**HOLY FAMILY NURSING AND MIDWIFERY TRAINING COLLEGE, BEREKUM**

# PATIENT/FAMILY CARE STUDY ON SICKLE CELL DISEASE

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

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## PREFACE

The patient/ family care study is a compilation of information about a patient and his/her family and disease condition that will help the nurse and other health care team members render an effective and comprehensive care.

In this study, the final year student nurse selects a patient and seeks his/her consent to use him/her for care study. The patient is then nursed from the day of admission to the day of discharge and possible follow ups at home to maintain an optimum level of health and continuity of care.

The study forms one of the compulsory parts of the assessments of the final year student nurse before he/she could be awarded Diploma in Registered General Nursing and Certificate by the Nurses' and Midwives Council of Ghana.

Through this care study the student nurse becomes familiar with different medical surgical scenarios, as they learn how to respond to them. It also helps the student nurse gain opportunity to interact with other members of the health care team for the maintenance of optimal health of a patient/client in their care. The study enables the student nurse work individually on his/her patient under supervision thus increasing the confidence level in him/her so that he/she can take full responsibilities in caring for a patient/ client adequately.

## ACKNOWLEDGEMENT

I am very grateful to the Almighty God for his divine protection and guidance in making this care study a successful one.

Incalculable thanks to Master W. B. and family for giving me the opportunity to use them for the care study and for their maximum co-operation throughout the study.

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My sincere appreciation goes to Dr. Eva Gyamaa-Yeboah and Dr. Alexander Ntekuni, Nurses, and staff at the Males' Ward of the Holy Family Hospital, Berekum for their support.

I wish to acknowledge the authors and publishers of the text books, articles and journals from which I wrote important and authentic information to buttress this study.

Finally, I thank all those who helped in diverse ways to make this study a success especially Mrs.Vida Yeboah and Williams Osei.

## INTRODUCTION

"The unique function of a nurse is to assist the individual sick or well in the performance of those activities contributing to health or its recovery (or to peaceful death) that he will perform unaided if he had the necessary strength, knowledge or will and to do so in such a way as to help him regain independence as quickly as possible"- Virginia Henderson, 1966.

The care study was carried out on Master W.B. a Thirteen (13) year old boy. He comes from Nseseresu but stays with his aunt in Amangoase of Berekum Municipal in the Bono region, Ghana. He was admitted to the Males' Ward on 8th December, 2021 at 5:30pm by Dr. Eva Gyamaa-Yeboah with the diagnosis of Sickle Cell Disease with Vaso-Occlusive Crisis. . He exhibited the following signs and symptoms; general body weakness, pains in the right shoulder and the right knee, headache. He was put on the following medications and administered as ordered;

Intravenous Morphine 5mg every 4 hours x 4 days

Intravenous Cefuroxime 400mg TDS x 24 hours

Intravenous Gentamicin 125mg once daily x 4 days

Tablet folic Acid 5mg once daily which was with them on the day of admission

The nursing process approach was used in planning and caring of patient. This care study accounts for the total nursing care rendered to Master W.B. and his family from the day of admission 8th December, 2021 to day of discharge 14th December, 2021 when his state of health had improved. He spent 7days on admission. Subsequent home visits were made to follow up care.

The care study has been arranged in six chapters. These chapters correspond with the phases of the nursing process which includes assessment, analysis, planning, implementation and evaluation.

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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, 2014). The nursing process begins with an assessment of the patient and the patient's family. Information is also gathered about the health status of the patient, analyzed and conclusion is drawn to provide a better care. Assessment helps in planning care for the patient. The tools used in data collection include observation, physical examination, interviewing and records review. Data for the care was collected from the patient, the patient's family, past and present medical records of the patient and the health care team in order to provide holistic care.

## 1.1 Patient's Particulars

Particulars are defined as an officially recorded detailed information about person (McIntosh, 2013). Master W. B., born at Dormaa Presbyterian Hospital, Dormaa in the Bono Region on 25th March, 2008 (13 years old) is the subject of the study. He is the first born of two children born to the late Mr. Y. B. and the late Miss A. E. He hails from Nseseresu of Dormaa East Municipal in the Bono region and now resides with his aunt, Miss D. A. in Amangoase at house number *I* 33 also of Berekum Municipal. Master W. B., is dark in complexion, on admission he weighed 25kg, and was 133cm tall. He is in class four at Nseseresu Roman Catholic Basic School. He is of the Bono tribe of Ghana and worships with the Roman Catholic Church. He speaks English, Frafra and Bono. His maternal side is from the Gurusi tribe. W. B.'s next of kin is his guardian Miss D. A

## 1.2 Family's Medical History

This history helps to detect some diseases that can possibly be inherited from parents or family members by the patient. Attention is focused on the impact of psychosocial, ethnic, and cultural background on a person's health. Information is obtained on both paternal and maternal sides of family (Hinkle & Cheever, 2014). According to the guardian of the patient, both parents are deceased but his late mother died of sickle cell disease at age 28 and the cause of his father's death is unknown. Master W. B. is a known sickle cell anemia patient with genotype SS. His last hospital encounter is when he was admitted to the pediatric ward and treated for vaso-occlusive crisis. He was on admission for five days at the Pediatric Ward. Since then, he had not been admitted again till 8th December, 2021 During interaction with Miss D. A., she asserted that the patient's immediate family does not have a history of any chronic diseases such as Hypertension, Asthma or any mental disorder but often experience headache and malaria which they usually buy over-the-counter drugs to treat or sometimes treat with herbal preparations. Patient was educated on how over-the-counter drugs can cause toxicity and drug-drug interaction.

## 1.3 Socio-Economic History

Family socio-economic history deals with the social background and economic status of the patient and the family. Social-economic history gives more information about the patient's environment, housing types, parent's occupation and marital status, number of individuals living in the house and sleeping arrangement, religious affiliations, etc. (Bickey & Szilagyi, 2015) The family of my patient is very sociable as I noticed how they interacted with me as well as the other staff of the ward. The house is roofed with sheets. Their source of water is pipe borne and sometimes resorted to a nearby borehole. They use their veranda as their kitchen facility hence, they eat in their room and the house is supplied with electricity and has a fair drainage system.

Their refuse disposal facility is about 200 meters away from their house, the community has a Health Center and a basic school. His family taboo is snail and when eaten they experience rashes, although he has no known allergies but he prefers to take food with no or little oil, okro and groundnuts. Master Miss D.A. admits that they are not financially sound since their only source of financial support is her income from dressmaking she also continue by saying that their medical care is taken care by the National Health Insurance Scheme which every member of the family is a beneficiary.

### 1.4 Patient's Developmental History

The Longman dictionary 2016, growth, maturity and development were defined as;

Growth is the progressive and physical increase in the size of an organism.

Maturity 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.

According to Miss D. A, Master W. B had a normal gestational period. He was delivered spontaneously per vagina at the Dormaa Presbyterian Hospital, he had normal body weight and no congenital abnormalities. He was exclusively breastfed for six (6) months until the introduction of complementary feed such as porridge and cereals. Master W. B. is said to have attained a normal developmental milestone thus, he sat with support at the fourth month, crawled at the eighth month and walked by the eleventh to twelfth month. He was immunized against the then six childhood preventable disease such as polio, measles, and diphtheria as evidenced by Bacilli Clamette Guerin (BCG) mark on his right deltoid muscle indicating that he was immunized against tuberculosis. He started schooling at age 4. He is in a very healthy relationship with his peers and family.

In academics, Master W. B. is the class representative, he aspires to become a medical doctor in the future and this motivates him to study very well in school. According to Erik Erikson's theory of psychosocial development (1959), there are (8) eight distinct stages that have a corresponding life tasks, that, one may succeed at or fail to accomplish. Progression to a subsequent life stage requires that, tasks at prior stages are to be completely successful. These are:

1. Trust vs. Mistrust (birth-1 year)
2. Autonomy vs. Shame & Doubt (2-4 years)
3. Initiative vs. Guilt (5-8 years)
4. Industry vs. Inferiority (9-12 years)
5. Identity vs. Role Confusion (13-18 years)
6. Intimacy vs. Isolation (19-39 years)
7. Generatively vs. Stagnation (40-59 years)
8. Integrity vs. Despair (60years- death).

Individuals between the ages of thirteen and eighteen (13-18) years should either develop identity or role conflict. At these stage individuals are faced with finding out who they are, where they are coming from and where they are going in life and the core value is fidelity. This is the testing stage as individuals try to determine what is unique about themselves, their strength and what roles are they best suited to play for the rest of their lives. This sense of whom they are can be hindered, which results in a sense of confusion. It was realized that, Master W.B. has developed identity based on his age and lifestyle as he was able to verbalize where he comes from, his tribe and what he wants to do when he grows up. According to this fact one can say, Master W.B. has achieved identity.

### 1.5 Patient's Lifestyle and Hobbies

Master W. B. gets up around 6:00am to brush his teeth with toothbrush and Pepsodent toothpaste. He then moves his bowel, wash down and takes his breakfast, for example '*Hausa koko'* with sugar plus a slice of bread. He finally gets off to school around 7:30am during weekdays but stays indoors doing weekends and sometimes visit his friends. He worships with the Roman Catholic Church and he believes in the existence of God. He is an extrovert and well socialable person. Patient enjoys taking warm bath twice daily. His normal sleeping hours are from 8:00pm to 6:00am after watching television. He could drink about 8 glasses of water per day. He liked to play football with friends but he has been advised to stop engaging in activities that are physically strenuous. In recent times, he likes playing video games, watching league soccer on television and reading story books at his leisure time.

### 1.6 Patient's Past Medical/Surgical History

Master W. B. was diagnosed of Sickle Cell disease at Dormaa Presbyterian Hospital when he was three (3) years. He started experiencing the crisis when he was two (2) years. Miss D. A. could recall the client's last admission at the Holy Family Hospital, Berekum on October 2021 with severe back pains. Medical report indicates that, he was diagnosed of Sickle Cell Anaemia by Dr. E.G-Y.

He was treated for vaso-occlusive crisis. He was on admission for five days at the Paediatric Ward. Since then, he had not been admitted again till 8$^{th}$ December, 2021 when he reported with joint pains specifically at his left knee and right shoulder as well as general body weakness to the Holy Family Hospital, Berekum. Miss D.A. admits this to be their fifth admission from January to December, 2021.He has no surgical mark or surgical history.

### 1.7 Patient's Present Medical History

Master W. B. started experiencing joint pains specifically at his left knee and right shoulder, general body weakness around 3:30pm on 7th December, 2021. He was given paracetamol tablet which decreases the pain but the pain intensified the next day 8th December, 2021 which made Miss D.A. then decided to send Master W. B. to Holy Family Hospital, Berekum. Miss. D.A. reported to the hospital with Master W. B. at 4:30pm and was attended to by Dr. E. G-Y. She diagnosed him of Sickle Cell Disease with Vaso-Occlusive Crisis. He was detained at the emergency unit and later admitted to the Male's Ward for further observation and treatment.

### 1.8 Admission of Patient

Admission is the process of receiving a patient into the ward in order to ensure continuity of the nursing care to enhance the smooth and faster recovery and to prevent any complications from arising (McIntosh C. , 2013). Master W. B. was brought to the Male's Ward in a wheel chair on 8th December, 2021 at 5:30 p.m. accompanied by his guardian, Miss D. A. and a nurse from the Emergency unit. He exhibited the following signs and symptoms; general body weakness, pains in the right shoulder and the right knee, headache. At the ward, the patient was received into an already prepared admission bed. The folder number was collected to confirm his name, age, diagnosis, medication and treatment on the Hospital Administration Management System. Master W. B. was admitted on 8th December, 2021, he was diagnosed of sickle cell aneamia with vaso-occlusive crisis and he was discharged on 14th December, 2021. His folder number is 13548/11 and was admitted by Dr. E. G-Y. at Holy Family Hospital, Berekum. His guardian was offered seat and was reassured of competent nursing care. Master W. B.'s vital signs were checked and recorded as follows:

Temperature- 37.0 $^{o}$C

Pulse- 92 beats per minutes

Respiration - 23 cycle per minute

Blood pressure- 110/90 mmHg.

Body weight- 25 kilograms and Height- 133 centimeters.

He was put on the following medications and administered as ordered;

a. Stat IV Morphine 5mg every 4 hours x 4 days
b. Stat IV Cefuroxime 400mg TDS x 24 hours
c. Stat IV Gentamicin 125mg once daily x 4 days
d. Tablet folic Acid 5mg once daily which was with them on the day of admission.

I introduced the guardian to the nurse in charge and other staff nurses who were available. They were shown the washroom, nurses' station, dispensary and the laboratory. He had no valuables such as golden chain and watches to be kept on admission. They came along with their belongings which were kept in his allocated patient's locker. Master W. B. had no artificial aids like dentures, hearing aids and spectacles on him. Patient had no known allergy. His guardian was asked to stay around in order to be of support to him.

The visiting hours which were 5:30 to 6:30am and 4:30 to 5:30pm, time for morning ward rounds by doctors were also made known to them. The patient was covered with a blanket to keep him warm and he was encouraged to take in liberal fluid.

