HOLY FAMILY NURSING AND MIDWIFERY TRAINING COLLEGE

BEREKUM

A CLIENT/FAMILY CENTERED NURSING CARE STUDY ON

SICKLE CELL ANAEMIA

ADIKU MARY SELASE

4120210005

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

PREFACE

Many people believed that ‘Nursing’ started with Florence Nightingale, however nursing itself dates back to the beginning of motherhood when nurses were traditionally females. The history of nursing has its root from the care of infants and children, so all mothers were nurses. The word nursing derives its meaning form the latin word “nutricus” which means nourishing. According to Henderson (1960), nursing is defined as the unique function of the nurse, to assist the individual either sick or well in the performance of those activities contributing to health or its recovery or to a peaceful death that he or she would have performed unaided if he or she has the necessary strength, will or knowledge.

The history of nursing first started to become more defined with Christianity when Christians cared for the sick, fed the hungry and buried the dead. Hence, it was said that the history of nursing is tied to the church. Florence nightingale came in the scene in 1860, when it became more obvious that love and nurturing alone were not enough to cure diseases. She fulfilled her dream concerning nursing by establishing the Nightingale Training School for Nurses. It was the first formal, fully organized training program for nurses.

In this 21st century, many nursing schools were established to help build on the previous skills and experiences that were acquired through long years of housekeeping, assisting in child bearing and care of sick relatives. Nursing practice was based on intuitions, observations and experiences and was focused towards diseases and illness in the olden days. However, today, there is increasing recognition of people’s need for health care. This has placed nursing at a level where much emphasis is placed on research and the use of scientific data at the bedside.

The patient family care study has to do with rendering nursing care to a patient and his/her family. It is made up of the interaction between the patient/family and health team with a specified time frame until the termination of the patient care.

The study is based on the nursing process which has the assessment, analysis, planning, implementation and evaluation to be its components which follows a systematic method and it works consistently.

The study forms part of the academic requirement on obtaining the Registered General Nursing Certificate awarded by the Nursing and Midwifery Council of Ghana.

Patients name is not mentioned in the study for confidentiality's sake, it is rather the initials that are used. The study is programmed to aid the student nurse to practically apply the nursing process in the care of the patient and apply the knowledge acquired in medicine, surgery, pharmacology, basic nursing, anatomy and all other field of health in the care of the patient. It also helps to enlighten and broadens the knowledge of the student nurse in terms of a particular disease condition and its management, the confidence level too is boosted in order for the student nurse to discharge his/her duties.

Finally, a cordial relationship is established between the nurse and patient /family as well as other members of the health team.

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This case study would not have been successful without the help of some individuals and groups. I therefore deem it necessary to express my sincere heartfelt gratitude to them for their earnest contribution in diverse ways.

My first thanks go to God almighty for protecting and guiding me throughout the writing of this script.

I am also grateful to Master B.J.Y, the subject of this study and his family for their understanding, cooperation and all the necessary information given to me at the hospital and during my home visits.

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I would also want to express my warmest heartfelt appreciation for the nurse-in-charge of the Males' ward and the entire staff of the Holy Family Hospital, Berekum, for the great deal you all took in helping me to arrive at the finishing point of the case study.

Last but not least, I am grateful to my family, my classmates and authors and publishers whose books have been of great use and those who have contributed in diverse ways to make the writing of my case study, a successful one. God richly bless you all.

INTRODUCTION

The patient and family care study refers to a study that is 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 so as to arrive at an expected outcome. It also looks at the patient's social and psychological needs in planning the care.

This care study is written on Master B.J.Y a 15-year-old man who comes from Sunyani in the Bono region of Ghana. In Sunyani he resides in Agyeiano South. Master B.J.Y arrived on the Male Medical ward of Holy Family Hospital, Berekum on 25th November, 2022 at 11:00am with the diagnosis of sickle cell anaemia. I interacted with him the very day he was admitted. He spent nine days at the hospital and throughout his stay in the hospital, his treatment and care were geared towards complete recovery.

The following investigation/test were ordered and carried out;

1. Full Blood Count

2. Blood film for malaria parasite

3 Urine examination

Treatment given to Master B.J.Y during his period of hospitalization and discharge were;

1. To transfuse three units of blood

2. IV furosemide 40mg stat

3. IV Paracetamol 1g tid x 24 hours Stat

4. Tablet Tramadol 50mg tid for 5 days

5. Tablet Azithromycin 250mg od for 3 days

6. Levofloxacin infusion 500mls daily x 3

7. Enoxaparin sodium 40mg daily x 1

8. Folic acid tablet 5mg x 30days

9. Normal saline

10. Ringers lactate

11. Dextrose in normal saline

With proper care and attention, he got well and was discharged on 3rd December, 2022, without any complication. After he was discharged, I made three follow up visits until I handed him over to his parents on 9th January,2023.

This script is written, organized and compiled into six (6) chapters for easy reading and understanding.

Chapter one deals with the assessment of patient and family. It includes patient's particulars, family medical and socio-economic history, lifestyle and hobbies, past and present medical history. Others are admission of patient, patient concept of illness, literature review as well as data validation.

Chapter two is concerned with the analysis of data collected about patient and comparing this data with standards. This chapter also involves the identification of patient and family strengths, their health problems and formulating diagnosis for them.

The third chapter is mainly about planning the care for patient and family where a nursing care plan is drawn and used in the management of the patient.

Chapter four is concerned with the implementation of patient and family care plan. The summary of actual nursing care, preparation of patient for discharge and follow-up visits are involved.

The fifth chapter deals with the evaluation of care rendered to patient and family. It involves the statement of evaluation, amendment of nursing care plans for partially met or unmet objectives and the termination of care.

The last chapter, which happens to be chapter six is the summary and conclusive part of the care rendered to the patient.

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CHAPTER ONE

ASSESSMENT OF PATIENT AND FAMILY

1.0 Introduction

Assessment is the systematic collection of data to determine the patient health status and any actual or potential health problems. (Hinkle & Cheever, 2018)Assessment is the process of gathering and discussing information from multiple and diverse sources in order to develop a deep understanding of what students know, understand and can do with their knowledge as a result of their educational experience; the process culminates when assessment results are used to improve subsequent learning. The nursing assessment includes gathering information concerning the patient's particulars, family medical/surgical history, family socio-economic history, patient's developmental history, patient's present medical/surgical history and patient past medical/ surgical history, patient lifestyle and hobbies literature review and validation of data.

1.1 Patient's Particulars

Particulars are defined as an officially recorded detailed information about a person (Mclntosh,2013). The name of the patient is Master B.J.Y, a fifteen-year-old boy, born on 25th June, 2007 to Mr. J.K.Y. and Mrs. C.H.Y. He is a Ghanaian and comes from Sunyani in the Bono region of Ghana. In Sunyani, he resides in Agyeiano South with the house number AAS33/C. Master B.J.Y is a Christian who worships with the Assemblies of God church. He is dark in complexion, measures 1.5m tall and weighs 40kg. He has three siblings which consist of two girls and one boy. He is the last born of his parents. He is not in any sort of intimate relationship at the moment. He has friends at school. His mother is his next of kin. He is a student of Divine Montessore School. He is in JHS one. The languages he speaks are Twi and English. Master B.J.Y is registered under the National Health Insurance Scheme. He has

physical disabilities (his left hand is smaller than the right hand whereas the left leg is also smaller than the right leg)

1.2 Family's Medical History

Health history is a series of questions used to provide an overview of the patient's current health status (Hinkle & Cheever, 2018). According to Master B.J.Y both of his grandparents are healthy. Master B.J.Y. claims that his parents and three siblings are well and alive. There are no known hereditary disorders in the family, such as epilepsy, asthma, diabetes, mental illness or hypertension. However, there is a history of the sickle cell trait from the paternal and maternal side of their family. The members occasionally do suffer from minor ailments like common cold which is treated with medication from the hospital. According to the father and elder sister, they visit the hospital whenever any ailment arises and buys medicine from the counter only when it is prescribed by a doctor. Based on this information, I encouraged them to seek for medical attention as they have been doing always without any hesitance. There are no allergies that are known for now in the family.

1.3 Family Socio-Economic History

According to Bickey and Szilagyi (2015) Family socio- economic history deals with the social background and economic status of the patient and the family. Socio- economic history gives more information about the patients' environment, housing types, parents occupation and marital status, number of individuals living in the house and sleeping arrangements, religious affiliations.

There is such a wonderful and loving relationship existing between Master B.J.Y and his family especially his mother. Master B.J.Y is totally dependent on his parents since he is still a student, and his parents are always ready to give him their massive support in order to ensure that he

gets anything necessary that he needs. His father is a fulltime pastor whiles his mother is a member of the Lands Commissioners in Sunyani. Master B.J.Y engages in religious activities almost throughout all the week days. His family members are Christians too. The family of Master B.J.Y socially are not known to engage in any form of alcoholism, smoking or notorious activities. Patient's family belongs to the upper-class group of the society, they are a well to do family. Most family members as stated by the parents of Master B.J.Y, are government workers, others also are managers of their own businesses. There are no taboos controlling or governing the family. Members of the family are all registered and depends on National Health Insurance Scheme as their source of medical care.

1.4 Patient's Developmental History

According to the Longman dictionary 2016; Growth is the progressive and physical increase in size of an organism.

Maturation is the state when someone or something is fully grown or developed.

Development can also be defined as the qualitative improvement in someone or something. The developmental history of patient was told by the mother. Master B.J.Y's mother mentioned that she went through a nine-month pregnancy successfully with no pregnancy-related complication and had to go through a caesarean section at Green Hill Clinic, Agyeiano South, Sunyani with the assistance of the midwives at the clinic. He was born with some congenital abnormalities, that is malformation of the right hand and leg (they are smaller in size). He was immunized against childhood vaccine preventable diseases, as established by a BCG scar on his right shoulder. Master B.J.Y was breastfed exclusively for six months before being made to eat supplementary foods. He went through the normal stages of development, he started sitting up at the 7th month, crawling in the 10th month, talking, walking and running within the ages of one and three. Around the age of twelve, Master B.J.Y began to develop secondary

sexual characteristics such as a broadening of the chest, deepening of voice, and the growth of pubic hairs. He is a JHS one student in Divine Montessore School. From my conversation with the patient he really likes to be in school and normally has no problems when it comes to him understanding what is being taught in the classroom. Erik Erikson (1902–1994) focused on the role of cultural and socioeconomic influences in behaviour. Erickson was interested in the development of the ego, self-awareness, organized, and logical aspect of the personality. He outlined eight stages of ego formation that span a person's lifetime. Each stage is marked by a specific conflict, or crisis, pertaining to the individual's biological maturity and what society expects of a person at that age. Patient is now in his adolescence age group, where there is conflict between identity and role confusion (12 to 18 years), according to Erik Erickson's psychosocial development, which encompasses eight stages. This stage is critical in developing a sense of personal identity, which will continue to influence behaviour and development for the rest of a person's life. Teenagers must develop a feeling of self and individuality. Failure leads to role confusion and a weakened sense of self, but success leads to the ability to stay loyal to oneself. I am certain that the patient has formed successful social ties, which places him in Erickson's identity dimension of psychosocial development.

1.5 Patient's Lifestyle and Hobbies

Life style is defined as the typical life of an individual or group (Marriam-Webster, 2022, March 19). Master B.J.Y goes to bed at 09:00pm. Before sleeping he does well to pray first and by 6:00am he is sure to be awake and says his morning prayers. He brushes his teeth after waking up in the morning and baths afterwards with warm water most of the times in order to prevent crisis. He empties his bowels and bladder whenever he feels the urge to do so. He goes to school from Monday to Friday. His father sends him to school with his car and makes sure he is always in school before 7:00am because the main gate to his school is locked at 8:00am. Tea and butter/ sugar bread is the food he usually takes in the morning to break his fast. He is

provided lunch in school each and every day. He closes from school at 2:00pm and gets home by 2:30pm. Upon arrival he attends to his home given assignment from school and if there are no assignments, he watches TV or plays with his toys. He takes his supper latest by 4:00pm. For him, his favourite food is rice and beans with egg and fried fish with some veggies. He admitted that he is not a fun of smoking and taking of alcohol too. On weekends he plays with his toys and watches TV. He goes to church on Sunday with his family, he also said that he loves to hang out with his mother on Sundays after church. Patient has no known dietary or medicinal allergies. The patient stated that he eats three square meals per day, namely breakfast, lunch, and supper. He stated that his source of stress is when he stays home without doing anything and begins to feel bored. When he is stressed, he plays with his toys or watches TV to relieve himself. He really appreciates being in the mist of his family and friends.

