient to promote recovery, all procedures to be carried out on patient such as collecting specimen and oxygen administration were also explained to mother in order to have insight into the management of the of condition.

On 16th November, 2022 at 2:40pm, objective set on the nursing diagnosis anxiety (mother) related to unknown of admission and treatment was fully met as mother verbalizing that she no

more feel anxious about his son admission and treatment and nurse observing that mother look relaxed with cheerful facial expression.

5. Patient had optimal sleep

On 17th November, 2022 at 8:16am, patient mother complained of child not being able to sleep well. A nursing diagnosis of sleep pattern disturbance (insomnia) related to persistent coughing was formulated. An objective was set for patient to obtain optimal sleep throughout hospitalization. The following interventions were carried out; child was given a warm bath to help dilate peripheral blood vessel to induce sleep, noise on the ward was reduced by lowering volume of television and radio set to enhance sleep , mother was encouraged to breastfeed child, all procedures on the child were done at a goal in other not to disturb the child during sleep, child airway patency was assessed for mucus secretion that can hinder child sleep and mother was reassured that all necessary measures will be in place so that child would have enough sleep.

On 22th November, 2022 at 11:30am, goal was fully met as mother verbalized that child had sound sleep through the night and nurse observing that patient had uninterrupted sleep during night.

6. Patient/Family gained adequate knowledge on bronchopneumonia

On 19th November, 2022 at 08:34am, a nursing diagnosis of deficit knowledge related to cause, sign and symptoms and management of bronchopneumonia was formulated. An objective was set for patient/Family relatives to understood the cause, signs and symptoms and the management of bronchopneumonia within 72 hours. The following interventions were carried out; patient/Family level of knowledge was assessed on pneumonia, they were educated on pneumonia and encouraged to ask questions and all questions asked was answered tactfully, all

procedures performed on patient and the need to perform them were explained to patient/Family to their understanding and all diagnostic investigations and results were explained to patient/Family.

On 22nd November, 2022 at 10:30am goal was fully met as patient's mother verbalized the understanding of the cause, signs and symptoms and management of bronchopneumonia and nurse getting positive feedback from patient relatives on questions asked were able to answer it.

5.2 Amendment of Nursing Care Plan for Partially met /Unmet Outcome Criteria

Throughout patient's stay on the ward, good nursing and medical interventions were instituted. Cooperation from patient's relatives, all goals and objectives that were set were fully met. Therefore, there were no amendment to be 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. Due to this, 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 some period. When D.K. was reviewed, he was declared fit and looked very healthy with no complains. During my home visit especially the third time, I observed that his general condition was encouraging and therefore I advised mother to breastfeed her son frequently. I officially handed over patient to community health nurse for continuity of care. I wished them the best in life and edge mother to report to the hospital whenever her son is feeling ill. Also, I thanked mother and family for their cooperation. Care was terminated on 2nd of December.

CHAPTER SIX

SUMMARY OF CARE RENDERED TO PATIENT AND FAMILY

6.0 summary

D.K was admitted on 16th November, 2022 at 12:00pm, to the Holy Family Hospital Techiman. He presented with breathing difficulty, sweating, cough and fever. On examination, he was diagnosed of bronchopneumonia. With the use of nursing process, the problems identified were formulated to 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 patient Among the care provided to him were bed making, monitoring of vital signs (temperature, pulse, respiration, and oxygen saturation), proper positioning in bed, and patient / family education on personal hygiene. He was discharged on 22nd November, 2022 when his condition had improved and was declared fit to go home with no complains.

Goals were fully met during evaluation of care. Thrid home visits were paid to him to assess progress of his condition at home. D.K's mother brought him for review on the 28th November, 2022. There was termination of care on 2nd December, 2022.

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 and psychosocially.

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.

APPENDIX

Table 6: Observation of Vital Signs Chart for Patient

Date	Time	Temperature (^{o}c)	Pulse (bpm)	Respiration (cpm)	SpO_{2} %
16/11/22	10:00am	38.4	63	20	81
	2:00pm	37.1	70	23	94
	6:00pm	37.8	82	20	96
	10:00pm	36.8	89	19	94
	10:00am	38.4	63	20	97
17/11/22	6:00am	36.2	100	30	96
	10:00am	36.7	99	30	98
	2:00pm	36.5	99	27	100
	6:00pm	36.3	100	30	99
	10:00pm	36.8	98	25	97
18/11/22	6:00am	36.9	89	27	96
	10:00am	36.2	99	21	98
	2:00pm	36.0	90	30	95
	6:00pm	36.2	70	26	97
	10:00pm	36.5	100	26	97
19/11/22	6:00am	36.0	92	29	100
	10:00am	36.3	89	26	100
	2:00pm	36.5	90	29	97
	6:00pm	36.6	95	31	98
	10:00pm	36.2	87	26	98
20/11/22	6:00am	36.6	99	26	100
	10:00am	36.1	90	25	95
	2:00pm	36.6	99	26	97

	6:00pm	36.7	100	30	99
	10:00pm	36.6	100	27	97
21/11/22	6:00pm	36.9	110	31	100
	10:00am	36.0	115	29	98
	2:00pm	37.0	105	26	100
	6:00pm	36.5	90	29	100
	10:00pm	36.9	111	30	99
22/11/22	6:00am	35.9	89	29	98
	10:00am	36.6	90	31	100
	2:00pm	36.9	100	30	97

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