All stat dose medications were given to him before he was brought to the ward. Master W.B is a subscriber to the National Health Insurance scheme but the "cash and carry system" was explained to them since the scheme does not cover all the drugs. I introduced myself as a final year student of Holy Family Nursing and Midwifery Training College, Berekum Campus who wants to take him as a patient for my care study. It was further explained to them that, before one becomes a professional nurse the person need to carry out a study on a client before given a license to practice. I assured them of confidentiality and privacy of any information they will give to me. Therefore, client and his guardian's consent were sought for approval for them to be used for the study. They agreed and were willing to cooperate. I then informed the ward in-charge (Mr. B.) my interest in choosing the patient for my studies to gain her permission. I wanted to have more knowledge about the disease condition that is, its 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.

His laboratory investigations requested were routine urine examination, full blood count and rapid diagnostic test for malaria.

Patient's name, age, diagnoses, date and time of admission were entered into the admission and discharge book, the daily ward state and the nurses' note. The nursing process approach was used to plan for patient's care.

### 1.9 Patient's Concept of Illness

Patient already knew he was a sickling positive and had Sickle Cell Disease yet he had little knowledge about his condition. The guardian was also aware that the patient possesses

haemoglobin type SS. The patient and his family never attributed the disease condition to any supernatural forces. They believed in persistent and consistent prayers as their source of reliance. They expected that, Master W. B. would get well with the treatment he was receiving at the hospital and would get back home as soon as possible.

## 1.10 LITERATURE REVIEW

### Introduction

The literature review portrays the textbook picture of the disease condition. This serves as a guide for the nurse to compare the textbook features with what the patient is presenting.

Sickle cell disease has been known by our African ancestors for a long time as a disease which runs in the family and causes frequent attacks of severe pain. Sickle Cell disease is the name of a group of disorders of red blood cells in which the predominant haemoglobin in the red blood cell is haemoglobin S, also known as sickle cell haemoglobin. Smelter, Bare, Hinkle and Cheever, (2014) defined Sickle cell disease as an autosomal recessive hereditary blood disorder characterized by erythrocytes that contain sickled shape. It occurs in two forms, sickle cell trait and sickle cell anaemia.

Sickle cell anemia is a severe haemolytic anemia that results from inheritance of the sickle haemoglobin gene. This gene causes haemoglobin molecule to be defective acquiring a crystal-like formation when exposed to low oxygen tension. (Smelter, Bare, Hinkle & Cheever, 2014).

Sickle Cell Disease is an inherited blood disease that occurs in people who are either homogenous or heterogeneous for sickling (abnormal) Haemoglobin (HB-s) resulting in distortion and freight of the red blood cells which becomes crescent- shaped or sickle-shaped instead of biconcave shape. Such cells impair circulation resulting in chronic, ill health, periodic

crisis, long term complications and premature death. Red blood cells are biconcave discs; they have no nucleus, and their diameter is about 7 micrometers. Their main function is in gas transport, mainly of oxygen, but they also carry some carbon dioxide. Their characteristic shape is suited to their purpose; the biconcavity increases their surface area for gas exchange, and the thinness of the central portion allows fast entry and exit of gases. Normal red blood cells are soft and round. They can squeeze through tiny blood vessels to supply oxygen to all parts of the body. Oxygen is carried in red blood cell called haemoglobin. The main haemoglobin in normal red blood cell is called A. Normal red blood cells live for about120 days before they are replaced by new ones. People with sickle cell conditions make different type of haemoglobin A called S. Red blood cell containing mostly haemoglobin S can be stiff, sticky and distorted in shape. Often they resemble a farm tool called sickle. Hence, their name "sickle cell"

**Incidence**

Sickle Cell Disease occurs worldwide prevailing in Africa Caribbean, Africa-American, India, Greece and Middle East. It affects both sexes equally. The disease affect both men and women and occurs mainly in Afro - Caribbean people with incidence of 1:400-1:500 although those of Mediterranean, middle-Eastern or Asian India ancestry are also affected is found almost entirely in blacks and persons of Arabia Approximately 8% of blacks have sickle cell trait. (Hinkle et'al, 2014).

**Aetiology**

It's a genetic condition caused by the transfer of haemoglobin S gene from parents to their offspring.

**Pathophysiology**

Sickle Cell Disease results from a genetic mutation in a haemoglobin molecule that is transmitted from parent to child. The sickle cell gene causes the body to produce abnormal haemoglobin molecules. Haemoglobin is the most important component of the red blood cell. It is composed of a protein (globulin) molecule and blood (Haemal) which binds with iron.

In the lungs the Haemal component takes up oxygen and releases carbon dioxide. The red blood cell carries the oxygen to the body tissues, where the haemoglobin releases oxygen in exchange for carbon dioxide and the cycle repeats. The oxygen is essential for all cells in the body to function. Sickle Cell reduces or denies adequate oxygen to many parts of the body; this contributes to the severe pain experienced as a sickle cell crisis and both long and short term organ damage. When the sickled haemoglobin molecule loses its oxygen, it forms rigid rods called the polymers that change the red blood cell into a sickle cell or a crescent- shape. These sickled shaped cell stick to the walls and cannot squeeze through the capillaries. Blood flow through tiny blood reseals becomes slowed or stopped in many parts of the body as this deprives tissues and organs of oxygen supply. When this blood flow slows and stops suddenly in a certain part of the body, the decrease in oxygen (hypoxia) can cause severe pain (the sickle cell crisis). Over time, it leads to gradual distraction in organs and tissues throughout body.

Once sickled, red blood cells (RBC) are more rigid, fragile and are rapidly destroyed. The RBC's therefore have a short survival time (30-40 days, as compared to a normal 120 day survival rate) a deceased oxygen carrying capacity and low haemoglobin (Hb) content.

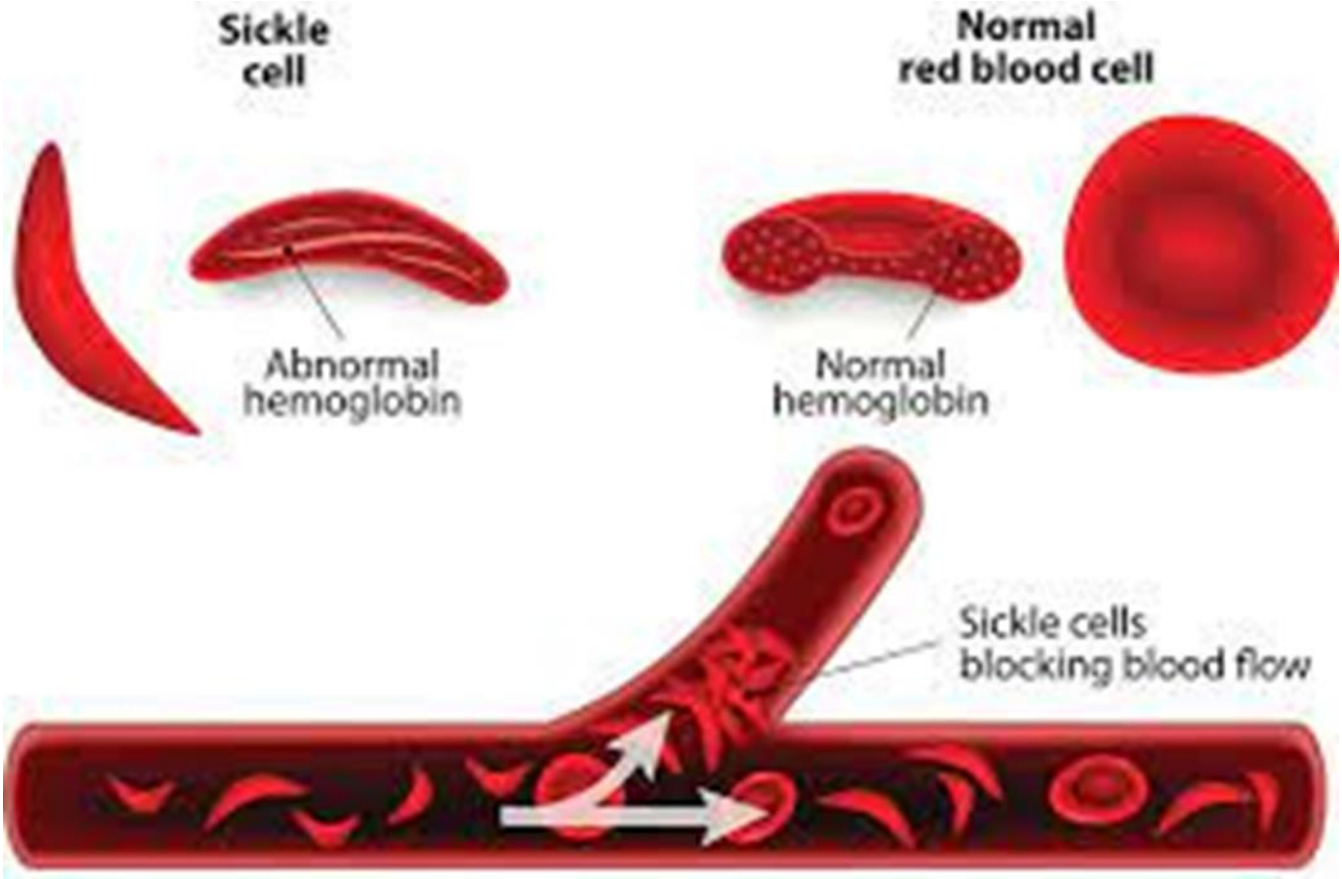
Two factors have been identified as producing sickling, although the exact causes are unknown. The first is hypoxemia which is caused by low oxygen tension is the blood from high altitudes,

strenuous exercise or low oxygen concentration during anaesthesia. The second is the change in the condition of the blood such decreased plasma volume, decreased plasma PH, or increased on plasma osmolality as a result of dehydration.

The general signs similar to other types of haemolytic anaemia (anaemia as a result of destruction of the RBC) are malaise, fatigue, pallor, jaundice and irritability. Children begin to fall below the growth that is in height and weight around 7years. The puberty is usually delayed. They are often small for their age and may have narrow shoulders or hips, long extremities and a curved spine. You may note jaundice and pale skin. Often the children have heart rates that are faster than normal and heart murmurs, you may find large liver or spleen. Eventually all body systems, including the heart, lungs, central nervous system, kidney, liver, spleen, bones and joints, skin and eye are affected. The most severe problem is sickle cell crisis.

Figure 1 below depicts a normal and an abnormal Sickled Red Blood Cells.

**Figure 1**




**Classification of Sickle Cell Disease**

The sickle cell disease is classified as follows,

a. HB-AS: A heterozygous genetic inheritance of the sickling haemoglobin from parent normal haemoglobin from the other parent leading to a trait of the disease.
b. HB-SS: This results from a homozygous, genetic inheritance of the sickling haemoglobin from both parents.
c. HB-SC: An individual inherited the sickling haemoglobin from a parent and haemoglobin C from the other parent.

d. HB-SD: This results from genetic inheritance of sickling haemoglobin from one parent and a haemoglobin D from the other.

**Types of Sickling Crises**

There are 5 main classes or types of sickling crisis. These are Spleen sequestration, Hyperhaemolytic, Aplastic, Vaso-Occlusive, Infarction crisis.(Smelter, Bare, Hinkle & Cheever,2014).

a. Hyperhaemolytic crisis: In this crisis there is increased breakdown of red blood cell, high rate of haemolysis with a fall in haemoglobin level but rise in reticulocytes. This is due to the polymerized shaped or crescent shaped making them fragile and susceptible to haemolysis certain drugs or infections it is usually characterized by severe anaemia and jaundice.
b. Splenic sequestration crisis: Here the spleen recognizes the crescent-shaped red blood cell as abnormal as such it tries to break them down in order to get rid of them. This leads to swot haemoglobin with rapid enlarging of the liver and spleen.
c. Aplastic crisis: Because of the haemolysis (breakdown of the red blood cell) the bone marrow attempts to produce enough red blood cells to replace the haemolysed ones. This leads to hyperplasia (increased in cell number) of the bone marrow and expansion of the marrow cavity producing bossing of the skull, flattening of the nasal bridge and griathopathy (protruding upper jaw with high cheek bones). The red blood cells produced are immature and therefore breakdown easily to cause crisis.
d. Vaso-occlusive crisis: In this case, there is occlusion of the blood vessel by the crescent-shaped red blood cells which leads to decreased blood flow to vital organ resulting in