1.6 Patient's Past Medical History

Past medical history is a record of past medical problems and treatments that a person has had (Marriam-Webster, 2022, March 19). Master B.J.Y never had, poliomyelitis, TB, whooping cough, diphtheria, measles or tetanus as a child, he has no allergies when it comes to medications or insects. He is a known sickle cell patient. General body weakness, pyrexia, headache and joint pains are some of the health problems he usually encounters whenever he is exposed to extreme cold weather. His parent takes him to Sunyani Polytechnic Clinic for healthcare whenever he reports that he is unwell. Master B.J.Y has never been involved in a serious accident before, notwithstanding he has on several occasions been admitted to the hospital with sickle cell anaemia.

1.7 Patient's Present Medical/Surgical History

The history of the present illness or problem includes such information as the date and manner (sudden or gradual) in which the problem occurred, the setting in which the problem occurred, and the course of the illness including self-treatment, specific symptoms are also described in detail (Hinkle & Cheever, 2018). Patient was apparently well until the early hours of 24th November, 2022 when he started experiencing joint pains, headache, pyrexia and general body weakness. He informed his mother and was rushed to the emergency unit of Holy Family Hospital, Berekum. They arrived at the emergency unit at 10:30am, he was under detention and observation at the emergency unit where he was reviewed by the doctor on duty and was diagnosed of Sickle cell anaemia in a known sickle cell patient. He presented with dyspnoea and therefore oxygen therapy was set up for him. A couple of physical examinations were done alongside some laboratory investigations too. Doctor M.A who reviewed the patient had as part of his plan for the patient to be transferred out to the males ward the following day (25th November, 2022) when his condition was stable.

1.8 Admission of the Patient

Admission of a patient is defined as when an illness or injury requires an immediate health care (Hornby, 2019). Admission can be scheduled (planned) or unscheduled (emergency). Master B.J.Y's admission was a planned one. Master B.J.Y was admitted on 25th November, 2022 at 11am, Master B.J.Y was brought to the Males Medical ward on a stretcher with the assistance of a staff nurse and his mother. On arrival, patient was found to be in a conscious and an alert state with oxygen being administered to him. The mother of the patient as well as the staff nurse made themselves comfortable after they had been offered seats. Patient had been on detention and observation at the emergency unit from Thursday, 24th November, 2022 with the diagnosis of sickle cell anaemia in an already known sickle cell disease. The

staff nurse who assisted them provided all the needed information, so in order to validate his admission to the Male medical ward, his hospital ID (AAC066) number was keyed into the computer system of the hospital (LHIMS). After a few seconds the patient's identity was confirmed. The patient was then placed and made comfortable in a cardiac bed. Name, sex, age, hospital ID number and occupation were all recorded in the admission and discharge book. Vital signs were checked and recorded accurately as follows:

1. Temperature 38.0^{o}C

2. Pulse 141bpm

3. Respiration 28cpm

4. Blood Pressure 104/70mmHg

5. SPO2 86%

Master B.J.Y was examined from head to toe and the examination revealed high body temperature, dyspnoea, joint pain and cough. Due to the high body temperature, patient was asked to remove extra clothing and Intravenous Paracetamol 1g was prescribed and set up for him. He was reassured of a competent healthcare to allay his anxiety. Patient as well as his mother who was with him were introduced to the staff present as at that time. The hospital's policies on visiting hours which are 5:00am to 6:00am and 4:30pm to 5:30pm, time for morning rounds by doctors were also made known to them and bill payment were discussed.

The following treatment plan were ordered:

1. To transfuse one unit of blood

2. IV furosemide 40mg stat

3. IV Paracetamol 1g tid x 24 hours Stat

4. Tablet Tramadol 50mg tid for 5 days

5.Tablet Azithromycin 250mg od for 3 days

6. Levofloxacin infusion 500mls daily x 3 days

7. Enoxaparin sodium 40mg daily x 24hours

8. Folic acid tablet 5mg x 30days

9. Normal saline

10. Ringers lactate

11. Dextrose in normal saline

Patient had the following laboratory investigations ordered:

1. Full Blood Count

3. Blood film for malaria parasite

4. Urine examination

Master B.J.Y got to know me after I introduced myself as a final-year student of Holy Family Nursing and Midwifery Training College who would want to use him and his family for my care study. The patient as well as his family were told that the care study is a requirement for the award of a Diploma in Registered General Nursing by the Nursing and Midwifery Council of Ghana. During our conversation I made sure to explain to them what was involved in the case study especially on the issue of keeping whatever information provided to me confidential. I later on explained to them that I will be visiting them at least three times as part of what the study demands. They gave their consent and permitted me to use them for the case study after they had understood clearly all the full details given to them about the study. We began with

the discharge planning with the involvement of the relative and they were made to understand that there would still be continuity of care even after he was well and discharged to the house. A brief and concise education was given to the patient as to why he was showing the signs and symptoms associated with his condition and whatsoever care and treatment he was to expect from the healthcare team. I picked Master B.J.Y for my care study because I wanted to have more knowledge about the disease condition that is, it's diagnosis, treatment regimen, and the specific nursing management and nurse them holistically until they are discharged home and continue thereafter, in the course of that, I will study his condition to write the care study.

1.9 Patient's Concept of Illness

Master B.J.Y believes and understands clearly that his condition is an abnormality in the blood and does not see it to be from any spiritual source. He believes that he will be relieved as time went on because that was not the first time he had been in that condition.

1.10 Literature Review

This part covers all the documented information about Master B.J.Y's condition. Literature review of a condition gives all the detailed information about the patient's condition. It talks about the established and laid down facts about the disease condition, which aids in giving appropriate medical and nursing diagnosis and also helps in the management of the disease.

Anatomic and Physiologic Overview of the Hematologic System.

The hematologic system consists of the blood and the sites where blood is produced, including the bone marrow and the reticuloendothelial system (RES). Blood is a specialized tissue that differs from other tissues in that, it exists in a fluid state. Blood is composed of plasma and various types of cells. Plasma is the fluid portion of blood; it contains various proteins, such as albumin, globulin, fibrinogen, and other factors necessary for clotting, as well as electrolytes,

waste products, and nutrients. About 55% of blood volume is plasma (Hinkle & Cheever, 2018).

Blood

Blood is a fluid connective tissue composed of a liquid extracellular matrix called blood plasma that dissolves and suspends various cells and cell fragments (Tortora & Derrickson, 2009). It circulates constantly around the body, allowing constant communication between tissues distant from each other. It transports oxygen, nutrients, hormones, heat, protective substances and clotting factors. Blood is composed of a clear, straw-coloured, watery fluid called plasma in which several different types of blood cell are suspended. Plasma normally constitutes 55% of the volume of blood and the cell fraction 45%. The cellular content of blood is made up of three types: erythrocytes (red cells), platelets(thrombocytes) leukocytes (white cells). Blood cells are synthesised mainly in red bone marrow. Some lymphocytes, additionally, are produced in lymphoid tissue. In the bone marrow, all blood cells originate from pluripotent (that is, capable of developing into one of a number of cell types) stem cells and go through several developmental stages before entering the blood. Different types of blood cell follow separate lines of development. The process of blood formation is called haemopoeisis.

Functions of blood, Blood, which is a liquid connective tissue, has three general functions (Tortora & Derrickson, 2009):

1.Transportation blood transports oxygen from the lungs to the cells of the body and carbon dioxide from the body cells to the lungs for exhalation. It carries nutrients from the gastrointestinal tract to body cells and hormones from endocrine glands to other body cells. Blood also trans- ports heat and waste products to various organs for elimination from the body.

2. **Regulation**. Circulating blood helps maintain homeostasis of all body fluids. Blood helps regulate pH through the use of buffers (chemicals that convert strong acids or bases into weak ones). It also helps adjust body temperature through the heat- absorbing and coolant properties of the water in blood plasma and its variable rate of flow through the skin, where excess heat can be lost from the blood to the environment. In addition, blood osmotic pressure influences the water content of cells, mainly through interactions of dissolved ions and proteins.

3. **Protection**. Blood can clot (become gel-like), which protects against its excessive loss from the cardiovascular system after an injury. In addition, its white blood cells protect against disease by carrying on phagocytosis. Several types of blood proteins, including antibodies, interferons, and complement, help protect against disease in a variety of ways.

Definition of Sickle Cell Disease

Sickle cell anaemia is a severe haemolytic anaemia that results from inheritance of the sickle haemoglobin gene. This gene causes the haemoglobin molecule to be defective. The sickle haemoglobin (HbS) acquires a crystal-like formation when exposed to low oxygen tension (Hinkle & Cheever, 2018). The RBCs of a person with sickle-cell disease (SCD) contain Hb-S, an abnormal kind of haemoglobin. When Hb-S gives up oxygen to the interstitial fluid, it forms long, stiff, rod-like structures that bend the erythrocyte into a sickle shape. The sickled cells rupture easily. Even though erythropoiesis is stimulated by the loss of the cells, it cannot keep pace with haemolysis. Signs and symptoms of SCD are caused by the sickling of red blood cells. When red blood cells sickle, they break down prematurely (sickled cells die in about 10 to 20 days). This leads to anaemia, which can cause shortness of breath, fatigue, paleness, and delayed growth and development in children. The rapid breakdown and loss of blood cells may also cause jaundice, yellowing of the eyes and skin. Sickled cells do not move easily through blood vessels and they tend to stick together and form clumps that cause

blockages in blood vessels. This deprives body organs of sufficient oxygen and causes pain, for example, in bones and the abdomen; serious infections; and organ damage, especially in the lungs, brain, spleen, and kidneys. Other symptoms of SCD include fever, rapid heart rate, swelling and inflammation of the hands and/or feel, leg ulcers, eye damage, excessive thirst, frequent urination, and painful and prolonged erections in males. Almost all individuals with SCD have painful episodes that can last from hours to days. Some people have one episode every few years; others have several episodes a year. The episodes may range from mild to those that require hospitalization. Any activity that reduces the amount of oxygen in the blood, such as vigorous exercise, may produce a sickle cell crisis (worsening of the anaemia, pain in the abdomen and long bones of the limbs, fever, and shortness of breath). Sickle-cell disease is inherited. (Tortora & Derrickson, 2009), The inheritance pattern is autosomal recessive (both parents must at least have the sickle cell trait). If both parents have the sickle cell trait, there is a 25% chance that each child will have SCD, a 25% chance that each child will have neither the trait nor the disease, and a 50% chance that each child will have the trait. Therefore, a child may be asymptomatic (except under rare circumstances) with the trait or have varying degrees of symptoms with the disease (Swearingen, 2016). In the homozygous state (sickle cell anaemia), both genes are abnormal (HbSS), whereas in the heterozygous state (sickle cell trait, HbAS), only one chromosome carries the gene. As the synthesis of HbF is normal, the disease usually does not manifest itself until the HbF decreases to adult levels at about 6 months of age (Kumar & Clark, 2017). People with two sickle-cell genes have severe anaemia; those with only one defective gene have the sickle cell trait.

Incidence

In the United States, sickle cell anaemia is most often found in those of African or Eastern

Mediterranean heritage. Worldwide, many persons residing in Asia, the Caribbean, the Middle

East, and Central America are affected. Nearly 10% of African Americans have the sickle cell trait; 1 of every 500 African American infants born has inherited the two sets of abnormal genes needed to have the disease according to (Williams & Hopper, 2015). The sickle gene is most common in Africans (up to 25% gene frequency in some populations) but is also found in India, the Middle East and Southern Europe (Kumar & Clark, 2017).