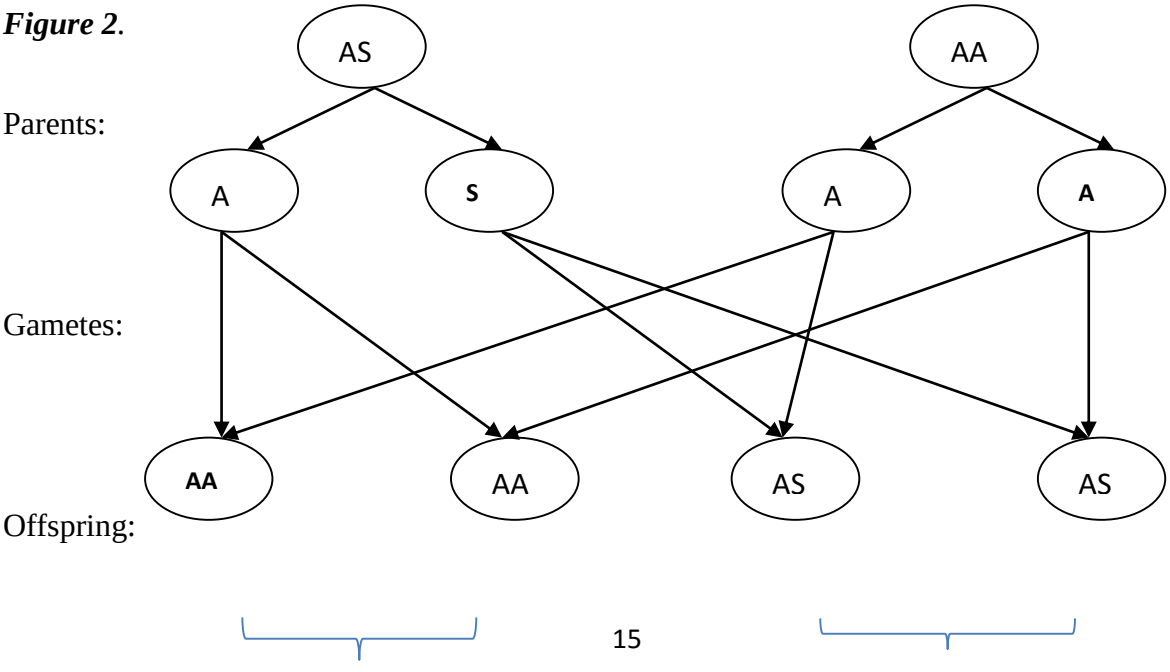
thrombus formation and ischemia with features of abnormal pain, bone pain, and chronic leg ulcers formation.

e. Infarction crisis: This occurs following Varo-occlusive crisis with severe pains that can lead to death of the patient. It normally occurs in bones and spleen with no tissue involvement. Its onset is usually rapid and the pain is severe on the first 24hours. It results in brain infarction, head of femur and pupillary necrosis and digit shortening. (Smelter, Bare, Hinkle & Cheever, 2014).

**Sickle Cell Disease Inheritance Pattern**

Sickle cell conditions are inherited from parents in the same way as blood type, hair colour and texture, eye colour and other physical traits. The type of haemoglobin a person makes in the red blood cells depend on what haemoglobin genes are inherited from his parents. The figures below show the inheritance pattern of sickle cell disease.

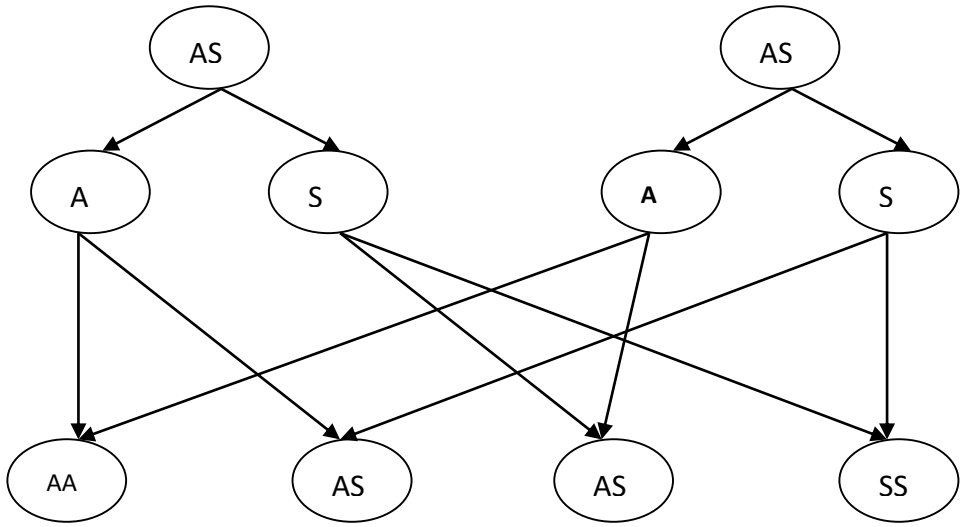
***Figure 2***.



50% 50%

The illustration in Figure 2 above indicates that when two parents with one being a carrier (AS) and the other possessing a normal haemoglobin (AA), there is 50% chance of their offspring possessing normal haemoglobin (AA) and 50% chance of possessing sickle cell trait or being carriers (AS).

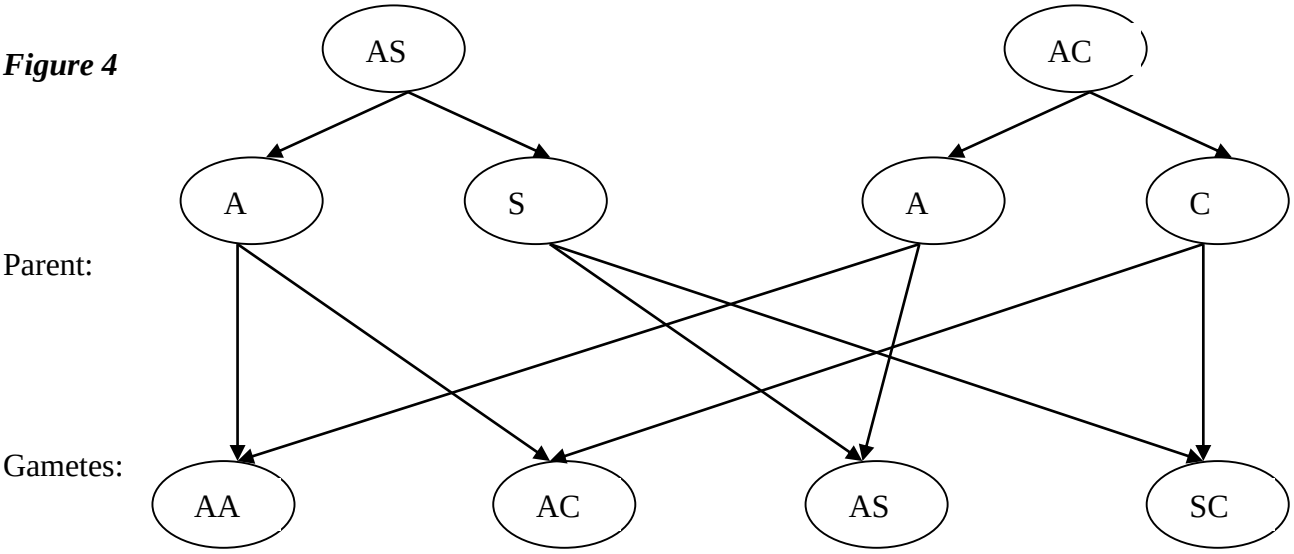
**Figure 3.**




The illustration in Figure 3 above indicates there is 25% chance of possessing a normal haemoglobin (AA), 25% for the infant to develop sickle cell anaemia (SS) and 50% chance of

being a carrier or possessing sickle cell trait (AS) when both parents are carriers of the sickle cell trait.

***Figure 4***




Offspring:

25% 25% 25% 25%

As illustrated in *Figure 4* above, when one parent has a sickle cell trait (AS) and the other (AC), there is 25% chances of possessing normal haemoglobin (AA), 25% chance of possessing a trait of either (AC) and 25% chance of becoming a carrier with (AS) trait while there is another chance of 25% carrying an abnormal (SC).

***Figure 5***

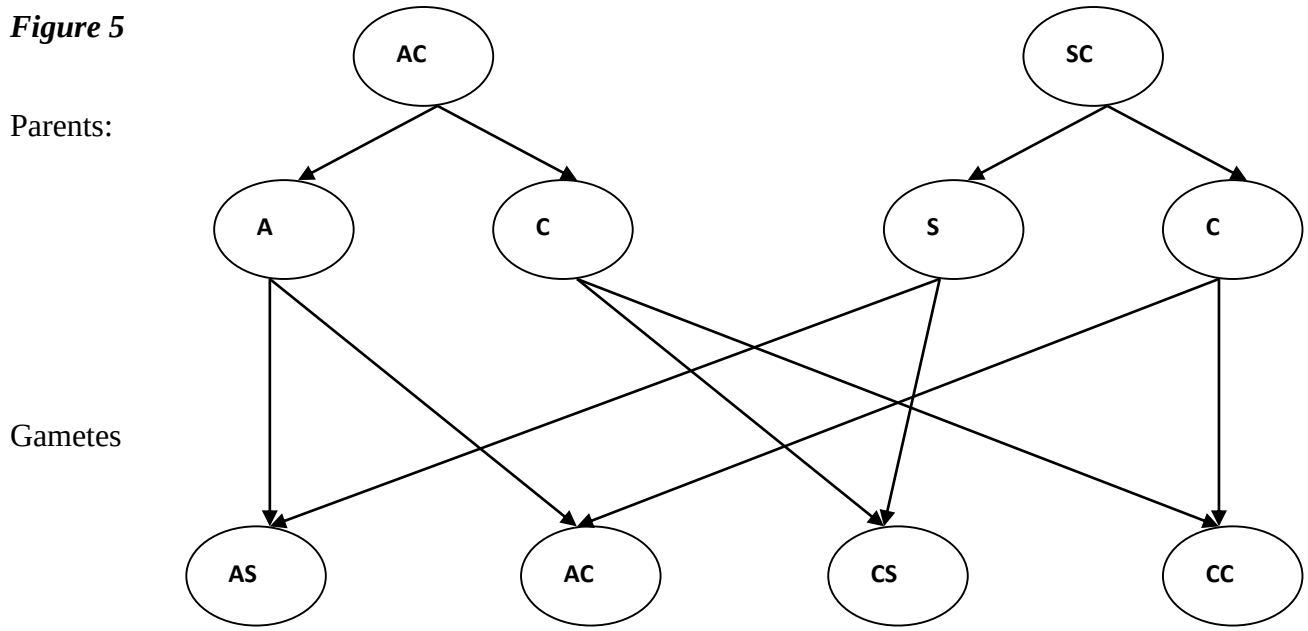



*Figure 5* illustrates one parent being a sickle cell carrier (AC) and the other sickle cell (SC). In this case, there is 25% chance of their offspring being carrier AS, AC or CC with the remaining 25% having sickle, (SC).

**Sickle Cell Trait**

A trait is a common word for a condition where a person gets an abnormal gene from one parent and the normal type of that from other parent. If he gets the abnormal genes from both parents he is said to have the disease.

Sickle cell trait is described as a heterozygous form of the disease. Here, the individual inherits one haemoglobin C or S from one parent. Such persons seldom experience sickle cell crises and have life expectancy and their frequency of hospitalization do not differ from those with normal haemoglobin A.

**Sickle Cell Anaemia**

Sickle cell anaemia is a severe haemolytic anaemia that results from inheritance of the sickle haemoglobin S gene from both parents. The gene causes the haemoglobin molecule to be defective. That is, it causes the red blood cell to assume crescent of sickle shape. These red bloods impair circulation resulting in chronic ill health periodic crises, long term complications and premature death.

## Clinical Features

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

- There may be anemia
- There is chest pain and shortness of breath
- In severe cases, there is enlargement of the liver and spleen, especially in children
- Severe abdominal pains may be experienced
- There may be severe joint pains
- Patient may experience loss of appetite
- There is headache
- Protrusion of abdomen, especially in children
- Swelling of toes and fingers

**Precipitating factors of sickling crisis**

Factors which trigger the onset include,

a. Hypoxia
b. Cold weather
c. Emotional stress

d. Dehydration

e. Menstruation

f. Infection

g. Strenuous physical exercise

h. High altitude

i. Pregnancy

j. Overcrowding (Lewis, Dirksen, Heitkempemper & Bucher, 2014).

**Clinical investigations**

a. Sickling test

b. Haemoglobin electrophoresis

c. Blood for microscopy

d. Amniocentesis and gene mapping

e. Haemoglobin level estimation

f. Bone marrow examination

**Treatment**

Treatment is mainly aimed at,

a. Relieving pain.

b. Decrease incidence of crisis.

c. Preventing further haemolysis.

d. Increasing haemoglobin level.

e. Treating any other infection.

f. Enhance sense of self-esteem and power.

**Medical treatment**

There is no effective form of treatment for sickle cell disease. The use of drugs is often for supportive and conservative treatment. The basic aim of treatment is to alleviate symptoms and control or reduce painful crisis.

- Analgesics such as morphine and paracetamol to reduce pain and pyrexia.
- Vitamin supplements such as Folic acid, Vitamin B-complex and Fersolate to boost appetite and prevent anaemia.
- Antibiotics like Cefuroxime are given to control infection.
- Blood transfusion may be given in case of severe anaemia.
- Intravenous normal saline are often prescribed to correct fluid and electrolyte in balances and to reduce blood viscosity.
- Oxygen therapy is given to prevent hypoxaemia.
- Malaria treatment may be given as prophylaxis.

**Nursing interventions/ management**

a. Psychological Support: Establish rapport to allay anxiety and fears. Encourage patient and family members to verbalize their fears and anxiety. Answer questions asked by patient and relatives in confident and competent manner. Involve patient and relatives in treatment regimen.

b. Pain Management: Acute pain during a sickle cell crisis can be very severe and unpredictable. The patient's subjective description and rating of pain, on a pain scale must guide the use of analgesics which are valuable in controlling the acute pain. Any joint that is acutely swollen must be supported and elevated until the swollen diminishes. Administration of prescribed IV fluids, gentle massage or warm compress can also be

employed to reduce pain. Enough pillows must be provided, position in bed void of creases and cramps. Breathing exercises must be implemented. Divisional therapies like watching of television, reading of favourite story books, patient involvement in conversation and storytelling are helpful and must be implemented for some clients.

c. Position: Patient is made to assume position that is not contraindicated to his condition but rather to enhance his comfort and recovery.

d. Rest and sleep: rest and sleep is ensured to promote recovery processes, conserving energy and reducing metabolic activity. Encourage bed rest with head elevated to decrease tissue demand for oxygen and conserve energy. All nearby windows should be open to ensure ventilation. All activities that must be carried out on him should be organised so that it will not interfere his sleep. Encourage warm bath to stimulate sleep.

e. Observation: Monitor the temperature, pulse, respiration and blood pressure four hourly. Examine the sites of pain for swelling. Observe the skin and mucus membrane for jaundice and cyanosis. Observe the patient for signs and symptoms of infection which include high temperature, pain, and redness of the sites of infection. Monitor for intake and output chart.

f. Nutrition: The patient is given high nutrition diet. The patient diet should be rich in iron and energy or calorie with high protein. Liberal fluids should be increased. Also parental fluid should increase. Patient favorite diet should be served. The diet should be served in bits.

g. Prevention and Management of Infection.: Nursing care focuses on prevention of infection and also control of symptoms of infections such as fever, chills etc. Prescribed antibiotics should be used. Intake and output, dryness of mucosa and skin turgor for

dehydration must be observed. Elevated body temperature which shows that infection has occurred and therefore patient should be tepid sponged afterwards. Prescribed medications should be served.

h. Personal Hygiene: The patient is given daily warm bath since cold water precipitates the crisis. Bed linen and gown of the patient should be change whenever dirt or soiled. Meticulous mouthwash is ensured to reduce anorexia. The hands and feet are cared for if grown.

i. Management of Potential Complications: Leg ulcers require protection from trauma and increased risk of infection hence wound be dressed aseptically to avoid infection and possible complications. Priapism may cause patient to develop sudden painful erection. Owing to this, the patient is taught to empty his bladder at the onset of the attack. Patient must exercise and take a warm bath if episode persists longer than 2-3hours. Medically, penile intracarvenosal aspiration is recommended since repeated episode may lead to extensive vascular thrombosis, resulting in impotence.

j. Promoting home and community based care: People living sickle cell are mostly children hence parents participate in the initial education based on the parent's knowledge, socio-economic level and interest assessment, monitoring skills needed to identify potential complications are implemented.

k. Continuity of care: Continuity of care is needed to aid the patient fit back to the community within which he finds himself. It therefore behooves on all Health Care Providers to continually communicate with patients and their relatives.

l. Prevention of the Sickle Cell Disease: Genetic counseling is the ultimate for preventing sickle cell disease occurrence. Prospective marriage partners must have their blood tested

in order to reduce the incidence of sickle cell disease. Two people who have positive sickling in their blood must take serious consideration and take proper decisions because they are responsible of whatever suffering they bring.

They may decide to get married as companions without babies or the ultimate is for a sickle cell patient to find a partner who is "AA." The patient and other relatives should be educated on the condition and its precipitating factors. There has to be practice of good personal hygiene, environmental hygiene and clothing of oneself at all times during cold weather conditions.

There should be screening of all new born babies for early detection of the condition in order to prevent occurrence of the crisis or to control it.

**Complications of sickle cell disease**

a. Leg ulcers resulting in osteomyelitis
b. Cholelithiasis
c. Priapism in males
d. Anaemia
e. Hepatic failure
f. Pathological fractures
g. Cardiac failure
h. Renal failure
i. Stroke

### 1.9. Validation of data

This refers to confirming data collected with standardized one. This helps to keep the data from bias, errors and misinterpretation. This information collected through observations and interviewing Master W. B. and his family, laboratory investigations and clinical features 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 Standards

The following investigations were carried out on Master W. B. to aid in his diagnoses and treatment.

a. Urine routine examination.
b. Full blood count.
c. Blood for rapid diagnostic test for malaria.

**Table 1 Diagnostic Investigations Carried Out On Master W. B.**

| DATE | SPECIMEN | INVESTIGATIONS | | RESULTS | NORMAL VALUES | INTERPRETATION | REMARKS |
|---|---|---|---|---|---|---|---|
| 08/12/2021 | Blood | Rapid diagnostic test for malaria | | No parasite present | absence of parasite in blood | Normal, this indicates absence of malaria | Tablet A/L was given |
| 08/12/2021 | Blood | Full Blood Count | White blood cells | 23.04 10^3/uL | 3.00 - 8.50 | High, indicates presence of bacteria. | Cefuroxime was given |
| | | | Red blood cell | 2.99 10^6/U | 4.00 – 5.50 | Low, indicates of hemolysis. | He was give folic acid |
| | | | Haemoglobin | 8.5 g/dl | Male 13- 16.5g/dL Female 12-15.5g/dL Children 12.30 – 18.00 | Low, indicates mild anemia. | He was give folic acid |
| 08/12/2021 | Urine | Routine Examination | Appearance | Clear and colorless | Clear and colorless | Normal, indicating | No treatment |
| | | | Blood | Negative | Negative | Normal, this indicates absence of heamolysis. | No treatment |
| | | | Colour | Straw | Straw | Normal, this indicates that he is well hydrated | No treatment |
| | | | Epithelia cell | <10/hpf | <10/hpf | It indicates absence of infection. | No treatment |

### 2.3 Causes of Illness

From the literature review and the laboratory investigations Master W. B.'s condition is a hereditary factor and prolonged exposure to extremely cold weather predisposed him to the crisis.

### 2.4 Clinical Features

The following clinical manifestations presented by Master W. B. are compared with textbook manifestations.

**Table 2 Comparison of Master W. B. Clinical Manifestations with Standards.**

| **CLINICAL FEATURES IN LITERATURE REVIEW** | **CLINICAL FEATURES EXHIBITED BY MASTER W. B.** |
|---|---|
| Pain at the joints. | Patient had joint pains. |
| Abdominal pains may occur. | There was no abdominal pain. |
| Loss of appetite | Patient had no loss of appetite. |
| There may be chronic anemia. | Patient had mild anemia (hemoglobin level 8.5 g/dl) |
| Chest pains and shortness of breath. | There was no chest pain and shortness of breath. |
| Swelling of toes and fingers | Swelling was present at the knee but not of toes and fingers. |

| CLINICAL FEATURES IN LITERATURE REVIEW | CLINICAL FEATURES EXHIBITED BY MASTER W. B |
|---|---|
| Severe headache. | Patient had mild headache |
| Jaundice | There was no jaundice |
| Protrusion of abdomen especially children. | Protrusion of abdomen especially children was not present. |
| Severe joint pain | Patient complained of severe joint pain |
| Constipation | Constipation was not present. |

From the comparison in Table 2 above, Master W. B. did not exhibit some of the signs and symptoms mentioned in the literature review like abdominal pains, loss of appetite, constipation, protrusion of abdomen especially children, chest pains and shortness of breath and jaundice because patient reported early for treatment and was given right nursing and medical management.

**2.5 Treatment**

The following drugs were prescribed and administered as ordered by the Doctor

a. Intravenous Ceftriaxone 2g daily x 5days
b. Injection Morphine 5mg in 1000mls of Normal Saline x 8 hours
c. Intravenous Ringers Lactate 1000mls x 8 hours
d. Intravenous Gentamicin 125mg daily x 2 days

e. Tablet Folic Acid 5mg daily x 30days

f. Intravenous Paracetamol 375mg qid x 5 days

g. Intravenous Cefuroxime 400mg 3 times daily x 2 days

h. Intravenous Rocephine 2g daily x 3 days

i. Tablet Ibuprofen 400mg 3 times daily x 4 days

j. Tablet Artemether Lumefantrine 40/240mmg x 3 days

**Table 3 Comparison of Treatment in Text Book to Treatment Given to Patient.**

| **TREATMENT IN TEXT BOOK** | **TREATMENT GIVEN TO PATIENT** |
|---|---|
| Analgesics | Intravenous Morphine, Intravenous paracetamol and tablet Ibuprofen were given |
| Vitamin supplements | Tablet Folic acid was given |
| Antibiotics | Intravenous Cefuroxime, Intravenous Gentamicin and Intravenous Rocephine were administered. |
| Blood transfusion | Patient was not transfused |

| **TREATMENT IN TEXT BOOK** | **TREATMENT GIVEN TO PATIENT** |
|---|---|
| Intravenous normal saline | Intravenous normal saline 1litre was given for 24hours |
| Oxygen therapy | Oxygen therapy was not given |
| Malaria prophylaxis | Tablet Artemether Lumefantrine was given as malaria prophylaxis because rapid diagnostic test is not a definite test for malaria. |

**Table 4 Pharmacology of Drugs Given to Master W. B.**

| DATE | DRUGS | STANDARD DOSAGE/ROUTE OF DRUGS | ROUTE OF ADMINISTRATION/DOSAGE GIVEN TO PATIENT | CLASSIFICATION | DESIRED ACTION | ACTUAL ACTION OBSERVED | SIDE EFFECT AND REMARKS |
|---|---|---|---|---|---|---|---|
| 08/12/2021 | Injection Morphine | Child:12–17years:2.5–10mg every 4 hours, adjusted according to response | Route:Intravenous<br>Dosage:5mg | Opiate (Narcotic) analgesic | For analgesic and sedation effect | Patient's pain was reduced and he was able to sleep. | Chest pain, drowsiness, sighing. None was observed. |

| DATE | DRUGS | STANDARD DOSAGE/ROUTE OF DRUGS | ROUTE OF ADMINISTRATION/ DOSAGE GIVEN TO PATIENT | CLASSIFICATION | DESIRED ACTION | ACTUAL ACTION OBSERVED | SIDE EFFECT AND REMARKS |
|---|---|---|---|---|---|---|---|
| 08/12/2021 | Tablet Folic Acid | Adult: 5mg daily for 4months<br>Child:1-17years: 5mg daily<br>Route : Orally | Dosage: 5mg daily<br>Route : Orally | Vitamin and mineral supplement (Hematinic) | Stimulate the normal erythropoiesis synthesis. | Patient's blood count improved | Skin allergic reactions like rashes. None was observed |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 08/12/2021 | Intravenous Cefuroxime | Child: 20mg/kg every 8hours(max.per dose750mg); | Route: Intravenous Dosage: 400mg tds | Cephalosporin antibiotics | To stop growth of bacteria | Reduced infection rate in patient. | Nausea, vomiting, diarrhea. None was observed |
| 08/12/2021 | Intravenous Gentamicin | Child:2-4mg/kg daily in 3 divided doses to be given in a multiple daily dose regimen divided doses to be given 8hours | Route: Intravenous Dosage:125mg daily | Aminoglycoside antibiotics | Bactericidal | It works by killing bacterial or preventing their growth rate in patient. | Agitation, back pain, blood in urine, blur vision, not observed. |

| DATE | DRUGS | STANDARD DOSAGE/ROUTE OF DRUGS | ROUTE OF ADMINISTRATION/ DOSAGE GIVEN TO PATIENT | CLASSIFICATION | DESIRED ACTION | ACTUAL ACTION OBSERVED | SIDE EFFECT AND REMARKS |
|---|---|---|---|---|---|---|---|
| 09/12/2021 | Normal Saline | It depends on patient's condition. | Route: Intravenous Dosage: 1liter x 8hours | Sodium and chloride replacement | To restore normal sodium and chloride level | Patient's sodium and chloride level was maintained. | Aggravation of heat, edema, hypothermia. None was observed |
| 09/12/2021 | Intravenous Ringers Lactate | It depends on patient's condition. | 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, Difficulty in breathing not seen. |

| DATE | DRUGS | STANDARD DOSAGE/ROUTE OF DRUGS | ROUTE OF ADMINISTRATION/ DOSAGE GIVEN TO PATIENT | CLASSIFICATION | DESIRED ACTION | ACTUAL ACTION OBSERVED | SIDE EFFECT AND REMARKS |
|---|---|---|---|---|---|---|---|
| 09/12/2021 | Tablet Artemether Lumefantrine | Child (body-weight 25kg and above): Initially 2 tablets, followed by 2 tablets for 5 doses each given at 8, 24, 36, 48 and 60hours. | Dosage: 40/240mmg Route : Orally | Antimalaria | To treat malaria and prevent further destruction of red blood cells | Malaria treated but can sever as prophylaxis. | Abdominal pains, diarrhea, vomiting, nausea, headache, cough, rashes None was observed. |

| DATE | DRUGS | STANDARD DOSAGE/ROUTE OF DRUGS | ROUTE OF ADMINISTRATION/ DOSAGE GIVEN TO PATIENT | CLASSIFICATION | DESIRED ACTION | ACTUAL ACTION OBSERVED | SIDE EFFECT AND REMARKS |
|---|---|---|---|---|---|---|---|
| 09/12/2021 | Intravenous Paracetamol | Child:12-15years: 480–750mg every 4–6hours; maximum 4 doses per day Route: Oral, rectal, intravenous | Route: Intravenous Dosage:375mg QID | Analgesic and antipyretic. | For analgesic effect | Pain relieved and reduce body temperature. | Dark urine, jaundice, low fever with nausea. None was observed. |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 10/12/2021 | Tablet Ibuprofen | Child12–17years: 300–400mg 3–4 times a day | Route: Orally Dosage:400mg 3times daily | Non-steroidal anti-inflammatory | For analgesic, anti-inflammatory and anti-pyretic effect | Patient's pain was reduced | Nausea and dizziness. None was observed. |

| DATE | DRUGS | STANDARD DOSAGE/ROUTE OF DRUGS | ROUTE OF ADMINISTRATION/ DOSAGE GIVEN TO PATIENT | CLASSIFICATION | DESIRED ACTION | ACTUAL ACTION OBSERVED | SIDE EFFECT AND REMARKS |
|---|---|---|---|---|---|---|---|
| 10/12/2021 | Intravenous Rocephine | Adult:1-2g daily Children:12-17years 1-2g daily Route: intravenous | Route: Intravenous Dosage:2g daily | Cephalosporin antibiotics | To stop growth of bacteria | Reduced infection rate in patient as patient's temperature fell within normal range. | Nausea, headache, loss of appetite, dizziness. None was observed. |