Types of Haemoglobin

1. Normal haemoglobin A

2. Foetal haemoglobin F

3. Abnormal haemoglobin S and C

With inheritance of haemoglobin AA is normal, with haemoglobin AS or AC the individual is said to have sickle cell traits and is a carrier but with haemoglobin SS or SC is sickle cell disease (Hinkle & Cheever, 2018)

Causes

Sickle cell anaemia results from the homozygous inheritance of haemoglobin producing gene which causes substitution of amino acid valine for glutamic acid in the beta haemoglobin chain. Heterozygous inheritance of this gene results in the sickle cell trait, a condition with minimal or no symptoms. The patient with sickle cell traits is a carrier; the individual can pass the sickle cell gene to his/her offspring. Vaso-occlusive crisis in sickle cell anaemia is caused by lowering oxygen tension in the blood to get access to the tissues give rise to severe pain in the limb and joints. It is mostly precipitated by cold weather, pregnancy, alcoholism, infection such as malaria, the use if anaesthetic agents, fatigue, stress, strenuous physical exercise, poor nutrition

effect from high altitude above 15,000 feet above sea level, dehydration and acidosis (Brenda G.B et al, 2004)

Pathophysiology

Sickle cell anaemia is a severe haemolytic anaemia that occurs as a result of the sickle haemoglobin gene. The defects occur when there is a single amino acid substitution in the beta chain of haemoglobin. The normal haemoglobin A contains two alpha and two beta chains. The sickle haemoglobin (HbS) acquires a crystal-like formation when exposed to low oxygen tension. The oxygen level in the venous blood can be low enough to cause this change; consequently, the erythrocyte containing HbS loses its round, pliable, biconcave disk shape and becomes deformed, rigid and sickled shape. These rigid erythrocytes can adhere to the endothelium of small vessels; when they adhere to each other, blood flow to a region or an organ maybe reduced. If ischemia or infarction results, the patient may have pain, fever, swelling and the like. The sickling process takes time; if the erythrocyte is again exposed to adequate amounts of oxygen (e.g., when it travels through the pulmonary circulation) before the membrane becomes too rigid, it can revert to a normal shape. For this reason, the 'sickling crisis are intermittent. Oxygen delivery can be impaired by an increased blood viscosity, with or without occlusion due to adhesion of the sickled cells; in such a situation, the effects are seen in the larger vessels, such as arterioles. Cold can also aggravate the sickling process, because vasoconstriction slows the blood flow (Hinkle & Cheever, 2018).

Clinical Manifestation/ Features of Sickle Cell Anaemia

According to Phipps,(2010) the clinical features of sickle cell disease include the following;

1. There may be anaemia
2. There is chest pain and shortness of breath

3. In severe cases, there is enlargement of the liver and spleen, especially in children
4. Client may have fever
5. Severe abdominal pain maybe experienced
6. There may be severe joint pains
7. Patient may experience loss of appetite
8. There is headache
9. Protrusion of the abdomen, especially in children
10. Swelling of toes and fingers

Diagnostic Investigation

According to Phipps, (2010) the diagnostic investigations of sickle cell disease includes the following;

1. Full blood count
2. Sickling test
3. Findings of haemolysis (Jaundice, elevated serum bilirubin level)
4. Physical examination
5. Family history
6. X- ray will indicate abnormal changes in bone
7. Electrophoresis of haemoglobin identifies the presence of abnormal haemoglobin

Medical Treatment of Sickle Cell Anaemia

There is no cure available for sickle cell anaemia. The main aim of treatment is to alleviate symptoms and control painful crisis (Hinkle & Cheever, 2018).

1. Blood transfusion helps in reducing severe episode of anaemia and pain. It also has a potential to decrease haemoglobin S formation.

2. Folic acid supplement aids given prevent anaemia
3. Antibiotics such as ampicillin, ciprofloxacin are given to treat infections
4. Analgesics like diclofenac, morphine, or ibuprofen can be given to alleviate pain
5. Corticosteroids
6. Intravenous fluids, glucose 5% in sodium chloride 0.9% 2-4 litres daily for adults and glucose 4.3% in sodium chloride 0.18% 150ml/kg daily intravenous for children.
7. Non- steroidal anti-inflammatory drugs (NSAIDs)

Complication

According to Hinkle and Cheever, (2018) the complications of sickle cell anaemia are as follows;

1. Heart failure; chronic (long term) anaemia in SCD lowers the ability of blood to carry oxygen. This makes the work of the heart harder to make up for lower oxygen levels in blood
2. Stroke; sickled cells tend to stick together, and they cannot move easily through the blood vessels. This can lead to a clot forming and moving to the brain causing stroke
3. Impotence; up to 35% of men with SCD are affected by painful, prolonged erection termed ischemic priapism. A priapic episode may result in fibrosis and permanent erectile dysfunction.
4. Dehydration; sickle cell dehydration is due to cellular loss of K+ and Cl. K+ loss in sickle cell can take place through the combined effect of oxidative damage and deformation of the red blood cell membrane.
5. Osteomyelitis; individuals with SCD are prone to infections of the bone and the bone marrow areas of infarction and necrosis.

6. Persistent jaundice; sickle cell does not live as long as normal red blood cells and therefore, they die faster than the liver can filter them out. Bilirubin, which cause the yellow colorization from the broken-down cells builds up in the system causing jaundice.
7. Hepatomegaly; is largely due to extramedullary haematopoiesis in responds to the chronic anaemia.
8. Splenomegaly; red blood cells can become clogged in the spleen and get trapped. These stuck cells cause the spleen to grow up with blood in it. Trapped blood in the spleen keeps blood from flowing to other parts of the body.

Nursing Management

The major goals of the nurse when it comes to the patient is to relief pain, decrease the incidence of crisis, enhance the sense of self- esteem, to prevent further complication through assessment and early intervention of threatening symptoms. Some of the nursing management includes;

Reassurance

The patient is reassured to allay fear and anxiety and also to know that he/she is in the competent hands of the health team. Reassure patient that the signs and symptoms will be relieved. Again, all procedures performed on the patient should be well explained the patient and family to gain their consent and cooperation.

Nutrition

Ensure that the patient consumes a balanced diet rich in folic acid such as green leafy vegetables, carbohydrate for energy, vitamin to boost the immune system, protein to repair

worn out tissues. Ensure that the clients' mouth is well cleaned before serving her meals in order to boost appetite.

Provision of Comfort

Apply warm compresses, warm thermal blankets and warming pads to painful area of patient to relief pain. Do not apply cold to painful areas.

Personal Hygiene

Personal hygiene should be ensured from hair to toe through the washing of client's hair with soap, to prevent lice infestation, pediculosis and ringworm. Ensure that patient maintains personal hygiene by assisting patient to bath twice daily in order to prevent body odour. Prevent halitosis and infection in the oral canal by maintaining adequate oral hygiene. Hands and feet must be properly cared for.

Elimination

Serve client with bed pan and urinal on request. Observe amount, odour and colour of stool and urine. If client has urinary retention, warm application on the perineal regions are done and nearby taps are opened so that the sound and sight of the dripping water psychologically induces urination in the patient. Ensure that the meal of the patient is contains adequate roughage to prevent constipation.

Education

Educate patient on how to prevent crisis. Advice and encourage the patient to avoid tight-fitting clothing that constricts circulation. Urge the patient to avoid strenuous exercise which increases oxygen demand, and cold temperatures and smoking, which causes vasoconstriction.

Encourage patient to take in plenty water to prevent dehydration and reduce blood viscosity. Patient is advised to avoid alcoholic beverages because it triggers the crisis. Educate the patient for prompt treatment signs of infection and intake of fruits and vegetables and foods rich in vitamin, iron and proteins.

Exercise

Patient should be encouraged to undertake mild to moderate active exercises. This helps to promote circulation, prevent thrombosis, embolism, joint stiffness, pneumonia and muscle wasting. Patient is made to sit in bed, walk around his bed and occasionally walk about in the ward. Deep breathing and coughing exercises also helps in expansion of the lungs. The patient can as well be made to do range of motion exercises such as flexion and extension of the joint.

Rest and Sleep

Rest and sleep are both ensured to enhance speedy recovery, reduce metabolic activity, conserve energy and relax client. Some of the nursing interventions that was put in place to enhance rest and sleep of the patient includes;

A comfortable bed free from creases and crumps.

Restriction of visitors at the patient's bed side

Observation

The client's vital signs such as temperature, pulse, respiration and blood pressure (BP) are monitored every four (4) hours to assess improvement or retrogression in client's condition. Signs and symptoms such as pain, fever, headache, fatigue complications such as splenic infarction or sequestration, renal failure and acute chest syndrome should be observed for prompt and early treatment or management. Client's level of pain, the quality (sharp, dull,

burning), the frequency and factors that aggravate or alleviate the pain should be monitored to help manage and prevent pain or crises.

The abdomen should be assessed for pain and tenderness because of possibility of splenic infarction. The client should be assessed for signs of dehydration by history of fluid intake and careful examination of mucous membrane, skin turgor, and urine output and serum creatinine and blood urea nitrogen values. Client should be observed for signs of infection such as fever due to increased susceptibility for immediate combustion.

The extent of anemia is measured by the hemoglobin level and the haematocut and the ability of the bone marrow to replenish. Red blood cells as measured by the reticulocyte count should be monitored and compared with client's baseline values. Intravenous infusion in situ should be monitored to ensure that it is dripping at the prescribed rate. This will help prevent system overload. The patency of the infusion catheter should be ensured fluid intake and output should be monitored by charting to assess fluid and electrolyte status of the client.

Protection from Injuries

Due to restlessness, client should be nursed on a low bed or bed with side rails. Chipped bedpans should not be served to client as it can cause injury. All sharps examples, needles, blade, knife etc. should be kept away from patient vicinity to prevent accident. The floor of the ward should always be kept dry to prevent slipping and falling of client. Good visibility should be ensured by nursing client in a bright environment. Tourniquets should be removed after use to prevent obstruction of blood to the body.

Education

The client is put in a comfortable position; the nurse also makes herself comfortable by the client's bedside. Establish a good rapport with client which must be maintained throughout the

education. Assess client and family's knowledge regarding his disease. It is necessary to determine what the client does and does not know before teaching can be planned and build on client's previous knowledge.

Teach victims of sickle cell disease to avoid situations that causes such as, infection, dehydration, cold weather, strenuous exercise etc. Crises can often be avoided if the client understands factors that promote crises and can learn to avoid them. They should be educated on the basis of sickle cell disease, sickle cell crises, and genetic impact. Knowledge of the disease helps ensure client compliance with the medical regimen and adherence to preventive measures.

Provide resources for family planning and genetic counseling. Persons and groups with in-depth knowledge of family-planning methods help the client identify family-planning methods that conform to the client's cultural and religious values.

Teach client the importance of drinking 4 to 6litres of fluid daily. Dehydration is a primary cause of red blood cell sickling. If client understands this, compliance is more likely.

Client and family are educated on the need to inform all health care providers that the client has sickle cell disease before he undergoes any treatment. Client's family is encouraged to take client to the appropriate support groups such as the National Association for Sickle Cell Disease. They are also encouraged to provide the patient with foods which contain adequate amount of folic acid like green leafy vegetables to prevent him from becoming anemic, and to attend the sickle cell clinic regularly.

Client should be educated on his medication, the desired effect and the adverse effect.

The client should be allowed to ask questions for clarification by answering question in simple language. Ask client to give you feedback on education given. Thank patient for co-operation.

Pain Management

Client is put in a well prepared bed free from creases and crumbs. Client should be made to assume a position comfortable to him. Adequate rest and sleep should be ensured. Clients level of pain, the frequency and quality and factors that precipitate pain should be monitored to help manage the pain. Factors that precipitate or aggravate pain should be prevented. Prescribed analgesics such as paracetamol, morphine, should be administered.

Chemotherapy / Drugs

Drugs are served as prescribed by the physician ensuring it is the right patient, right medication, right dose, right route, right time and the client's right to know his treatment and to refuse treatment. Educate client on the desire and adverse effect of the medications.