## 2.6 Complication

None of the complications in the literature review were observed due to proper and effective nursing care carried out on the patient.

## 2.7 Patient/Family Strengths

According to Lewis (2012), Strength is the quality of being strong. It also involves those 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 effective nursing care for the patient.

### Specific Strengths

1. Patient was able to express the severity of pain on a scale of 0-10.
2. Patient had formal education and was able to verbalize his fears.
3. Patient was able to have uninterrupted sleep for about 2 hours during the night.
4. Patient can initiate his daily routine activities such as oral hygiene and bathing when assisted.
5. Patient can tolerate tepid sponging.
6. Patient walk with support.

## 2.8 Patient/Family Health Problems

A health problem is any stress be it mental, social or physical in a patient that prevents him/her from meeting a certain health standard. Hence the Patient may need some professional service.

The health problems identified on Master W. B. were as follows:

1. Patient complained of specific joints pains. (08/12/2021)

2. Patient and family were anxious. (08/12/2021)
3. Patient could not sleep well at night. (09/12/2021)
4. Patient could not maintain his personal hygiene. (09/12/2021)
5. Patient had higher temperature, 38.0 $^{o}$C (09/12/2021)
6. Patient has a swollen knee (10/12/2021)

**2.9 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 formulating of diagnosis from Patients potential and actual problems which were gathered during the assessment phase. The following nursing diagnosis was made on the Patient;

1. Acute pain (joints pain) related hypoxia secondary to Vaso-occlusive crises. (08/12/2021)
2. Anxiety related to unknown outcome of disease process and hospitalization (08/12/2021)
3. Insomnia related to pain at the left knee and right shoulder. (09/12/2021)
4. Self-care deficit (partial) related to joint pains. (09/12/2021)
5. Hyperthermia (38.0 $^{o}$C) related to infection. (09/12/2021)
6. Swollen related to occlusion. (10/12/2021)

# CHAPTER THREE

# PLANNING FOR PATIENT AND 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 goals.

Planning for the patient/family care is the third stage of the nursing process. It involves the developing of plans designed to reduce, correct and prevent the health problems identified during the phase of analysis. In order to 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 will serve as the tool for the nurse to keep record of the patient's health needs and provide the 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 set are developed upon and a plan of care drawn to resolve the nursing diagnosis within a stipulated time frame.

## 3.1 Objective/Outcome Criteria for Patient/Family Care.

1. Patient will be relieved of joint pains within 24hours.
2. Patient and guardian will be relieved of anxiety within 24 hours.
3. Patient will resume his normal sleeping pattern within 24 hours.
4. Patient will be able to perform self-care activities unassisted within 72 hours.
5. Patient's temperature will fall within normal range (36.4 $^{o}$ C – 37.4 $^{o}$ C) within 24 hou

**Table 5 Nursing Care Plan for Master W. B. and Family.**

| DATE AND TIME | NURSING DIAGNOSIS | OBJECTIVE/OUTCOME CRITERIA | NURSING ORDERS | NURSING INTERVENTION | DATE AND TIME | EVALUATION | SIGN |
|---|---|---|---|---|---|---|---|
| 08/12/2021 5:40 pm | Acute pain related to hypoxia secondary to disease process (Vaso-occlusive crises) | Pain will be relieved within 24 hours as evidenced by;<br>1. Nurse observing patient is relaxed in bed.<br>2. Patient verbalizing the relieve of pain. | 1. Reassure patient of competent nursing care.<br>2. Assess level of pain on a scale of 0-10.<br>3. Apply warm compress.<br>4. Employ diversional therapy. | 1. Patient was reassured of competent nursing care.<br>2. Patient pain was assessed to a score of 7.<br>3. Warm compress was applied.<br>4. Patient was engaged in conversation with relative and other patients | 09/12/2021 5:40pm | Goal partially met as;<br>1. Patient looked relatively relaxed in bed.<br>2. Patient verbalizing reduced pain. | A.F.G |

Table 5 **Nursing Care Plan for Master W. B. and Family**.

| **DATE AND TIME** | **NURSING DIAGNOSIS** | **OBJECTIVE/ OUTCOME CRITERIA** | **NURSING ORDERS** | **NURSING INTERVENTION** | **DATE AND TIME** | **EVALUATION** | **SIGN** |
|---|---|---|---|---|---|---|---|
| | | | 5. Serve prescribed Analgesics.<br>6. Administer IV fluids.<br>7. Make patient comfortable in bed. | 5. Prescribed analgesic (morphine 5mg) was administered<br>6. Prescribed IV normal saline were administered.<br>7. Patient was made comfortable in bed. | | | |

**Table 5 Nursing Care Plan for Master W. B. and Family.**

| DATE AND TIME | NURSING DIAGNOSIS | OBJECTIVE/OUTCOME CRITERIA | NURSING ORDERS | NURSING INTERVENTION | DATE AND TIME | EVALUATION | SIGN |
|---|---|---|---|---|---|---|---|
| 08/12/2021<br>5:45 pm | Anxiety related to unknown outcome of disease process and hospitalization. | Patient will be able to demonstrate no sign of anxiety within 24 hours as evidenced by;<br>1. Nurse observing a relaxed facial expression of the patient.<br>2. Patient involving himself in his care and treatment. | 1. Reassure client of competent nursing care.<br>2. Provide a relaxed and a friendly atmosphere.<br>3. Encourage patient to ask questions concerning his illness, treatment and answer them tactfully. | 1. Patient was reassured of competent nursing care.<br>2. A relaxed and friendly atmosphere was created by involving patient in his treatment.<br>3. Patient was encouraged to ask questions concerning his illness and treatment. | 09/12/2021<br>5:45pm | Goal was fully met as;<br>1. Nurse observed patient with a relaxed facial expression.<br>2. Patient involving himself in his treatment. | A.F.G |

Table 5 **Nursing Care Plan for Master W. B. and Family**.

| **DATE AND TIME** | **NURSING DIAGNOSIS** | **OBJECTIVE/OUT COME CRITERIA** | **NURSING ORDERS** | **NURSING INTERVENTION** | **DATE AND TIME** | **EVALUATION** | **SIGN** |
|---|---|---|---|---|---|---|---|
| | | | 4. Employ diversional therapy.<br>5. Introduce patient to other patients. | 4. Television was switched on entertain patient.<br>5. Patient was introduced to other patients on the ward with the same condition. | | | |

Table 5 **Nursing Care Plan for Master W. B. and Family**.

| **DATE AND TIME** | **NURSING DIAGNOSIS** | **OBJECTIVE/OUTCOME CRITERIA** | **NURSING ORDERS** | **NURSING INTERVENTION** | **DATE AND TIME** | **EVALUATION** | **SIGN** |
|---|---|---|---|---|---|---|---|
| 09/12/2021 7:30 am | Insomnia related to pain at the right shoulder and left knee. | Patient will resume his normal sleeping pattern within 48 hours as evidenced by:<br>1. Nurse observing that patient had uninterrupted sleep for not less than six hours.<br>2. Patient verbalizing that he had uninterrupted sleep. | 1. Reassure patient and family.<br>2. Provide comfortable bed<br>3. Help Patient to assume a position that reduces his pain.<br>4. Provide enough warmth to avoid cold. | 1. Patient was reassured that measures are being put in place to help him have a sound sleep.<br>2. Comfortable bed was made for Patient by using clean sheets free from creases and crumbs.<br>3. Patient was positioned in a way to ensure adequate relaxation and pain relief.<br>4. Nearby windows were closed to avoid chills. Blankets were given to patient to ensure adequate warmth. | 11/12/2021 7:30am | Goal was fully met as;<br>1. Nurse observed patient with a relaxed facial expression.<br>2. Patient involving himself in his treatment. | A.F.G |

Table 5 **Nursing Care Plan for Master W. B. and Family**.

| DATE AND TIME | NURSING DIAGNOSIS | OBJECTIVE/OUTCOME CRITERIA | NURSING ORDERS | NURSING INTERVENTION | EVALUATION | SIGN |
|---|---|---|---|---|---|---|
| | | | 5. Regulate how patient receive visitors to ensure good sleep.<br>6. Organize nursing care to minimize sleep interruption.<br>7. Administer prescribed analgesics to reduce pain | 5. Visitors were not allowed to see patient when he was asleep.<br>6. All nursing activities were done at a go, this promoted minimal interruption in sleep.<br>7. Prescribed analgesics 5mg of morphine in 1000mls of normal saline was administered. | | |

Table **5 Nursing Care Plan for Master W. B. and Family**.

| **DATE AND TIME** | **NURSING DIAGNOSIS** | **OBJECTIVE/OUTCOME CRITERIA** | **NURSING ORDERS** | **NURSING INTERVENTION** | **DATE AND TIME** | **EVALUATION** | **SIGN** |
|---|---|---|---|---|---|---|---|
| 09/12/2021<br>8:00 am | Self-care deficit (partial) related to joint pains. | Patient will maintain his personal hygiene unassisted within 24 hours as evidenced by;<br>1. Patient performing activities unassisted.<br>2. Nurse observing patient grooming herself. | 1. Reassure Patient.<br>2. Assist Patient to bath.<br>3. Assist Patient to maintain his oral hygiene. | 1. Patient was reassured that he will be assisted to maintain adequate personal hygiene throughout his stay on the ward.<br>2. Patient was assisted to bath twice daily with warm water, soap and sponge.<br>3. Patient was assisted to brush his teeth with toothpaste and toothbrush early in the morning and evening. | 10/12/2021<br>8:00am | Goal fully met as Patient performed self-care activities unassisted. Nurse observing patient grooming himself. | A.F.G |

**Table 5 Nursing Care Plan for Master W. B. and Family.**

| DATE AND TIME | NURSING DIAGNOSIS | OBJECTIVE/OUTCOME CRITERIA | NURSING ORDERS | NURSING INTERVENTION | DATE AND TIME | EVALUATION | SIGN |
|---|---|---|---|---|---|---|---|
| | | | 4. Assist patient to change dirty clothing and soiled linen.<br><br>5. Assist patient to care for his mouth | 4. Patient's dirty clothes and soiled linen were changed and was made comfortable in bed.<br>5. Patient was assisted to care for his mouth twice daily to prevent halitosis and stimulate his appetite. | | | |

Table **5 Nursing Care Plan for Master W. B. and Family**.

| **DATE AND TIME** | **NURSING DIAGNOSIS** | **OBJECTIVE/ OUTCOME CRITERIA** | **NURSING ORDERS** | **NURSING INTERVENTION** | **DATE AND TIME** | **EVALUATION** | **SIGN** |
|---|---|---|---|---|---|---|---|
| 09/12/2021 09:15 am | Hyperthermia (38.0 $^{o}$C) related to infections. | Patient's body temperature will reduce from 38.0 $^{o}$C to a normal body temperature within 24 hours as evidenced by temperature reading ranging within the normal 36.4 $^{o}$C to 37.4 $^{o}$C | 1. Reassure patient and mother.<br><br>2. Check temperature.<br><br>3. Tepid sponge patient. | 1. Patient was reassured that his body temperature would be restored to normal and that the rise in temperature is as a result of the disease condition. This was done to allay fears and anxiety.<br>2. Patient's body temperature was checked and recorded with an electronic thermometer. This was to serve as a baseline data after tepid sponging.<br>3. Patient's was tepid sponged with water by placing wet flannels | 10/12/21 09:15am | Goal fully met as patient's temperature is reduced to 37.1 $^{o}$C. | A.F.G |

**Table 5 Nursing Care Plan for Master W. B. and Family.**

| DATE AND TIME | NURSING DIAGNOSIS | OBJECTIVE/OUTCOME CRITERIA | NURSING ORDERS | NURSING INTERVENTION | DATE AND TIME | EVALUATION | SIGN |
|---|---|---|---|---|---|---|---|
| | | | | in each axilla and groin and the upper arm, trunk, lower limbs and back in strokes leaving small drops of water on the skin. | | | |
| | | | 4. Ensure adequate ventilation. | 4. Adequate ventilation was ensured by opening nearby windows. | | | |
| | | | 5. Re-check temperature. | 5. Patient's body temperature was checked every four hours and any changes were recorded and reported to the nurse in charge. | | | |
| | | | 6. Administer prescribed antipyretic. | 6. Prescribed medications such as paracetamol was administered as ordered with good effect | | | |

# CHAPTER FOUR

# IMPLEMENTATION OF PATIENT/FAMILY CARE PLAN

## 4.0 Introduction

According to (Weller, 2014) implementation as the giving of care in relation to defined nursing interventions and goals. 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 isn't 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 W. B. began right from his admission into the ward on the 8th day of December, 2021 and continued until discharged on 14th December, 2021. The nursing care rendered also 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.

### 4.1.1 First Day of Admission

On the 8th day of December, 2021 at 5:30 p.m., Master W. B. was brought to the Male's Ward in a wheel chair accompanied by his guardian, Miss D. A. and a nurse from the Emergency Unit. They were warmly welcomed to the ward and offered seats to patient and guardian to make them comfortable while folder with registration number 13548/11 was handed over by his guardian to

the nurse in charge. The nurse in charge handed over the folder to me and patient's name was mentioned as W. B., the patient responded. Patient was welcomed again to the ward. Patient appeared anxious and complained of left knee and right shoulder pains on assessment. Patient was put into an already made admission bed with number M/3, made comfortable in bed and introduced to other patients in the male's ward. During admission, patient was alert, conscious and well oriented to time, place and person hence an introduction was done between self, staff, patient and patient's guardian. Good therapeutic relationship was established between the patient, relative and the staffs in the ward. History from patient was taken. This included; name, age, sex, date and time of admission, place of residence, next of kin, religion, ethnic group, nationality and hometown. These were documented in the admission and discharge book and daily ward state form. His vital signs were checked and recorded as follows;

Temperature – 37.0˚C

Pulse – 92 beats per minute

Respiration – 23 cycle per minute.

Blood pressure – 110/90mmHg

Weight – 25kg

Height – 133cm

Patient and guardian were reassured that adequate measures would be put in place to help manage his condition effectively. Patient and relative were also educated on the need for hospitalization and that it will help monitor his condition and give efficient care. His relative was oriented to the ward and was informed about the hospital's schedules, protocols and routines

relating to items to be used by patients and visiting hours. Patient is a member of the National Health Insurance Scheme and has a membership card. It was explained to the guardian that the National Health Insurance Scheme does not cover all drugs hence, he will be required to pay for some drugs should the need arise. I introduced myself as a final year student of Holy family Nursing and Midwifery Training College, Berekum who wants to use him for patient and family care study. It was further explained to them that, before one becomes a professional nurse the person need to carry out a study on a patient before given a license to practice. Therefore, patient and his guardian's consent were sought for approval for them to be used for the study. They agreed and were willing to cooperate. I wanted to have more knowledge about the disease condition that is, its 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.

The following laboratory investigations were requested;

1. Blood for malaria parasites estimation.
2. Full blood count (hemoglobin level estimation, white blood cell count, red blood cell count)
3. Urine examination.

Drugs prescribed for patient were;

1. Stat IV Morphine 5mg every 4 hours x 4 days
2. IV Cefuroxime 400mg TDS x 2 days
3. IV Gentamicin 125mg once daily x 2 days
4. Tablet folic acid 5mg daily x 30 days (patient was on before admission)

With I.V line insitu, blood specimen was withdrawn for the above tests to be carried out. The blood samples were labeled and sent to the laboratory and patient was made comfortable in bed. Treatment was commenced and patient was reassured that the health team would do their best to aid in his quick recovery. Prescribed I.V morphine 5mg, I.V cefuroxime 400mg and I.V gentamicin 125mg stat were administered intravenously. The patient's guardian confirmed that the patient has taken in rice and stew. Disease condition was explained to patient and relative that it is not permanent but it is temporal and when all symptoms are relieved and his doctor and staff sees that wellbeing of patient has improved, appropriate discharge plan will be made hence patient will be discharged home.

At 5:40pm, nursing assessment was conducted to validate joint pains presented by Master W.B. Quickly, a nursing diagnosis of acute pain related to hypoxia secondary vaso-occlusive crisis was formulated. An objective was set to relieve patient of joint pains within 24 hours. Nursing interventions rendered were; patient was reassured of competent nursing care, patient's pain was assessed to a score of 7, warm compress was applied, patient was engaged in conversation with relative and other patients, prescribe analgesics(morphine 5mg) was administered, prescribed normal saline was administered and patient was made comfortable in bed.

At 5:45pm, I interacted with the patient and noticed that patient was anxious. A nursing diagnosis of anxiety related to unknown outcome of hospitalization and disease process. An objective was set to relive patient of anxiety within 24 hours. The following nursing orders were implemented to help the patient: Patient was reassured of competent nursing care, a relaxed and friendly atmosphere was created by involving patient in his treatment, patient was encouraged to ask questions concerning his illness and treatment, television was switched on entertain him, patient was introduced to other patients on the ward with the same condition.

At 10:00pm, patient vital signs were checked and documented as indicated in the appendix. He then slept at 10:45pm without taking his bath.

### 4.1.2 Second Day of Admission (09/12/21)

On 9th December, 2021, I arrived at the ward at 7:00am. Report from the night nurses indicated that patient woke up at 5:40am but had interrupted sleep because he was in pain and this was confirmed by patient upon assessment. Patient was assisted to perform oral hygiene by night nurses. At 6:00am, due medications; IV Cefuroxime 400mg, IV Gentamicin 125mg and Tablet Folic Acid 5mg were administered and his vital signs were checked and recorded as indicated in the appendix. He took porridge and bread as breakfast.

At 7:30am, a nursing diagnosis of insomnia related to pain at the right shoulder and knee was formulated. An objective was formulated to restore patient's normal sleeping pattern within 24 hours. The following nursing orders were implemented to help the patient: 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 sheet free from creases and crumbs, he was positioned in a way to ensure adequate relaxation and pain relief, nearby windows were closed to avoid chills, blankets were given to patient to ensure warmth, visitors were not allowed to visit him when he was asleep, all nursing activities were done at a go to provide minimal interruption in sleep, prescribed analgesics(morphine 5gm) was administered.

At 8:00am, nursing diagnosis of self-care deficit (partial) related to joint pain. An objective was set to maintain patient's personal hygiene unassisted within 24 hours. The following orders were carried out: Patient was reassured that he will be assisted to maintain his personal hygiene throughout his stay, he was assisted twice daily with water, soap and sponge, and was assisted to

brush his teeth with tooth paste and tooth brush twice daily to prevent halitosis, patient's dirty clothes and soiled linen were changed.

At 9:15am, during ward rounds, patient recorded a high temperature of 38.0 $^{o}$C, therefore, the medical officer added I.V. Paracetamol 375mg, QID. Again, Tablet Arthemeter Lumefantrine 40/240mg twice daily for three days was prescribed as prophylaxis.

A nursing diagnosis of hyperthermia (38.0$^{0}$C) related to infection was made. Objectives were set to enable patient regain his normal body temperature within 24 hours. The following interventions were carried out: Patient was reassured that measures are being put in place to help him have a normal body temperature and that the rise in temperature is as result of the disease condition to allay fear and anxiety, patient's body temperature was checked using electronic thermometer, patient was tepid sponged with lukewarm water, adequate ventilation was ensured by opening nearby windows, patient's body temperature was checked every 4 hours, prescribed antipyretic IV Paracetamol 375mg was administered.

At 1:00pm, patient took sliced yam with "kontomire" stew. Afterwards, he was engaged in a passive exercise to relieve fatigue, to promote heat and patient was placed in a comfortable position after ambulation.

At 2:15 pm he then took his due medications that is iv cefuroxime 400mg, he was handed over to afternoon nurses. Patient was assisted to bath by afternoon nurses at 7pm.

At 5:40pm, an evaluation of the objective set to relieve patient of joint pains within 24 hours on 8$^{th}$ December, 2021 was done and goal was partially met as patient looked relatively relaxed in bed and patient verbalizing reduced pain. Therefore, amendment of care was done and a nursing diagnosis of acute pain related to hypoxia secondary vaso-occlusive crisis was formulated. An

objective was set to relieve patient of joint pains within 24 hours. Nursing interventions rendered were; patient was reassured of competent nursing care, patient's pain was assessed to a score of 4, warm compress was applied, patient was engaged in conversation with relative and other patients, prescribe analgesics(morphine 5mg) was administered, prescribed normal saline was administered and patient was made comfortable in bed.

At 5:45pm, an evaluation of the objective set on 8th December, 2021 to relieve patient of anxiety was done and goal was fully met as the nurse observe patient with a relaxed facial expression and involving himself in his treatment.

At 10:00pm, vital signs were checked and recorded and IV Cefuroxime 400mg was administered. All nursing procedures carried out were documented. He went to bed at 10:45pm.

### 4.1.3 Third Day of Admission (10th December, 2021)

On the third day, on arrival at the ward around 7:30am, patient had already maintain his personal hygiene activities like taking his bath and brushing of teeth without an assistance at 6:00am, patient's medications that is Tablet Arthemeter Lumefantrine 40/240mg, Tab folic acid 5mg were served and vital signs were checked and recorded as stated in the appendix. However, some of the medications were asked to be withheld by the medical officer which included Gentamycin 125mg and Cefuroxime 400mg as they were replaced with I.V Rocephine 2g and Tablet Ibuprofin 400mg. I.V Paracetamol was also alternated with I.V Morphine during ward rounds. On assessment, it was observed that patient had swollen knee and nursing interventions were implemented to reduce swelling within 48 hours.

Patient took tea and bread for breakfast.

At 7:30am, objective that was set on 9th December,2021 to enable patient regain his normal sleeping pattern was evaluated and goal was fully met as night nurses observed patient sleep uninterrupted for about 7 hours and patient verbalizing he is able to sleep well.

At 8:00am, an evaluation of the objective set on 9th December,2021 for patient maintain his personal hygiene unassisted was done and goal was fully met as the patient perform his personal hygiene unassisted and nurse observing patient groom himself

At 9:15am, an evaluation of the objective set on 9th December, 2021 to reduce patient's body temperature was done and goal was fully met as nurse recorded a reduced temperature of $37.1^0$C.

At 12noon, his lunch was given to him and medications such as IV Paracetamol 375mg was administered. At 2pm, vital signs were checked and recorded. I embarked on my first home visit by asking for permission and directions from the patient's guardian.

At 5:40pm, an evaluation of the amended care with the objective of relieving patient of pain was made and goal was fully met as patient verbalized the absence of pain and nurse observing that patient is relaxed in bed. 1 Liter normal saline was set up with Morphine 5mg added.

In the evening, patient took rice with tomato stew with an orange as supper. At 6pm, vital signs were checked and due medications served and documented.

He engaged in a conversation with one of his relatives who had come to stay with him that evening. He had his bath and slept at 10:45pm after watching the late news. The interventions carried out on patient were documented to ensure continuity.

### 4.1.4 Fourth Day of Admission (11th December, 2021)

On this day, patient was looking very relaxed in bed at 5am. He had a warm bath and had a cheerful face. Report from night nurses indicate that patient had a sound sleep. Patient took "hausa koko" and "koose" as breakfast.

At 6:00 am, vital signs were checked and recorded as indicated in the appendix. Due medications IV Paracetamol 375mg, Folic acid 5mg and IV Ringer's lactate 500mls was administered and documented.

During patient's review, the doctor ordered for the continuation of the previous treatment. He was encouraged to undertake passive exercises as he could cope to promote oxygenation and lastly, patient was educated on the need to exercise moderately. Vital signs were checked and recorded as stated in the appendix.

At 1:15pm, patient was served with rice and groundnut soup as lunch. Patient was made comfortable in bed and was also engaged in a conversation with nurses and other patient's at ward.

In the evening, he was served with jollof rice with an egg and he was able to eat all.

At 10:00pm, patient's vital signs were checked and recorded as indicated in the appendix, due medications such as IV Paracetamol 375mg, Tab Arthemeter Lumefantrine 40/240mg were administered. Patient went to bed at 10:30 pm.

### 4.1.5 Fifth Day of Admission (12th December, 2021)

On this day Patient woke up at 5:30am and he was looking very good and cheerful. Patient performed his oral hygiene and had a warm bath without assistance. He was served with a cup of "tom brown" porridge with milk and two slice of bread.