Prevention of Sickle Cell Disease

Primary prevention:

1. Genetic counseling and discussion of the genetic implications of sickle cell disease before marriage.
2. Factual information about his disease and its cause should be provided.
3. Sexually active adolescents should receive contraceptive information.

Secondary Prevention:

1. Early detection of sickle cell disease by screening.
2. Precipitating factors such infection, dehydration, exposure to cold weather should be avoided.
3. Parents and client should be taught how to recognize the signs of mild crises such as fever, anorexia, irritability, pain or swelling in the abdomen, joints and extremities.
4. Client / family should be taught the signs of severe crisis such as pallor, lethargy and restlessness, difficulty in awakening, severe pain, high or moderate fever that persist for two (2) days.

5. Patient's diet should be well balanced, rich in proteins, vitamin C and D iron and etc.
6. Encourage intake of copious fluids.
7. Client should be taught stress coping mechanism.
8. Client should be encouraged to take their medication regularly e.g haematinics.
9. Client should avoid self-medication and drugs that cause hemolysis. e.g. aspirin.
10. Client should be advised on periodic check-up.

Tertiary Prevention:

1. Family/relatives should be taught that client has the same needs as normal healthy people.
2. Children should be allowed to continue education.
3. Adults should be helped to go back to work if crisis subsides.

1.11 Validation of Data

This refers to confirming data collected with standardized one. This helps to keep the data from bias, errors and misinterpretations. This information was collected through observation and interviewing Master B.J.Y and his family, laboratory investigation and clinical manifestation did coincide with recommended textbooks and other medical publications.

CHAPTER TWO

ANALYSIS OF DATA

2.0 Introduction

Analysis of data is an aspect of the nursing process which deals with evaluation, interpretation and giving meanings to the data collected. It also refers to the act of determining the component part of a substance (Weller, 2014). Data is a collection of facts (Weller, 2014). This aspect of the care study deals with the critical examination and interpretation of the data collected during the assessment of the patient. It is the phase in which conclusions are made regarding the patient's health status. Patient's health concerns and strengths are identified as well as standards are applied and compared with patterns. The data collected and the analysis made help to arrive at the nursing diagnosis. It also helps to draw patients care plan. Analysis of data is guided by the following headings: comparison of data with standards, patient/ family strength, health problems and nursing diagnoses.

2.1 Comparison of Data with Standard

This is comparing the data collected with that of the standards which includes diagnostic investigations, causes, clinical features, treatment and complication in relation to the information gathered from the literature review to help in establishing a more reliable diagnosis of the patient's condition and to formulate a potent treatment for the patient.

2.1A Diagnostic investigation

It is a medical procedure performed to detect, diagnose or monitor disease, disease processes and susceptibility and determine a course of treatment.

The following investigations were carried out on Master B.J.Y to aid in his diagnosis and treatment;

1. Full blood count
2. Blood film for malaria parasite
3. Urine examination

Table1: Comparison of Test Done on Patient to Literature

Test in literature review	**Test conducted on patient**
1. Full blood count	1. Full blood count was done
2.Sickling test	2.Sickling test was not done
3.Findings of haemolysis	3.Findings of haemolysis was done
4.Physical examination	4. Physical examination was done
5.Family history	5.Family history was taken
6.X ray	6.X ray was not taken
7.Haemoglobin electrophoresis	7. Haemoglobin electrophoresis was not done

From the table above, full blood count and family history which are part of the literature review were ordered so as to help in managing my patient's condition. Other tests which were not part of the literature review such as malaria parasite was done to rule out malaria and urine examination was done to rule out urinary tract infection. Sickling test and haemoglobin electrophoresis were not done because the patient was a known sickle cell disease patient.

Table 2: Results of Diagnostic Investigations Carried out on patient

The following tables illustrate the comparison of data collected with standard values.

Date	Specimen	Investigation	Results	Normal value	Interpretation	Remarks
24/11/22	Blood.	BF for malaria parasites	Malaria parasite was not seen.	Negative	Patient does not have malaria	No treatment was given.
24/11/22	Blood	Haemoglobin level estimation	7.2g/Dl	Female; 11-16g/dl Male: 12-18g/dl children: 14-18g/dl	Client is anaemic	Haem transfusion was done
		Platelet count	546 *10^9/L	140.0- 440.0 *10^9/L	Above normal	No treatment given
		White blood cell count	30.02 IU/L	2.8-8.0 10^3/uL	Above normal indicating infestation	Antibiotic was given
		Red blood cell count	2.47 IU/L	2.5-4.0 10^6/uL	Below normal indicates haemolysis	Folic acid 5mg x 30 was given to stimulate normal erythropoiesis
24/11/22	Urine	Routine examination				
		Appearance	Clear	Clear	Normal	No treatment given

		Blood	Absent	Absent	Normal	No treatment given
		Colour	Amber	Amber	Normal	No treatment given

2.1B Causes of the Illness

With respect to the literature review, patient's condition is hereditary and was passed on to him by his parents. The exact cause of the crisis could not be known, but it could be attributed to the excessive exercise or reduced haemoglobin in blood and infections.

2.1C Clinical Features

The following clinical manifestation presented by Master B.J.Y are compared with textbook manifestation

Table 3; Comparison of Clinical Features Exhibited by Client with That of Literature Review

Clinical Features According to Literature Review	**Clinical Features Exhibited by Client.**
1.There may be anaemia	1. Anaemia was present
2.There is chest pain and shortness of breath	2. Chest pain and shortness of breath was present
3.Enlargement of the liver and spleen	3. There was no enlargement of the liver and spleen
4.Client may have Fever	4. Client experienced fever.
5.Severe abdominal pain	5. Severe abdominal pain was not present
6.There may be severe joint pains	6. Client experienced joint pains
7. Patient may experience loss of appetite	7. Patient experienced loss of appetite
8. There is headache	8. Client experienced headache
9.Portrusion of the abdomen	9. Client did not experience protrusion of the abdomen
10. Swelling of the toes and fingers	10.Client had no swollen hands and feet.

From the comparison of table three above, Master B.J.Y did not exhibit some of the signs and symptoms mentioned in the literature review like abdominal pains, protrusion of the abdomen especially in children and enlargement of the liver and spleen because patient reported early for treatment and was given the right nursing and medical management

2.1D Treatment given to Master B.J.Y

According to Weller, (2010), Treatment refers to the mode of dealing with a patient or disease.

1.To transfuse one unit of blood

2. IV furosemide 40mg stat

3. IV Paracetamol 1g tid x 24 hours Stat

4. Tablet Tramadol 50mg tid for 5 days

5.Tablet Azithromycin 250mg od for 3 days

6. Levofloxacin infusion 500mls daily x 3 days

7. Enoxaparin sodium 40mg daily x 24hours

8. Folic acid tablet 5mg x 30days

9. Normal saline

10. Ringers lactate

11. Dextrose in normal saline

Table 4: comparison of patient's medical treatment with literature review

Treatment given to Master B.J.Y according to literature review	**Treatment given to patient**
Blood transfusion	Blood transfusion was given
Folic acid supplement	Folic acid was prescribed
Antibiotics	Azithromycin and levofloxacin were prescribed
Analgesics	Paracetamol ,Tramadol,
Corticosteroids	Not prescribed
Iv fluids	Dextrose in sodium chloride infusion, Ringers lactate, Sodium chloride infusion
NSAIDs	Not prescribed

From the comparison of the table above not all the drugs in literature review such as corticosteroids and NSAID's were prescribed for the patient, but on the other hand, Enoxaparin sodium (anticoagulant) mucolytic (Carbocisteine) and lasix (furosemide) were prescribed for Master B.J.Y but are not found in literature review

Table 5: Pharmacology of Drugs Administered to Patient

Date	Drug	Dosage and Route of Administration in Literature Review	Dosage and Route of Administration Given to Client	Classification	Desired Effect	Actual Action Observed	Side Effects/ Remarks.
25/11/22	Furosemide	Adult: 20-40mg/kg. Children: 6mg/kg Route Intravenous or Intramuscular	40mg as a start dose Route Intravenous	Electrolytic and water balance. Agent: Loop diuretic	Inhibits reabsorption of sodium and chloride primary in loop of Henle and also in proximal and distal renal tubules.	Client's was able to urinate as expected	Nausea, vomiting, pruritus, blurred vision, dizziness, diarrhoea. None of these signs were seen.
25/11/22	Paracetamol	0.5–1 g every 4–6 hours;	1g tds x 24 hours Route	Analgesic/ anti-pyretic	Has a central analgesic	Patient had a reduction in	Dark urine, skin

		maximum 4g per day Route Oral, rectal and IV	IV		effect that is mediated through activation of descending serotonergic pathways.	pain and temperature	reactions, liver damage following overdose. Patient experienced no side effects.
25/11/22	Tab tramadol	Total daily dosage may be increased by 50mg as tolerated every 3 days to reach 200mg Route Oral	50mg once daily Route Oral	Opioid analgesic	It binds to the opioid receptors and blocks the pathway of nor epinephrine and serotonin	Patient was relieved of pain	Tremors, delirium, dyspnoea, wheezing. None of these side

					which reduce pain.		effects were observed.
24/11/22	Azithromycin tablet	Adults-500mg the first day, then 250 mg on day 2 throughout to day 5 Children- 2 years of age and older Route Oral	500mg for 3 days Route Oral	Macrolide antibiotics	It works by killing and preventing bacteria growth	Client's infection was controlled	Constipation, drowsiness, anxiety, hyperactivity. None of these side effects were observed.
24/11/22	Normal Saline	It depends on patient's condition. Route Intravenous	Dosage: 500mls x 1 Route Intravenous	Sodium and chloride replacement	To restore normal sodium and chloride level	Patient's sodium and chloride level was maintained	Aggravation of heat, oedema, hypothermia. None was observed

24/11/22	Dextrose Normal saline	It depends on patient's condition. Route Intravenous	5% in Sodium chloride(0.9%) x 1 Route Intravenous	Glucose, sodium and chloride replacement	To restore normal glucose, sodium and chloride level	Patient's glucose, sodium and chloride level was maintained	Aggravation of heat, oedema, hypothermia. None was observed
24/11/22	Ringers lactate	It depends on patient's condition. Route: Intravenous	Dosage 1liter x 8hours Route: Intravenous	Sodium and chloride replacement	To restore normal sodium and chloride level	Patient's sodium and chloride level was maintained.	Allergic reaction like itching, dyspnoea. None was seen.

25/11/22	Levofloxacin Infusion	Adult-> 50mL/min. regimen depends on pathogen type. Route Oral, intravenous	250mg-500mg once daily Route Oral, intravenous	Antibiotic	It works by inhibiting bacterial DNA synthesis	Clients infection was controlled	Constipation, stomach pain, heartburn, diarrhoea, none of these were observed.
25/11/22	Enoxaparin sodium	1 mg/kg every 12 hours Route Subcutaneous injection	40mg daily Route Subcutaneous injection	Anticoagulant	It works by stopping the blood from clotting through deactivating of one of the proteins in the body that the	Patient was free from blood clot	Swelling, itch, rashes, bruising. None of these signs were seen

					body uses to form a clot		
25/11/22	Folic acid	1month-12 years: 2.5-5mg daily 12-18years:5-10mg daily orally	5mg daily x 30 days orally	Haemopoietin (vitamin B9, complex group)	It stimulates normal erythropoiesis and increase red blood cell.	There was an increase in red blood cell production.	Bronchospasm, malaise, pruritus rash. None was observed
26/11/22	Carbocisteine	5-12 years: 250mg 3 times daily	250mg tds x 10	Mucolytic	It facilitates expectoration by reducing sputum viscosity.	There was a reduction in sputum viscosity	Rarely gastro-intestinal bleeding; hypersensitivity reaction (including rash and anaphylaxis).

							None was observed

2.1E Complications

With reference to the complications listed in the literature review such as hepatomegaly, splenomegaly etc., Master B.J.Y exhibited no complications throughout the period of hospitalization which resulted in his speedy recovery. Patient did not develop any complications because of the early seeking of medical help and the immediate treatment given to him throughout his period of hospitalization.