During ward rounds, Patient had no complaint and the medical officer ordered continuation of treatment and further monitoring. Vital signs were checked and recorded as stated in the appendix.

At lunch he was served with “fufu” with light soup.

Patient went to bed at 10:30pm after he had taken all his medications and his vital signs have been checked and recorded.

### 4.1.6 Sixth Day of Admission (13th December, 2021)

Master W. B. woke up at 6:00am. He looked healthy, cheerful and without complains. His personal hygiene was maintained and his medications were administered as ordered. Vital signs were also checked and recorded after he had taken Milo drink and two slices of bread as his breakfast. During ward rounds at 8:36am, Dr. A. N. suggested that, he may be discharged the following day since his condition was stable, had been improved and that all I.V. fluids were ordered to be withdrawn.

He took rice and light soup in the afternoon as lunch and normal ward routine was followed

In the evening, he took Kenkey and fried fish, later, he took a bottle of fruit juice. Medications were served without any reaction. At 7:30pm. He brushed his teeth, took his bath and went to bed around 9:30pm. Patient’s condition was stable, vital signs were checked and recorded and was handed over to the night nurses for continuous care and treatment.

### 4.1.7 Seventh Day of Admission (Day of Discharge, 14th December, 2021)

On this day patient looked cheerful and had no complains. His personal hygiene was maintained. Vital signs checked and recorded were within the normal range, prescribed medications were also administered as ordered. Patient had oats and bread as breakfast and was able to tolerate it.

During ward rounds, the doctor discharged him to go home and was to come for review on 28th December, 2021. He was put on the following drugs:

Tablet Cefixime 200mg OD x 7 days

Tablet Folic acid 5mg daily x 30days

Tablet Ibuprofen 400mg tds x 7 days

Tablet Paracetamol 500mg tds x 7 days

The Medical doctor encouraged patient on liberal fluid intake.

Settlement of hospital bills was not a problem since patient is a registered member of the National Health Insurance scheme. Patient's folder number was taken for assessment of non-insured services and those bills were paid for at the revenue office and a receipt was issued to his guardian. They were encouraged to adhere to the education given in order to promote and maintain his health even after discharge.

They were also taught about the possible complications of the condition such as splenomegaly, hepatomegaly etc. and were also told to report to the hospital earlier if those symptoms are presenting and the importance of coming for review. However, if they experience any problem before review date he should report to the hospital for treatment. He was also advised on early reporting of any feeling of illness. Patient education was stressed on personal and environmental hygiene, the need to complete medication and intake of nutritious diet rich in folic acid. They were also educated on the need for adequate ventilation and wearing of protective clothes.

Patient and guardian were grateful to the nursing and medical staff for helping the Patient to recover soon.

They were also informed about the date of review that is 28th December, 2021, and was to report to any of the consulting rooms. Patient's cannula was removed and his name was entered into the admission and discharge book and in the daily ward state indicating that he was discharged. Patient and relative were assisted to pack their belongings after which they were escorted to board a taxi and bid goodbye. Patient's bed linen was removed and the mattress was disinfected with 0.5% chlorine solution and air dried for the next use. All other routine cares for the day which included drug administration, discharge and other observations were done and documented accordingly in the nurses' notes.

## 4.2 Preparation of Patient and Family for Discharge and Rehabilitation

Preparation of the patient and family started on the day of admission, that is 8th December, 2021. On admission, patient and relative were made to understand that, hospitalization is temporal and patient will improve and will be discharged home. During admission, the patient and his aunt were reassured of the competency of the staff. The causes, signs and symptoms management and prevention of crises were explained to them. They were also educated on the need to maintain good personal hygiene such as bathing twice daily, oral care and proper hand washing before and after eating and visiting the toilet. They were told that, the disease is hereditary in origin but some predisposing factors such as exposure to cold, infection, dehydration, stress, emotional disturbances, strenuous physical activities and poor nutrition trigger the crisis.

The education also included the need for the Patient to eat a well-balanced diet rich in all the food nutrients in order to boost up his immune system. Patient's guardian was also advised to make sure that Patient takes his medications to ensure continuity of care at home and ensure complete recovery. Madam D. A. was informed to bring Master W. B. for review on the 28th December, 2021 at the OPD. His guardian was advised to bring him to the hospital for proper

management and appropriate treatment should any of the manifestations occur. Finally, Master W. B. was discharged on the 14th December, 2021.

His bills were assessed and was paid for. Documentation of his name, date, bed number and final diagnosis were entered in the admission and discharge book as well as the daily ward state to indicate they have been discharged. Madam D. A. was reminded of the second home visit. They both left in a taxi after expressing their gratitude to the staff and friends on the ward and bid them goodbye. The bed linen was removed and mattress, bed and bed locker were disinfected with 0.5% chlorine solution and air dried.

### 4.3 Follow up / Home Visit/ Continuity of Care

This is the act of rendering health service to a patient in her/her home environment to ensure continuity of care.

Follow up, home visit, and continuity of care plan is an important role in the care of the patient and family before and after discharged. It helps in observing the health and environmental conditions of the patient and family as well as helping to know the predisposing factors and hazards which could be dangerous to the health of patient and the family and to know whether condition of patient is from the surroundings.

#### 4.3.1 First Home Visit

The first home visit was done on Friday 10th December, 2021, while Master W.B. was still on admission. This was done in order to know the home and assess the facilities of the house and community as a whole and also find pre-disposing factors so that health education can be given before patient's discharge to the house and to validate if the description given to me was correct and to find the nearby clinic.

I boarded Okada at the hospital gate and directed the driver to take me to Amangoase, where the patient resides and it took me 15 minutes to arrive at the vicinity. I followed the exact description Miss D.A. gave me and also asked people in the area who gave me directions to the house. Soon enough, I was able to reach Master W.B's house at 2:00pm. The house was painted in blue and white with the house number I-33. Master W.B. stays at Amangoase with his aunt and younger sister. Upon reaching the house; the patient's sisters gave me a warm reception and asked me of my mission. I introduced myself to and had the chance to interact with her. The house is located opposite the Wamfie Rural Bank Berekum branch, off the Amangoase - Berenyekwa road. An observation was made around the environment and the house. The house is roofed with sheets. Their source of water is pipe borne and sometimes resorted to a nearby borehole. They use their veranda as their kitchen facility hence, they eat in their room, and the house is supplied with electricity and has a fair drainage system. Their refuse disposal facility is about 200 meters away from their house, the community has a Health Center and a basic school. She was educated on sickle cell disease that is the causes, signs and symptoms, treatment and prevention. She was also advised to keep their surroundings clean and drain all stagnant water, dispose-off refuse properly to prevent mosquito bite which can lead to malaria. She was advised to cover their dustbins to prevent diseases. She was reassured that patient will be discharged home within few days hopefully. After allowing her to ask questions bothering her mind and interacting with her, I assured her of another visit after her brother is discharged. I thanked her and then went back to the hospital.

### 4.3.2 Second Home Visit

The second home visit was made on 17th December, 2021 after patient was discharged. The aim was to find out about patient's health status after discharge, he is complying with his medication regime and to remind patient and family about the review date.

On assessment, the patient was doing well and he was taking his medications as prescribed.

Education was given to patient and family to ensure that patient avoids stressors such as extreme cold, infections, and physical exertion as these triggers sickle cell crisis.

Emphasis was made on the need to ensure a good personal and environmental hygiene, healthy diet and completion of medication as ordered. Patient was encouraged to join a sickle cell association in Ghana. Patient and aunt were also reminded about the review date.

They were assured of another visit which would be done to terminate the care and hand them over to the community health nurse to ensure the continuity of care.

### 4.3.3 Review (Tuesday 28th December, 2021)

Patient came for review on the 28th December, 2021, patient and his guardian was met at the out-patient department as planned. Patient looked well and cheerful. After exchanging greetings with them, patient's folder number handed over to the nurse in charge. Vital signs recorded and later, it was their turn to see the doctor. On examination patient was declared fit and the Doctor informed him to continue with his folic acid therapy as ordered and also avoid stressors such as physical exertion, dehydration, extreme cold and infections. They were also advised on the need for good nutrition to boost his immune system. At 10:15am, after they left the doctors room, I escorted them to the road side and bid them goodbye.

### 4.3.4 Third Home Visit

The third home visit was made with a community health nurse on Thursday 30/12/2021. The aim of the visit was to terminate care with the patient and family and handover to the community health nurse to ensure the continuity of care.

On arrival to the house at 9:30am, we were warmly welcomed by the patient's aunt who offered us a seat. The mission of the visit was asked by the patient's aunt and it was explained to her that I came to terminate the care with them and also hand them over to the community health nurse. Upon assessment, the patient was doing very well and they were also following the treatment regime and the education given to them.

Patient and family were then handed over to the community health nurse for continuity of care. Patient and family were encouraged to give their maximum cooperation to the community health nurse.

They expressed their sincere appreciation for the care rendered to them throughout hospitalization and after discharge. I wished them well, exchanged seasonal greetings with them and showed them my gratitude. I finally asked permission to leave at exactly 10:15am.

# CHAPTER FIVE

# EVALUATION OF CARE RENDERD TO PATIENT AND 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 plans implemented had been successfully accomplished.

## 5.1 Statements of Evaluation

After a thorough assessment and interaction with Master W.B. 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. Master W.B. was Relieved of Pain

On 08/12/2021 at 5:40 pm, patient complained of pain in left knee and right shoulder. A nursing diagnosis of pain related to vaso-occlusive crisis was made. An objective was set to relief patient of his pain. To help relieve pain, patient and family were reassured that the condition wasn't permanent and that there were appropriate measures to ensure his full recovery and adequate care will be provided to relief him of the pain. Patient's level of pain was assessed by using scale of 0-10. Patient's pain was assessed for its location, type, and duration. Patient's bed was well made free from creases and wrinkles. Patient's attention was diverted from pain by engaging him in conversation. Warm compress was applied to his joints to reduce pains and prescribed Morphine 5mg was administered intravenously.

On 09/12/2021 at 5:40pm goal was partially met as patient verbalized reduced pain. The care was therefore amended and an extra 24 hours was added in order to fully meet the goal.

On 10/12/2021 at 2:30pm, the goal was fully met as Patient verbalized relieve of pain.

**2. Patients and Relatives were Relieved of Anxiety**

On 08/12/2021 at 5:45pm, patient and relative were anxious. A nursing diagnosis of anxiety related to change of environment and hospitalization was made. An objective was set to relieve fear within 24hrs and the following interventions were carried out; Patient and relatives were reassured that, with their cooperation and compliance to treatment regimen, the condition can be controlled. A relaxed and friendly atmosphere was created by involving Patient in his treatment; Patient and family were encouraged to ask questions about condition and simple and straight forward answers were provided to their questions promptly and tactfully. On 09/12/2021 at 5:45pm, objective was evaluated and goal fully met as patient involved himself in his treatment and patient/guardian verbalized they were no more anxious and nurse observing Patient with a relaxed facial expression.

**3. Patient Regained his Normal Sleeping Pattern**

On 09/12/2021 at 7:30am, patient was unable to sleep well. Nursing diagnosis of insomnia related to pain was made. An objective was set to relieve the insomnia within 24 hours. Nursing interventions carried out were reassurance of patient 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. Nearby windows were closed to avoid chills. Patient was feeling cold so blankets were given to patient to ensure adequate warmth and due medications were served.

On 10/12/2021 at 7:30am, objective was evaluated and goal was fully met as patient verbalized he had an uninterrupted sleep in the night and nurse observed that patient had uninterrupted sleep for about 7 hours.

4. **Patient Regained His Strength**

On 09/12/2021 at 8:00am, patient complained he could not maintain his personal hygiene unless assisted as a result of joint pains. Nursing diagnosis of self-care deficit (partial) related to joint pains was made. Objective was set to relieve patient of joint pains and enable him perform self-care activities unassisted and the following interventions were carried out; Patient was assisted to bath twice daily with warm water, soap and sponge. Patient was assisted to brush his teeth with toothpaste and toothbrush early in the morning and evening. Patient's dirty clothes and soiled linen were changed and was made comfortable in bed. Patient was assisted to care for his mouth twice daily to prevent halitosis and stimulate his appetite.

On 12/12/2021 at 8:00am, objective was evaluated and goal was fully met as patient took his bath and performed other self-care activities without assistant and Nurse observing patient grooming himself.

5**. Patient Regained Normal Body Temperature**

Patient had high temperature on assessment on 09/12/2021 at 9:15am. Nursing diagnosis Hyperthermia related to infection was made. An objective was set to reduce high body temperature to normal and the following interventions were carried out. Patient was reassured of competent nursing care, patient's body temperature was checked and recorded with an electronic thermometer to serve as a baseline data after tepid sponging. Tepid sponging was done and

nearby windows were opened to improve ventilation. On 10/12/2021 at 9:15am, the goal that was set to reduce patient's body temperature to normal was fully achieved, i.e. from 38.0$^{o}$ C to 37.1$^{o}$ C.

6. **Patient's Swollen Knee was Reduce**

On 10/12/2021 at 7:30 am, patient had a swollen left knee as verbalized by patient and observed by the Nurse. A nursing intervention was made to reduce swelling of knee and they were as follows. Patient was reassured to allay fears, Patient's tight clothes were loosed, Patient's knee was supported with pillow, and patient was massaged to help reduce swelling. On 12/12/2021 at 7:30am, the objective was met as nurse observed that swollen has been reduced.

**5.2 Amendment of Care Plan**

Patient complained of specific joints pains and an objective that was set to relieve pain was partially met during evaluation. This was because the time frame was too short, therefore extra 24hours was added and a nursing intervention was carried out and evaluated on 11/12/2021 and goal was fully met.

All other goals were fully met and aided in the quick recovery of the Patient.

**Table 6 Extract of Amended Nursing Care Plan for Master W. B. And Family**.

| DATE AND TIME | NURSING DIAGNOSIS | OBJECTIVE/ OUTCME CRITERIA | NURSING ORDERS | NURSING INTERVENTION | DATE AND TIME | EVALUATION | SIGN |
|---|---|---|---|---|---|---|---|
| 09/12/2021<br><br>5:40 pm | Pain (joints pain) related to Vaso-occlusive crises. | Patient will be relieved off pain within 24 hours as evidenced by:<br>1. Patient verbalizing that he is not feeling pains any more.<br>2. Nurse observing that Patient is relaxed in bed. | 1.Reassure the Patient and assess for the severity of the pain using a scale of 0-10<br>2. Apply warm compress to painful site to reduce pains.<br>3. Massage Patient's joints to reduce pains<br><br>4. Serve prescribed intravenous fluids. | 1. Patient was reassured and Patient's pain was assessed for severity using a scale of 0-10<br><br>2. Warm compress was applied to his joints to reduce pains.<br><br>3. Patient's joints were massaged gently to reduce pain.<br><br>4. Prescribed intravenous fluids were served to dilute blood. | 10/12/2021<br>5:40 pm | Goals fully met as<br>1 Patient verbalized the absence of pain.<br><br>2. Nurse observing that Patient is relaxed in bed. | A.F.G |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | 5. Employ diversional therapy to divert Patient's attention from his pain.<br><br>6. Serve prescribed analgesics.<br><br>7. Make a comfortable bed for Patient | 5. Patient's attention was diverted from pain by engaging him in conversation.<br><br>6. Prescribed Ibuprofen 400mg tid x 5 was administered respectively<br><br>7. Patient's bed was well made free from creases and wrinkles | | | |

### 5.3 Termination of Care

It is the end of care rendered to Patient and family from the day of admission to the day of discharge. Interaction with Patient and family started on 8th December 2021 to 14th December, 2021. Patient's condition had improved on the day of discharge. Preparation for discharge started on the day of admission to prevent anxiety. Patient and his family members were educated on their diet, precipitating factors of the condition and personal hygiene. They were informed about the need to continue with the medications prescribed.

Patient and family were entreated to report to the nearest health facility in their community or the hospital should he experience any complication, and they were informed about the review date. They were encouraged to report on the said date.

Though care ended on 14th December, 2021 at the hospital, follow-up visits were made on occasions to Patient's house to ensure continuity of care.

First home visit was made on the 10th December, 2021 while my patient was still on admission. They were advised to keep their surroundings clean and drain all stagnant water, dispose-off refuse properly to prevent mosquito bite which can lead to malaria. Education was given on sickle cell disease and they were advised to cover their dustbins to prevent diseases. The patient relatives were reassured that patient will be discharged home within few days hopefully. I asked for permission to leave and it was granted.

Second home visit was carried out on 17th December, 2021, after patient was discharged. His family was congratulated for taking good care of Master W.B. This opportunity was also used to teach both Patient and relatives on the need to keep environment clean, in which they gave

positive feedback on what was learnt. His treatment drugs were observed and it was detected that Patient is complying with the instruction on how and when to take the drugs.

They were also told about the need for a community health nurse to continue the care and visit. I assured them that in the next visit that I will introduce a community health nurse to them. They were reminded of the review date which was on the 28th December, 2021 and also informed them to report to the hospital if condition persists. I asked for permission to leave and it was granted and I was escorted by Master W.B to board a car.

The care was terminated on 30th December, 2021 which was during the last home visit. During this visit, the patient and his family were assessed for the progress in the patient's condition. They were reminded of the termination of care on this day. They were also advised on regular checkups to enhance good health and to ensure continuity of care. Patient was then handed over to Mrs. P.D. a community health nurse. I thanked them for their cooperation which made my study a successful one. They also showed their gratitude to all staff for the help and care rendered. Permission was sought to leave their home and I was escorted by the patient and his relatives to the lorry station to board a car. They were assured of a visit when appropriate, I bid them goodbye and left.

# CHAPTER SIX

# SUMMARY AND CONCLUSION

## 6.0 Introduction

According to Hornby (2010), summary is a brief account giving the main point to a health problem. This is the last stage of the patient and family care study and it contains a summary of all the care rendered to Master W.B. and family throughout the period of hospitalization to the time the care was terminated.

## 6.1 Summary of Care Rendered to Patient and Family

Master W.B. the subject of my study is thirteen years old and a native of Nseseresu in the Brong Ahafo region of Ghana but resides with his aunt in Amangoase of Berekum Municipal. He was admitted to the Male's ward of Holy family hospital, Berekum on Wednesday 8th December, 2021 with a diagnosis of Sickle Cell with vaso-occlusive crisis.

Health problems identified included specific joint pain, anxiousness, high temperature, swelling knee, sleep pattern disturbance and inability to maintain his personal hygiene.

These were all attended to with the appropriate nursing intervention such as education on the need for hospitalization; explanation of procedures that were performed on the Patient to gain his cooperation through his guardian; Master W.B. and his guardian were encouraged to ask questions about condition and simple and straight forward answers were provided to their questions promptly and tactfully, Patient's bed was well made free from creases and wrinkles, warm compress was applied to his joints to reduce pains and prescribed morphine 5mg was administered intravenously. Nearby windows were opened to improve air circulation in the room and vital signs was checked and recorded. Patient was assisted to care for his mouth twice daily

using water, tooth brush and paste to prevent halitosis and stimulate his appetite and Patient was positioned in a way to ensure adequate relaxation.

Drugs prescribed for Patient which was served as ordered were: Intravenous Morphine 5mg every 4 hours x 4 days, Intravenous Cefuroxime 400mg three time daily x 24 hours, Intravenous Gentamicin 125mg once daily x 4 days, Tablet Folic Acid 5mg daily x 30.

The following laboratory investigations which were carried on Master W. B. to assist treatment included; Blood for malaria parasites estimation, Full blood count (hemoglobin level estimation, white blood cell count, and red blood cell count), and Routine urine examination.

All goals and objectives set for Patient's health problems were fully met due to effective nursing care, discharge planning which started on the day of his admission to the ward and at least several days before planned discharge till the day patient is discharged and medical care rendered to Patient which led to his recovery and discharge on the 14th December, 2021.

Three follow-ups home visit were made to Patient's home which started on the 10th December, 2021. (First home visit), while patient was still on admission. They were educated on sickle cell disease and advised to keep their surroundings clean and drain all stagnant water, dispose-off refuse properly to prevent mosquito bite which can lead to malaria. They were also advised to cover their dustbins to prevent diseases. The patient relatives were reassured that patient will be discharged home within few days if patient is responsive to treatment. Permission was asked to leave and it was granted.

Second home visit was carried out on 17th December, 2021, after patient was discharged. His family was recommended for taking good care of Master W.B. This opportunity was also used to teach both Patient and relatives on the need to keep the environment clean, they took it well and gave feedback on what was learnt. His treatment drugs were observed and it was detected that

patient was complying to the instruction on how, when and where to take the drugs alongside with balanced foods.

They were also told about the need for a community health nurse to continue the care and visit. I assured them that in the next visit I will introduce a community health nurse to them. They were reminded of the review date which was on the 28th December, 2021 and also informed them to report to the hospital if condition persists. Permission was asked to leave and it was granted.

On third home visit, I visited patient and his family on 30th December, 2021. Everyone was doing well and they were reminded of the termination of our relationship on the same day. They were also advised on regular checkups to enhance good health and to ensure continuity of care. Patient was then handed over to Mrs. P.D., a community nurse. I also thanked them for their co-operation which made my study a success one. Permission was asked to leave and it was granted.

His guardian was finally advised to bring Master W.B. to holy family hospital for all other health problems he may encounter.

During the period of hospitalization, health education was given to Patient and his guardian on the predisposing factors, signs and symptoms and prevention of sickle cell crisis. Patient was finally handed over to the public nurse for continuity of care on Tuesday December 30th, 2021.

## 6.2 Conclusion

According to (Hornby, 2010), conclusion is the end or finishing of 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 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 to ensure effective care and recovery of patients.

## APPENDIX

### Table 7 Vital Signs Chart of Master W.B.

| Date | Time | Blood Pressure(mmHg) | Respiration (cpm) | Pulse (bpm) | Temperature ($^{O}$C) |
|---|---|---|---|---|---|
| 08/12/2021 | 5:30pm | 120/70 | 24 | 66 | 37.1 |
| | 10:00pm | 120/80 | 22 | 59 | 37.5 |
| 09/12/2021 | 6:00am | 100/70 | 19 | 62 | 37.1 |
| | 10:00am | 110/70 | 20 | 78 | 38.0 |
| | 2:00pm | 120/80 | 18 | 71 | 37.3 |
| | 6:00pm | 120/80 | 25 | 65 | 36.7 |
| | 10:00pm | 120/70 | 23 | 82 | 39.0 |
| 10/12/2021 | 6:00am | 100/60 | 17 | 70 | 36.7 |
| | 10:00am | 110/70 | 19 | 74 | 37.1 |
| | 2:00pm | 110/70 | 24 | 81 | 37.3 |
| | 6:00pm | 100/70 | 21 | 75 | 36.1 |
| | 10:00pm | 100/80 | 22 | 69 | 37.7 |
| 11/12/2021 | 6:00am | 100/70 | 19 | 78 | 36.1 |
| | 10:00am | 100/70 | 20 | 81 | 36.3 |
| | 2:00pm | 110/60 | 23 | 76 | 36.2 |
| | 6:00pm | 110/70 | 18 | 84 | 36.7 |

| | | | | | |
|---|---|---|---|---|---|
| | 10:00pm | 110/70 | 19 | 80 | 36.2 |
| 12/12/2021 | 06:00am | 110/70 | 21 | 75 | 35.7 |
| | 10:00am | 100/80 | 25 | 82 | 36.7 |
| | 2:00pm | 100/70 | 23 | 70 | 37.1 |
| | 6:00pm | 100/70 | 17 | 74 | 36.4 |
| | 10:00pm | 110/60 | 19 | 81 | 36.1 |
| 13/12/2021 | 06:00am | 110/70 | 24 | 75 | 36.2 |
| | 10:00am | 100/80 | 21 | 69 | 36.1 |
| | 2:00pm | 100/70 | 25 | 78 | 36.3 |
| | 6:00pm | 100/70 | 23 | 82 | 36.2 |
| | 10:00pm | 110/60 | 17 | 70 | 36.7 |
| 14/12/2021 | 6:00am | 110/70 | 19 | 74 | 35.9 |

## BIBLIOGRAPHY


1. Katzung, B. G., Masters, S. B. and Trevor, J. A.(2016). *Basic and Clinical Pharmacology,* (11thed.)(International ed.). San Francisco: McGraw-Hill Company, Inc.
2. Mensah, A.E. (2012). *Pharmacology and Therapeutics*. (2nd Ed) Excel Print, Sunyani.
3. Ministry of Health. (2017). *Standard Treatment Guidelines.* (7th ed.). Yamens Press, Accra-Ghana.
4. BNF 80. (2020). London: BMJ Group and the Royal Pharmaceutical.
5. Monahan, D.F., Sands, J.K., Neighors, M. and Green, C.J. (2010). *Phipps'Medical-Surgical Nursing; Health and Illness.Perspective* (8thed.) St Louis: Mosby Elsevier.
6. Murcko, T. (2013). "*Investor Word".* Retrieved from: www.m.investorword.com/planning.
7. Hornby, A. S. (2010). *Mosby's Medical Dictionary*, (8th ed.), Elsevier Science Ltd, China.
8. Smeltzer, S. C., Bare, B. G., Hinkle, J. L., & Cheever, K. H. (2014). *Brunner & Suddarth's Textbook of Medical-Surgical Nursing* (13th ed.). Philadelphia: Wolters Kluwer.
9. Weller, B. F. (2014). Bailliere's nurses' dictionary: for nurses and healthcare workers (25th ed.). London: Elsevier Health Sciences.
10. Waugh, A., & Grant, A. (2014). *Ross and Wilson anatomy and physiology in health and illness* (12th ed.). Edinburgh: Churchill Livingstone Elsevier
11. Merriam Webster medical. (2020). *medical and surgical history.* Merriam-Webster, incoperated.
12. Patient's folder 13548/11, Holy Family Hospital, Berekum.

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