2.2 Patient / Family Strengths

According to Lewis (2012), strength is the quality of being strong. It also involves those activities that the family can also do to help in speedy recovery of the patient and those that the patient can perform. The strength of the patient and family will help the nurse to be able to plan an effective nursing care on the patient

Specific strengths

1. Patient was able to locate the site of pain.

2. Patient could take in cold drinks and verbalize his degree of hotness.

3. Patient could follow instructions and participate in his care.

4. Patient was able to express aggravating factors of his breathing difficulty

5. Patient was able to have an uninterrupted sleep for about 2 hours during the night.

6. Patient could report loss of appetite.

2.3 Patient/Family Health Problems

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

1. Patient complained of joint pain. (25/11/22)

2. Patient had fever (38.0^{o}C). (25/11/22)

3. Patient complained of headache. (25/11/22)

4. Patient complained of shortness of breath. (25/11/22)

5. Patient could maintain uninterrupted sleep at night. (26/11/22)

6. Patient complained of loss of appetite. (27/11/22)

2.4 Nursing Diagnosis

According to Smelter and Bare (2010), nursing diagnosis is the organization, analysis, synthesis and summarization of data collected and determines the patient's need for care. Nursing diagnosis are developed based on data obtained during nursing assessment. This is a component of nursing care which involves formulation of diagnosis from the patients' potential and actual problems which were gathered during the assessment phase. Below are some nursing diagnoses that were made for my patient;

1. Acute pain (knee joint) related to intravascular sickling with localized stasis and occlusion.

2. Hyperthermia (38.0oC) related to infection of the blood.

3. Impaired body comfort (Headache) related to reduced blood perfusion to the brain tissues.

4. Altered breathing pattern (Dyspnoea) related to reduced level of haemoglobin.

5. Insomnia related to frequent cough.

6. Imbalanced nutrition (less than body requirement) related to loss of appetite

CHAPTER THREE

PLANNING FOR PATIENT/FAMILY CARE

3.0 Introduction

According to Murcko, (2013), planning is the process of setting goals, developing strategies and outlining tasks and schedules to accomplish the set goals.

Planning for the patient/family is the third stage of the nursing process. It involves the developing of plans designed to produce, correct and prevent the health problems identified during the analysis face. Before one can achieve and implement an effective nursing care plan, the nurse has to draw a care plan with the patient and his family on the various nursing actions. This tends to serve as a basis for the continuity of care for the patient and family in the hospital and at home. In planning, objectives are set and prioritized in short and long-term goals. Goals are developed upon and a plan of care is drawn to resolve the nursing diagnosis within a given period of time

3.1 Objective/ Outcome Criteria

A nursing outcome refers to a measurable behavior or perception demonstrated by an individual, a family, a group, or a community that is responsive to nursing intervention (Herdman & Kamitsuru, 2018).

1. Patient would be relieved of joint pain within 48 hours of hospitalization as evidenced by;

a. Patient verbalizing that he is relieved of joint pain

b. Nurse observing patient with no signs of pain

2. Patient would have his temperature within normal range (36.2oC-37.2oC) within 6 hours as evidenced by;

a. Patient verbalizing that he does not feel warm

b. Nurse observing the temperature reduced to normal range (36.2oC-37.2oC) using clinical thermometer

3. Patient's headache would subside within 24 hours as evidenced by;

a. Patient verbalizing that he is relieved of headache.

b. Nurse observing a cheerful facial expression

4. Patient's breathing pattern will improve within 24hours as evidenced by;

a. Patient verbalizing that he experiences no shortness of breath.

b. Nurse observing that patient breaths without the use of accessory muscles

5. Patient will resume his normal sleeping pattern within 24 hours as evidenced by;

a. Patient verbalizing that he had uninterrupted sleep.

b. Nurse observing that patient had uninterrupted sleep for not less than six hours.

6. Patient would be able to attain and maintain adequate nutrition within 48 hours as evidenced by:

a. Patient verbalizing that he has gained appetite for food.

b. Nurse observing that patient takes in at least two thirds of 500ml of porridge served.

Nursing Care Plan

Table six: Nursing Care Plan for Master B.J.Y

Date/ Time	Nursing Diagnosis	Objective/Outcome Criteria	Nursing Orders	Nursing Intervention	Date/ Time	Evaluation	Signature
25/11/22 11:10am	Acute pain (knee joint) related to intravascular sickling with localized stasis and occlusion	Patient would be relieved of joint pain within 48 hours of hospitalization as evidenced by; 1. Patient verbalizing that he	1. Reassure client and family. 2. Assess client for pain characteristics.	1. Client and family were reassured that their ward is in the hands of competent staffs that will see to it that all pain measures will be put in place to relieve pain. 2. Client's pain was assessed for its severity, location, type and duration. Client's pain was located at the joints.	27/11/22 11:10am	Goal fully met as client verbalised the absence of pain.	

		is relieved of joint pain 2. Nurse observing patient with no signs of pain	3. Use foam over-lay mattress 4. Encourage ROM exercises 5. Ensure adequate IV hydration of patient 6. Serve prescribed analgesics.	3. Foam over-lay mattress was used to nurse client to make him feel comfortable. 4. Patient was encouraged to do range of motion exercises to prevent joint stiffness. 5. Patient was hydrated with intravenous fluid of normal saline 4L 6. Pain medication (IV Paracetamol 1g) was administered to client as prescribed to help relieve pain.		2. Nurse observed no signs of pain on patient's face.	

Date/ Time	Nursing Diagnosis	Objective and Outcome Criteria	Nursing Orders	Nursing Intervention	Date/ Time	Evaluation	Sign
25/11/22 11:15am	Hyperthermia (30.0^{o}C) related to infection of the blood	Patient would have his temperature within normal range (36.2oC-37.2oC) within 6 hours as evidenced by; 1. Patient verbalizing that he no longer feels warm	1. Assess patient's temperature every hour 2. Serve cold drinks (if patient can tolerate) 3. Ensure ventilation 4. Encourage patient to put on light clothes	1.Patients temperature was assessed every Hour. 2. Cold drinks such as Malt was served. 3. Good ventilation was ensured by opening windows and doors 4. Patient was encouraged to put on hospital gown	25/11/22 5:15pm	Goal was fully met as patient verbalized that he no longer felt warm and nurse observed the temperature of patient reduced to normal range (36.2^{o}C-37.2^{o}C))	

		2. Nurse observing the temperature reduced to normal range (36.2oC-37.2oC) using clinical thermometer	5. Serve prescribed anti-pyretic and antibiotic. 6. Ready oxygen therapy for extreme cases.	5. Prescribed anti-pyretic IV Paracetamol 1g, tab tramadol 50mg, azithromycin 250mg and levofloxacin 500mls were served 6. Oxygen therapy was made available since hyperthermia increases metabolic demands.			

Date /Time	Nursing Diagnosis	Objective/Out come Criteria	Nursing Orders	Nursing Intervention	Date/ Time	Evaluation	Sign.
25/11/22 11:20am	Impaired body comfort (Headache) related to reduced blood perfusion to the brain tissues.	Patient headache would subside within 24 hours as evidenced by; 1. Patient verbalizing that he is relieved of headache.	1. Reassure client. 2. Assess level of pain 3. Apply warm compresses to the head 4. Ensure a complete bed rest.	1. Patient was reassured that appropriate measures will be taken to help him relieved of the headache. 2. Patients pain was assess using the numerical pain rating scale (0-10) 3. Application of warm compresses were ensured. 4. Patient was asked to stay put in bed unless he needed to undertake something very essential that required him to not be in bed 5. Patient was encouraged to take in copious such	26/11/22 11:20am	Goal fully met as patient verbalized that he is relieved of headache and nurse observed that patient had a cheerful facial expression and relaxed in bed.	

		2. Nurse observing a cheerful facial expression.	5. Encourage patient to take in fluids adequately 6. Serve prescribed analgesics.	as water fluids adequately to correct dehydration. 6. Prescribed medication of Tab Paracetamol 1g was served.			

Date/ Time	**Nursing Diagnosis**	**Objective/ Outcome Criteria**	**Nursing Orders**	**Nursing Intervention**	**Date/ Time**	**Evaluation**	**Sign.**
25/11/22 11:25am	Altered breathing pattern related to reduced level of Haemoglobin.	Patient would be able to regain his normal breathing pattern in 24hours as evidenced by: a. Patient verbalizing that he experiences	1.Reassure patient and family 2.Administer oxygen therapy	1.Patient was reassured that appropriate measures will be taken to help him regain a normal breathing pattern. 2. Oxygen was administered to patient. 3.Patient's oxygen saturation level was assessed every hour. 4. Breathing pattern was assessed during periods of activities.	26/11/22 11:25 am	Goal fully met as patient verbalized that he no longer has shortness of breath and nurse observed that patient breathed	

		no shortness of breath b. Nurse observing that patient breathes without the use of accessory muscles.	3.Monitor SPO2 every hour 4.Assess the patient's breathing pattern 5. Place items of daily use close to patient 6.Provide emotional support while increasing activity	5.Items of daily use such as bottled water was kept close to patient. 6.Emotional support was provided and increased for patient.		without difficulty.	

Date/ Time	Nursing Diagnosis	Objective/ Outcome Criteria	Nursing Orders	Nursing Intervention	Date/ Time	Evaluation	Sign.
26/11/22 7:40am	Insomnia related to frequent cough	Patient would be able to resume his normal sleeping pattern within 24 hours as evidenced; a. Patient verbalizing that he had	1. Reassure patient and family. 2. Provide comfortable bed 3. Help Patient to assume a comfortable position to enhance sleep	1.Patient was reassured that measures are being put in place to help him have a sound sleep. 2. Comfortable bed was made for patient by using clean sheets free from creases and crumbs. 3. Patient was positioned in a way to ensure adequate relaxation.	27/11/22 7:40am	Goal was fully met as 1.Patient verbalised that he had uninterrupted sleep and nurse observed that patient had uninterrupted sleep for not	

		uninterrupted sleep. b. Nurse observing that patient had uninterrupted sleep for not less than 6 hours.	4. Organize nursing care to minimize sleep interruption. 5. Regulate how patient receive visitors to ensure good sleep. 6. Administer prescribed cough syrup to relief cough	4. All nursing activities were done at a go, this promoted minimal interruption in sleep. 5. Visitors were not allowed to see patient when he was asleep. 6. Prescribed mucolytic (Carbocisteine) 250mg was served to relief cough		less than 6 hours.	

Date/ Time	**Nursing Diagnosis**	**Objective/ Outcome Criteria**	**Nursing Orders**	**Nursing Intervention**	**Date/ Time**	**Evaluation**	**Sign.**
27/11/22 8:00am	Imbalanced nutrition (less than body requirement) related to loss of appetite	Patient would be able to attain and maintain adequate nutrition within 48hours as evidenced by; a. Patient verbalizing that he has gained appetite for food.	1. Reassure patient 2. Assess the nutritional status of patient 3. Maintain patient's oral hygiene twice a day 4. Plan meals with patient and	1. Patient was reassured that measures will be taken to restore adequate essential nutrients. 2. The nutritional status of patient was assessed by observing clients eating habit 3. Patient brushed his teeth twice daily 4. Meals were planned with patient by taking into account his preferences 5. Patient was educated on the need to	29/11/22 8:00am	Goal fully met as patient verbalized that he has gained appetite for food and nurse observed that patient was able to eat at	

		b. Nurse observing that patient takes in at least two thirds of 500mls of porridge served	dietician in order to provide patient with meals of his choice. 5. Educate patient on the need to take in nutritionally rich diets 6. Document procedure	take in nutritionally rich diets 6. Procedure was documented in nurses notes.		least two thirds of food served	

CHAPTER 4

IMPLEMENTATION OF PATIENT/FAMILY CARE PLAN

4.0 Introduction

Implementation as the giving of care in relation to defined nursing interventions and goals (Weller, 2014). This chapter forms part of the patient/family care study. It gives a vivid account of the actual nursing care that was given to the patient/family from the day of admission until discharge based on the health problems identified. It also deals with follow up visits/home visits to ensure continuity of care. Implementation is not complete until documentation of each intervention, the time it occurred, patient's response and any other pertinent information has been made. Implementation of patient and family care plan starts from the day of admission until time of discharge. It includes the routine nursing cares such as checking of vital signs, assisting patient to bath, mouth care and bed making.

4.1 Summary of the Actual Nursing Care Rendered to Patient/Family

The nursing care of Master B.J.Y. started on the 25th November, 2022 in the males ward and continued until discharged on 3rd December, 2022. The nursing care rendered to my patient was aimed at his physical, psychological and spiritual needs. For organizational purpose, the summary of actual nursing care rendered to the patient/family has been outlined on daily basis.

First Day of Admission

On 25th November, 2022 at 11:00am, Master B.J.Y was brought to the Male's Ward on a stretcher with oxygen being administered to him and he was accompanied by his mother, Madam C.H and a nurse from the Emergency Unit. They were warmly welcomed to the ward

and offered seats to make themselves comfortable. Patient's hospital ID (AAC066) number was keyed into the computer system of the hospital (LHIMS). After a few seconds the patients' identity was confirmed. The patient was then placed and made comfortable in a cardiac bed. Name, sex, age, hospital ID number and occupation were all recorded in the admission and discharge book. The nurse who accompanied the patient stated that, a unit of blood had already been served for the patient whiles at the emergency unit and therefore the unit of blood which was found on the treatment plan was the second one ordered by the emergency doctor to be given to the patient at the male ward. Vital signs were checked and recorded accurately as follows:

Temperature 38.0^{o}C

Pulse - 141bpm

Respiration - 28cpm

Blood Pressure 104/70mm/Hg

SPO2 – 86%

Master B.J.Y was examined from head to toe and the examination revealed joint pain, high body temperature, shortness of breath and headache. Due to the high body temperature, patient was asked to remove extra clothing and Intravenous Paracetamol 1g was prescribed and set up for him. He was reassured of a competent healthcare to allay his anxiety. Patient as well as his mother who was with him were introduced to the staff present as at that time. The hospital's policies on visiting hours which are 5:00am to 6:00am and 4:30pm to 5:30pm, time for morning rounds by doctors were also made known to them and bill payment were discussed.

The following treatment plan were ordered:

1. To transfuse one unit of blood

2. Pre-medicate with IV furosemide 40mg stat

3. IV Paracetamol 1g tid x 24 hours

4. Tablet Tramadol 50mg od for 3 days

5. Tablet Azithromycin 500mg od for 3 days

6. Exaparin 40mg od

Patient had the following laboratory investigations ordered:

1. Full Blood Count

2. Blood film for malaria parasite

3. Urine examination

Master B.J.Y got to know me after I introduced myself as a final year student of Holy Family Nursing and Midwifery Training College who would want to take him and his family for my care study. The patient as well as his family were told that the care study is a requirement for the award of a Diploma in Registered General Nursing by the Nursing and Midwifery Council of Ghana. During our conversation I made sure to explain to them what was involved in the case study especially on the issue of keeping whatever information provided to me confidential. I latter on explained to them that I will be visiting them at least three times as part of what the study demands. They gave their consent and permitted me to use them for the case study after they had understood clearly all the full details given to them about the study. We began with the discharge planning with the involvement of the relative and they were made to understand that there would still be continuity of care even after he was well and discharged to the house. A brief and concise education was given to the patient as to why he was showing the signs and

symptoms associated with his condition and whatsoever care and treatment he was to expect from the healthcare team. I decided to use Master B.J.Y for the study because I really want to know and understand what his condition (Sickle cell anaemia) is all about.

On admission at 11:10am patient complained of joint pain hence, a nursing diagnosis of Acute pain (joint) related to intravascular sickling with localized stasis and occlusion was formulated. An objective was set to relieve patient of joint pain within 48 hours. The following nursing interventions were then implemented; Patient was reassured that appropriate measures will be taken to help him to be relieved of the joint pain, patients pain was assessed using the numerical pain rating scale, application of warm compresses were ensured, patient was encouraged to do range of motion exercises to prevent joint stiffness, patient was hydrated with intravenous fluid of normal saline 4L, prescribed medication of IV Paracetamol 1mg was administered.

Patient had fever (38.0oC) so at 11:15am a nursing diagnosis of Hyperthermia (38.0oC) related to infection of the blood was formulated hence, an objective was set to restore patients body temperature to normal within 6 hours. The following interventions were implemented; Patients temperature was assessed every hour, cold drinks were served, good ventilation was ensured by opening windows and doors, patient was encouraged to put on hospital gown, prescribed anti-pyretic IV Paracetamol 1g and tab tramadol 50mg were served.

At 11:20am, patient complained of headache hence a nursing diagnosis of impaired comfort was formulated. (Headache) related to reduced blood perfusion to the brain tissues was formulated. An objective was set to relieve patient of headache within 24 hours. The following nursing interventions were then implemented; Patient was reassured that appropriate measures will be taken to help him relieved of the headache, patients pain was assess using the numerical pain rating scale (0-10), application of warm compresses were

ensured, patient was asked to stay put in bed unless he needed to undertake something very essential that required him to not be in bed, patient was encouraged to take in copious such as water fluids adequately to correct dehydration and prescribed medication of iv paracetamol 1g was served.

At 11:25am patient complained of shortness of breath, hence, a nursing diagnosis of Altered breathing pattern (Dyspnoea) related to reduced level of Hb was formulated and an objective was set to help patient regain his breathing pattern in 24hours. The following interventions were implemented; Patient was reassured that appropriate measures will be taken to help him regain a normal breathing pattern, oxygen was administered to patient. Patient's oxygen saturation level was assessed every hour, level of physical activity and mobility was assessed during periods of activity, items of daily use such as bottled water was kept close to patient, emotional support was provided and increased for patient.

At 5:00pm, patient took his supper and was bathed by his mother in bed afterwards. At 5:15pm, evaluation of the set objective at 11:15am to reduce patient temperature within normal range (36.2^{o}C-37.2^{o}C) within 6 hours was evaluated and goal was fully met as patient verbalizing that he no longer felt warm and nurse observed that his temperature has reduced to normal range (36.2oC-37.2oC) using clinical thermometer. At 6:00pm vital signs were checked and recorded as indicated in the appendix. At 10:00pm, vital signs were checked and recorded, due medications were administered. Patient slept around 12:00am.

Second Day of Admission (26th November, 2022)

Patient woke up at 2:00am. Around 5:30am he was assisted in carrying out his personal hygiene needs. At 7:00am I went to the ward to continue with my nursing care for Master B.J.Y, his morning vital signs had already been checked at 6am and recorded as follows;

Temperature – 37.2^{o}C

Pulse – 91 bpm

Respiration - 25cpm

Blood pressure 110/60 mmHg

SPO2- 99%

At 7:40am, assessment revealed that patient had difficulty sleeping therefore a nursing diagnosis of Insomnia related to frequent cough was formulated. An objective was set to help patient resume his normal sleeping pattern within 24 hours. The following interventions were implemented; patient was reassured that measures are being put in place to help him have a sound sleep. Comfortable bed was made for patient by using clean sheets free from creases and crumbs, patient was positioned in a way to ensure adequate relaxation, all nursing activities were done at a go, this promoted minimal interruption in sleep, visitors were not allowed to see patient when he was asleep, prescribed mucolytic (Carbocisteine) 250mg was prescribed. Patient was reviewed that morning at 9:00am and the plan was that the patient should continue his treatment with the addition of Carbocisteine 250mg because the patient presented with cough that morning

Patient took porridge and bread as breakfast around 10:00am.

At 11:20am, evaluation of set objective on 25th November, 2022 to help patient's headache subside was done and goal was fully met as patient verbalized that he is relieved of headache and nurse observed that patient had a cheerful facial expression and relaxed in bed.

At 11:25am, evaluation of set objective on 25th November, 2022 to help patient regain his normal breathing pattern was done and goal was fully met as patient verbalized that he no longer has shortness of breath and nurse observed that patient breathed without difficulty.

At 1:00pm, patient was served with his lunch which was jollof rice.

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

Patient was encouraged to take his super at 5:00pm.

At 6:00pm vital signs were checked and recorded as indicated in the appendix.

At 10:00pm, vital signs were checked and recorded. Patient slept around 10:30pm.

Third Day of Admission (27th November, 2022)

On the third day of admission, patient woke up at 5:20am, he was assisted in brushing his teeth, had his bath and emptied his bowel. Report from the night nurses read that he was able to sleep well upon the measures put in place. Vital signs checked and recorded at 6:00am read as follows:

Temperature - 37.2oC

Pulse - 92bpm

Respiration - 22cpm

Blood Pressure 100/60mmHg

SPO2 -99%

At 7:40am evaluation of set objective on 26th November 2022 to help patient resume his normal sleeping pattern was done and nurse observed that patient had uninterrupted sleep for not less than 6 hours.

At 8:00am, patient complained of loss of appetite hence the nursing diagnosis of Imbalanced nutrition (less than body requirement) related to loss of appetite was formulated. An objective was set for patient to be able to attain and maintain adequate nutrition within 48 hours of hospitalization. The following interventions were implemented; Patient was reassured that measures will be taken to restore adequate essential nutrients, the nutritional status of patient was assessed by observing clients eating habit, patient brushed his teeth twice daily, meals were planned with patient by taking into account his preferences, patient was educated on the need to take in nutritionally rich diets, procedure was documented in nurse's notes. Patient was reviewed that morning at 9:00am and the plan was that the patient should continue his treatment.

He took tea with bread as breakfast at 8:10am.

At 9:22am patient was reviewed and plan was to continue all medications

.At 11:10am, evaluation of set objective on 25th November, 2022 to relieve patient of joint pain was done and goal was fully met as patient verbalized that he is relieved of joint pain and nurse observed that patient had a cheerful facial expression.

At 1:00pm, patient took his lunch which is fufu with light soup plus some bananas.

At 2:00pm, his vital signs were checked and recorded as indicated in the appendix. Patient was made comfortable in bed and he slept around 10:30pm.

Fourth Day of Admission (28th November, 2022)

On the fourth day of admission, patient woke up at 5:30am. He performed his personal hygiene with the assistance of his mother. The night nurses reported that patient was able to sleep well upon the measures put in place. Vital signs checked and recorded at 6:00am read as follows:

Temperature - 37.0oC

Pulse - 115bpm

Respiration - 20cpm

Blood Pressure 110/60mmHg

SPO2 – 91%

Patient took his breakfast at 8:40am which was ‘hausa’ porridge with bread. During the ward rounds, patient did not complain about any problem so the doctor ordered us to continue with treatment. All medications were served at due times.

At 1:40pm, patient took his lunch which was jollof rice with some vegetables and pineapple.

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

At 10:00pm, vital signs were checked and recorded. Patient was made comfortable in bed and he slept around 10:30pm.

Fifth Day of Admission (29th November, 2022)

On the fourth day of admission, patient woke up at 5:30am. I went to the ward to continue the care for my patient. The night nurses reported that patient was able to sleep well upon the measures put in place. Vital signs checked and recorded at 6:00am read as follows:

Temperature - 37.0oC

Pulse - 93bpm

Respiration -19cpm

Blood Pressure 120/70mmHg

SPO2 – 95%

On 29th November, 2022 at 8:00am, evaluation of the set objective on 27th November, 2022 to help patient attain and maintain adequate nutrition within 48 hours was done and goal was fully met as evidenced by patient verbalizing that he has gained appetite for food and nurse observed that patient was able to eat at least two thirds of normal meal served.

During the ward rounds, patient did not complain about any problem so the doctor ordered us to continue with the treatment. All medications were served at due times. Notwithstanding, the doctor ordered for his blood sample to be taken to the laboratory. Results from the test showed 8.0g/Dl, so we were ordered by the doctor to serve patient with blood in the afternoon.

At 1:00pm, patient took his lunch which was rice and stew with meat alongside some oranges.

1:30 pm, patient's third unit of whole blood was set to run. Before the blood was set up, vital signs were checked and recorded, also education was given to patient about the possible outcomes during the blood transfusion such as itching, dyspnoea, or irritation, therefore patient was asked to report any of these signs in case it occurs. Patient was then monitored closely afterwards.

Arrangement was made for my first home visit.

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

At 10:00pm, vital signs were checked and recorded. Patient was made comfortable in bed and he slept around 10:30pm.

Sixth Day of Admission (30th November, 2022)

On the sixth day of admission, patient woke up at 5:20am, he was assisted in brushing his teeth and had his bath. Report from the night nurses read that he was able to sleep well upon the measures put in place. Vital signs checked and recorded at 6:00am read as follows:

Temperature - 37.0oC

Pulse - 77bpm

Respiration - 18cpm

Blood Pressure 120/80mmHg

SPO2 – 94%

I embarked on my first home visit on this day Wednesday, 30th November, 2022 to patient's house. I commented on the cleanliness of the house which was to my satisfaction.

He took tea with bread as breakfast at 8:10am.

At 9:22am patient was reviewed and plan was to continue previous medication

At 1:40pm, patient took his lunch which was fried rice and oranges.

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

Patient was made comfortable in bed and he slept around 10:30pm.

Seventh Day of Admission (1st December, 2022)

On the seventh day of admission, patient woke up at 5:30am, he was assisted in brushing his teeth and had his bath. Report from the night nurses read that he was able to sleep well upon the measures put in place. The doctor upon assessing the patient stated that if he continues

complying to the treatment regimen it is likely for him to be discharged soon. Vital signs checked and recorded at 6:00am read as follows:

Temperature – 36.8oC

Pulse - 92bpm

Respiration - 20cpm

Blood Pressure 110/60mmHg

SPO2 – 95%

He took tea with bread as breakfast at 8:00am.

At 9:00am patient was reviewed and plan was to continue previous medication

At 1:20pm, patient took his lunch which was fried rice and pineapple.

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

His vital signs were checked and recorded as indicated in the appendix. Patient was made comfortable in bed and he slept around 10:30pm.

Eight Day of Admission (2nd December, 2022)

On the fourth day of admission, patient woke up at 5:30am, he looked cheerful that morning, he performed his personal hygiene. The night nurses reported that patient was able to sleep well upon the measures put in place. Vital signs checked and recorded at 6:00am read as follows:

Temperature - 36.7^0C

Pulse - 78bpm

Respiration - 21cpm

Blood Pressure 120/70mmHg

SpO2 – 94%

Patient took his breakfast at 8:40am which was porridge (hausa koko) with koose. During the ward rounds, patient did not complain about any problem so the doctor ordered us to continue with treatment. All medications were served at due times. The doctor mentioned a possible discharge the following day and this really made the patient as well as his mother very happy.

At 1:40pm, patient took his lunch which was rice and beans with fried fish and took some oranges in addition.

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

At 10:00pm, vital signs were checked and recorded. Patient was made comfortable in bed and he slept around 10:30pm.

Ninth Day of Admission/ Day of Discharge (3rd December, 2022)

I went to continue the nursing care rendered to patient at 7:35am. Patient woke up feeling a lot better. Report from night nurses indicated that patient was able to sleep well. I greeted Master B.J.Y, he responded with a cheerful facial expression. He had wishes of going home when I spoke with him yesterday. His mother who is always by his side too was much elated because they were about leaving the hospital to their home. I was happy myself to see and hear Master B.J.Y talking about the food he plans of eating on his arrival to their home. He indeed looked lively. His morning vitals had already been checked and recorded at 6:00am as;

Temperature - 37.2^0C

Pulse - 84bpm

Respiration - 20cpm

Blood Pressure - 120/70mmHg

SPO2 – 93%

Patient took hausa porridge and bread in the morning at 8:30am.

During routine ward rounds, patient was discharged since his condition was stable and he had no complains. Patient was prescribed Tablet Folic acid 5g daily for 30 days was to be taken home. His mother was informed and the bills were assessed to be paid. Payment was made for medications which were not covered by National Health Insurance Scheme. Patient and relative were educated on the need to eat food containing high fibre like whole grains, the entire essential food nutrients, for example protein, vitamins and irons, as well as maintaining good personal hygiene. He was educated on the disease condition. Emphasis was placed on how to prevent the reoccurrence of his condition (sickle cell anaemia). He was told to always stay hydrated and avoid excess cold weathers. Patient was made aware of the indications of the drugs given, side effects and adverse effects. He was encouraged to adhere to the medication therapy. Patient was informed to come for review on 16th December, 2022 at the main Out Patient Department. Education on the need for review was done to ensure patient reports on the said date. The need to continue with medications was emphasized. Patient's belongings were packed. Necessary documents were recorded into the admission and discharge book as well as the ward state. Patient and the family bid the ward inmates and staff goodbye. I decontaminated the bed he was admitted on after his departure.

4.2 Preparation of Patient/Family for Discharge and Rehabilitation.

Preparation for discharge commenced from the time of admission at the hospital, at 11:00am 25th November, 2022 to 3rd December, 2022, which happened to be the last day. Information was provided to both patient and family that staying in the hospital was for a short period of time. Patient and family were educated on the causes, clinical features, treatment and management of sickle cell anaemia were reemphasized. This was aimed at helping the patient and relatives in the provision of adequate care. Patient was educated to avoid over the counter medications. Patient was encouraged to take in food rich in the essential food nutrients. Patient and his family were also educated on the need to practice personal hygiene in order to improve immunity. The need to continue with medication and to report to the hospital if any problem occurs was emphasized. Patient was also told about the next two home visits which will be carried out to check on his state of health. Patient belongings were packed. Necessary documents were recorded into the admission and discharge book as well as the ward state.

4.3 Follow Up / Home Visit / Continuity of Care

Home visit refers to visits made by health professionals to the home of the patient. Mostly it deals with face-to-face contact, that is, between the health professional and the patient, less commonly between health professional and the patient's family. Home visits were done before and after patient's discharge. It is a friendly but purposeful visit to the patient's home. Health educations were given and the need for the prevention of complication was reemphasized. It provided a good account on the causes and risk factors of patient's illness.

4.3.1 First Home Visit (30th November, 2022)

My first home visit was made on the 30th November, 2022 while patient was on admission. Arrangement was made to visit Sunyani where the patient resides with his parents and

siblings. The main reason of this visit was to know patient's residence and the environment in which he lives, in order to verify the information provided to me and also to identify the risk factors such as familial tendency and stresses that can precipitate his condition and also to identify any nearest health facility at the area for possible referral. Patient and relative were informed about my intention to visit their home whiles he was still on admission. Master B.J.Y's mother gave me direction on the day before the visitation to their home and later on gave me the contact of her daughter who happens to be the second born so that she will continue to give me direction when I arrive in Sunyani on the said date. I left Berekum around 10:00am and alighted at patient's residency at 12:40pm. I use a taxi as a medium of transportation. I was informed by the sister that, after I alight in Sunyani I should pick a taxi which is heading to Dr. Berko. Their house is not really far from Green Hill Clinic popularly known as Dr. Berko. After my arrival, she directed me to take a couple of steps ahead after which she caught up with me on the way and sent me to their house. She took me to their living room, called her dad and they both welcomed me and since they had already met me at the hospital, there was a little need for a thorough introduction of myself after a said prayer by the young lady. I was asked of my mission by his father and I explained every detail of my reasons stated above. The house is a self-contained one with 6 rooms. The house is built with blocks, painted brown and cream colour, roofed with aluminium sheets, has 20 windows which were nicely half way opened with their curtains raised, I was happy about that and encouraged them to keep it open most of the time to promote proper ventilation. Their source of water is pipe-borne water in the house and they have electricity. They have a plastic container used to store water which was well covered with a lid. They have a bath and toilet in every room. They have a dustbin provided to them by Zoomloin which is well covered and it is emptied every morning into Zoomlion waste-collectors. The environment was neat, clean and conducive. The patient lives in the house with his with father, mother and his three

siblings. Observations made in patient's room revealed a clean and well-organized room, a whole lot of toys cars, a ceiling fan, bed, computer system as well as his own toilet facility and bathroom which also looked neat. I was quite impressed. His relatives were encouraged to continue to keep their home and surroundings clean. I reassured his relative of competent nursing care and that he will be well very soon. I had an extensive interaction with patient relatives and through that I was able to confirm most of the information I have been given back in the hospital. No identifiable factor to patient's condition was made during the visit. They thanked me and assured me that they will continue to maintain a clean environment. I left the residency of the patient at 2:20pm and got to the hospital at 3:30pm. Comments made on the condition of the house, education and recommendations were repeated to Master B.J.Y and his mother and they also promised to do everything in their power to ensure that what I had told them would be enforced.

4.3.2 Second Home Visit (14th December, 2022)

This visit was made on 14th December, 2022. I made this visit to find out how patient was doing and to see if he was following his treatment regimen. On assessment patient windows were opened as they were during my first home visit. The environment was neat and they were commended. His medications were inspected and he was taking them as prescribed. The importance of taking drugs as ordered was reinforced to patient and family. Education on good nutrition was stressed on to help protect patient and family from any diseases. I reminded them of the review they were supposed to come for and the benefits of keeping the appointment. Patient and family were thanked for their cooperation and permission was sought to leave. I promised them of another visit which will be the last one. Patient's mother and father escorted me to the main gate and I bid them goodbye, after which I took a taxi back to the station and continued my journey to my house.

4.3.3 Review (21st December, 2022)

On Wednesday 21st December, patient came to the Out-Patient Department of Holy Family Hospital at 8:34 am with both parents. I was called by his mother after their arrival to the hospital by the time I caught up with them they had already activated their card at the hospital system's cards office. Patient was supposed to come for the review on Friday, 16th December 2022, but instead made it to the hospital on the 21st of December,2022 because his parents were not available as at that time to aid him travel from Sunyani to Berekum for the review. I received this information from the patient's mother on phone after I had called to find out the reason as to why they could not make it on the said date.

The vital signs were checked and recorded as follows;

Temperature - 37.0oC

Pulse - 92bpm

Respiration - 20cpm

Blood pressure - 110/60mmHg

SPO2 -94%

Patient was attended to by a medical officer. Patient did not make any complains. He was looking much better especially when his haemoglobin recorded 9.5g/Dl. He was advised not to delay in reporting to the hospital if he should encounter any health problem. Patient and parents were educated on the importance of good nutrition, adhering to his medications and measures to prevent crisis. Patient and family were assured of the third home visit. I escorted him to his father's car and they drove off to their home.

4.3.4 Third Home Visit (9th January, 2023)

I made my third home visit on 9th January, 2023. My main aim was to see how patient was coping in the house even after his discharge from the hospital and to see the general condition of the entire family, to emphasize on the education that had already been provided to them and to finally terminate care. Upon my arrival, I was welcomed, offered a seat, served with water, malt and biscuits to do away with the thirst and to be refreshed a bit. I then went ahead to tell patient and family that I was terminating my care, and then told the parents that I was handing over Master B.J.Y into their care, that is, they will be seeing to his wellbeing onwards. I equally encouraged Master B.J.Y to continue seeing that his health is important both to his family and the world at large so he should desist from anything that will make him prone to being anaemic with his condition. On observation, their environment was cleaned as I saw during my previous home visits.

The windows were nicely opened as well as the curtains too where nicely folded. I also made them understand that whenever he starts to notice any abnormal signs, he should do well to visit the hospital at once without delay. I thanked the patient and family for the opportunity they gave me to render care to Master B,J,Y. The patient and family also thanked me I asked for permission to leave. The parents of my patient gave me a lift in their car to Sunyani station and I bid them goodbye after I alighted.

CHAPTER FIVE

EVALUATION OF CARE RENDERED TO PATIENT/FAMILY

5.0 Introduction

Evaluation is the assessment of the outcome of nursing care rendered against previously determined goals. It is usually the final stage of the nursing process. The nursing care given to patient was evaluated in order to ascertain that plan implemented had been successfully accomplished.

5.1 Statements of Evaluation

After a thorough assessment and interaction with Master B.J.Y and relatives, six problems were identified which were resolved and relieved through the nursing orders that were carried out. The outlined evaluations are as follows;

1. Patient was relieved of joint pain

At 11:10am on 25th December, 2022 which happened to be the day of admission, patient complained of joint pain hence, nursing diagnosis of Acute pain (joint) related to intravascular sickling with localized stasis and occlusion was formulated. An objective was set to relieve patient of joint pain within 48 hours. The following nursing interventions were then implemented; Patient was reassured that appropriate measures will be taken to help him relieved of the joint pain, patient pain was assess using the numerical pain rating scale (0-10), application of warm compresses were ensured, patient was encouraged to do range of motion exercises to prevent joint stiffness, patient was hydrated with intravenous fluid of normal saline 4L, prescribed medication of IV Paracetamol 1 mg was administered.

On 27th November, 2022 at 11:10am, evaluation of set objective on 25th November, 2022 to relieve patient of joint pain was done and goal was fully met as patient verbalized that he is relieved of joint pain and nurse observed that patient had a cheerful facial expression.

2. Patient body temperature was brought back to normal

Patient had fever (38.0oC) on 25th November, 2022 so at 11:15am a nursing diagnosis of Hyperthermia (38.0oC) related to infection of the blood was formulated therefore, an objective was set to restore patients body temperature to normal within 6 hours. The following interventions were implemented; Patients temperature was assessed every hour, cold drinks such as malt were served, good ventilation was ensured by opening windows and doors, patient was encouraged to put on hospital gown, prescribed anti-pyretic IV Paracetamol 1g, tab tramadol 50mg, azithromycin 250mg and IV levofloxacin 500mls were served, oxygen therapy was made available since hyperthermia increases metabolic demands.

On 25th November, 2022 at 5:15pm, evaluation of the set objective at 11:15am to reduce patient temperature within normal range (36.2oC-37.2oC) within 6 hours was done and goal was fully met as evidenced by patient verbalizing that he no longer felt warm and nurse observed that his temperature has reduced to normal range (36.2oC-37.2oC) using clinical thermometer.

3. Patient was relieved from headache

On 25th November, 2022, at 11:20am patient complained of headache hence a nursing diagnosis of Impaired comfort (Headache) related to reduced blood perfusion to the brain tissues was formulated. An objective was set to relieve patient of headache within 24 hours. The following nursing interventions were then implemented; Patient was reassured that appropriate measures will be taken to help him relieved of the headache, patients pain was

assess using the numerical pain rating scale (0-10), application of warm compresses were ensured, patient was asked to stay put in bed unless he needed to undertake something very essential that required him to not be in bed, patient was encouraged to take in copious fluids such as water fluids adequately to correct dehydration and prescribed medication of iv paracetamol 1g was served.

On 26th November, 2022 at 11:20am, evaluation of set objective on 25th November, 2022 to help patient's headache subside was done and goal was fully met as patient verbalized that he is relieved of headache and nurse observed that patient had a cheerful facial expression and relaxed in bed.

4. Patient regained his normal breathing pattern

On 25th November, 2022 at 11:25am, assessment revealed that patient experienced shortness of breath therefore a nursing diagnosis of Altered breathing pattern (Dyspnoea) related to reduced level of Hb was made. An objective was set to help patient regain his normal breathing pattern in 24 hours. The following interventions were implemented; Patient was reassured that appropriate measures will be taken to help him regain his normal breathing pattern, oxygen was administered, patient's oxygen saturation level was assessed every hour, breathing pattern was assessed during periods of activities, items of daily use such as bottled water were kept close to patient, emotional support was provided and was increased for patient, patient was educated on signs of over activity such as muscle or joint pain.

On 26th November, 2022 at 11:25am, evaluation of the set objective on 25th November, 2022 to help patient regain his normal breathing pattern was done and goal was fully met as evidenced by patient verbalizing that he no longer has shortness of breath and nurse observed that patient was breathing without difficulty.

5. Patient regained his normal sleeping pattern.

On 26th November,2022, at 7:40am, patient complained of difficulty in sleeping at night, hence, the nursing diagnosis of insomnia related to frequent cough was formulated. An objective was set for patient to resume his normal sleeping pattern within 24 hours. The following interventions were implemented; patient was reassured that measures are being put in place to help him have a sound sleep, comfortable bed was made for patient by using clean sheets free from creases and cramps, patient was positioned in a way to ensure adequate relaxation, all nursing activities were done at a go, this promoted minimal interruption in sleep, visitors were not allowed to see patient when he was asleep, prescribed mucolytic (Carboncisteine) 250mg was served to relief cough.

On 27th November, 2022 at 7:40am, evaluation of the set objective on 26th November,2022 to help patient resume his normal sleeping pattern was done and gaol was fully met as patient verbalised that he had uninterrupted sleep and nurse observed that patient had uninterrupted sleep for not less than 6 hours.

6. Patient attained and maintained his nutritional level

On 27th November, 2022 at 8:00am, patient complained of loss of appetite hence the nursing diagnosis of Imbalanced nutrition (less than body requirement) related to loss of appetite was formulated. An objective was set for patient to be able to attain and maintain adequate nutrition within 48 hours of hospitalization. The following interventions were implemented; Patient was reassured that measures will be taken to restore adequate essential nutrients, the nutritional status of patient was assessed by observing clients eating habit, patient brushed his teeth twice daily, meals were planned with patient by taking into account his preferences, patient was educated on the need to take in nutritionally rich diets, procedure was documented in nurse's notes.

On 29th November, 2022 at 8:00am, evaluation of the set objective on 27th November, 2022 to help patient attain and maintain adequate nutrition within 48 hours was done and goal was fully met as patient verbalized that he has gained appetite for food and nurse observed that patient was able to eat at least two thirds of normal meal served.

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

The care plan was not amended because based on individualized care plan, all goals that were set were fully achieved with the support that came from members of the health team and co-operation of the patient/family,

5.3 Termination of Care

My last home visit to patient and his family was on 9th January, 2023. The reason of the visit was to determine whether my client's condition had improved after review and to finally terminate care. I encouraged the patient to continue to see to it that his health is important both to his family and the world at large so he should see to desisting himself from anything that will make him prone to being anaemic with his condition. On observation, their environment was cleaned as I saw during my previous home visits.

The windows were nicely opened as well as the curtains too where nicely folded. I also made them understand that whenever he starts to notice any abnormal sign he should do well to visit the hospital at once without delay. I informed the parents of the patient to continue the care as I have handed over their son, Master B.J.Y to them. I thanked the patient and family for the opportunity they gave me to render care to Master B.J.Y. The patient and family also thanked me as I asked for permission to leave. They all said a prayer for me, asking GOD to make me prosperous and successful. Master B.J.Y's parents gave me a lift in their car to Sunyani station and I bid them goodbye after I alighted.

CHAPTER SIX

SUMMARY AND CONCLUSION

6.0 Introduction

Summary is a brief account giving the main point to a health problem (Hornby, 2019). This is the last stage of the patient and family care study and it contains a summary of all the care rendered to Master B.J.Y and family throughout the period of hospitalization to the time the care was terminated.

6.1 Summary

Master B.J.Y a 15year old boy was admitted to the Male Medical ward through the Accident and Emergency Unit of Holy Family Hospital, Berekum on the 25th November, 2022 at 11:00am with the diagnosis of sickle cell anaemia in known sickle cell disease. On admission, he presented with difficulty in breathing, headache, fever and joint pain. Patient was educated on sickle cell disease and its management. Patient was also assisted in maintaining his personal hygiene, rest and sleep, nutrition, and exercises were also ensured. During Master B.J.Y's stay at the ward six health problems were identified and they were all managed through nursing interventions such as pain assessment, intravenous hydration, application of warm compresses, checking of vital signs, providing emotional support, oral hygiene, planning of activities in order not to disturb patient, education of patient and family on condition and many more.

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

1.To transfuse one unit of blood

2. IV furosemide 40mg stat

3. IV Paracetamol 1g tid x 24 hours Stat

4. Tablet Tramadol 50mg tid for 5 days

5.Tablet Azithromycin 250mg od for 3 days

6. Levofloxacin infusion 500mls daily x 3

7. Enoxaparin sodium 40mg daily x 1

8. Folic acid tablet 5mg x 30days

9. Normal saline

10. Ringers lactate

11. Dextrose in normal saline

Patient was discharged on the 3rd December, 2022 after recovering successfully. On 21st December, 2022 patient reported for review. This was to purposefully find out if patient was going by the advice and all the education given to improve his health and standard of living. Three home visits were made. On 30th November, 2022 whiles the patient was still on admission the first home visit was done. On 24th December, 2022 the second home visit was embarked on as well. The last home visit was done on the 9th of January ,2023. The care of Master B.J.Y and his family were terminated on the last visitation day, that is, 9th of January ,2023.

6.2 Conclusion/Recommendation

According to Hornby (2010), conclusion is the end or finishing something. In conclusion, the patient and family care study has broadened my knowledge on sickle cell disease in relation to holistic nursing care of the patient and family. It has improved my interpersonal

relationship with my patient and his guardian. I am therefore convinced that the knowledge I have acquired through this patient and family care study has really prepared me adequately to give holistic and comprehensive care to any patient who would be put in my care using the nursing process approach. I recommend that all patients should be nursed using the nursing process approach so as to ensure effective care and recovery of patients.

APPENDIX

Table 7 Vital Signs Chart of Master B.J.Y

Date	Time	Blood pressure(mmHg)	Respiration (cpm)	Pulse (bpm)	Temperature (^oC)	SPO_2(%)
25/11/22	11:00am	104/70	28	141	38.0	86
	2:00pm	110/60	26	95	37.9	90
	6:00pm	130/50	24	114	37.0	96
	10pm	120/70	18	98	37.2	93
26/11/22	6am	110/60	25	91	37.2	99
	10am	110/70	26	103	37.1	98
	2pm	104/70	28	131	37.0	90
	6pm	110/50	22	131	37.2	96
	10pm	110/50	21	95	36.4	95
27/11/22	6am	100/60	22	92	37.2	99
	10am	120/60	24	94	37.6	90
	2pm	120/50	28	112	37.0	94
	6pm	110/50	25	112	37.1	90
	10pm	120/60	25	100	35.8	98
28/11/22	6am	110/60	20	115	37.0	91
	10am	130/70	22	107	37.2	90
	2pm	100/60	19	87	36.7	90
	6pm	100/60	20	115	37.0	91
	10pm	110/60	26	87	37.1	93
29/11/22	6am	120/70	19	93	37.0	95

	10am	130/60	32	111	37.3	94
	2pm	120/50	29	102	37.4	95
	6pm	130/90	21	104	37.2	93
	10pm	110/60	23	79	36.9	95
30/11/22	6am	120/80	18	77	37.0	94
	10am	110/70	33	60	36.3	95
	2pm	100/70	30	87	37.2	96
	6pm	110/80	31	95	36.7	96
	10pm	110/70	17	68	36.3	95
1/12/22	6am	110/60	20	92	36.8	95
	10am	100/70	19	79	39.6	96
	2pm	100/60	22	93	37.2	94
	6pm	132/60	22	93	37.2	95
	10pm	120/70	20	84	37.2	93
2/12/22	6am	120/70	21	78	36.7	93
	10am	130/90	22	92	36.8	94
	2pm	100/60	20	93	37.2	96
	6pm	110/70	31	95	36.6	96
	10pm	110/70	30	87	36.3	95
3/12/22	6am	120/70	20	84	37.2	93

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SIGNITORIES

1. NAME OF CANDIDATE

NAME: ADIKU MARY SELASE

SIGNATURE.....

DATE.....2-06-23.....

2. NAME OF WARD IN-CHARGE

NAME .....EFFAH BENJAMIN.....

SIGNATURE.....

DATE.....02/06/2023.....

3. NAME OF SUPERVISOR

NAME: RITA GYAMFI

SIGNATURE.....

DATE.....29/06/2023.....

4. NAME OF PRINCIPAL

NAME: MONICA NKRUMAH

SIGNATURE.....

PRINCIPAL
HOLY FAMILY NURSING AND
MIDWIFERY TRAINING COLLEGE
BEREKUM

DATE.....17TH JULY, 2023.....