HOLY FAMILY NURSING AND MIDWIFERY TRAINING COLLEGE, BEREKUM

PATIENT/FAMILY CARESTUDY ON DIABETES MELLITUS

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

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PREFACE

Nursing has undergone much improvement over the years. It owes much of its body of knowledge to the influence of Florence Nightingale (1820-1910), a woman who pioneered and brought much respect to the profession through her vision. Nursing has basically moved from taking care of the sick to extending the care to include the family members and the community in general through the use of scientific methods and techniques which are employed to help solve problems.

Quality assurance is a dynamic process through which nurses assume accountability for quality of care they provide. To ensure quality nursing care within the contemporary health care system, mechanisms for monitoring and evaluating care are under scrutiny. As the level of knowledge increases for a profession, the demand for accountability for its services likewise increases. Individuals within the profession must therefore assume responsibility for their professional actions and answerable to the recipients for their care.

The changing scene of nursing care has brought into being, the patient/family care study, as a partial requirement by the Nursing and Midwifery Council of Ghana for the award of Registered General Nursing certificate. It is in this regard that I chose a patient with diabetes mellitus for the care study. The patient/family care study is an academic exercise written by final year students of nursing institutions and involves detail account of comprehensive nursing care rendered to a particular patient within a period of admission through to the day of discharge, there is a follow up to ensure a continuity of care.

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My deep appreciation goes to the Almighty God who inspired, guided and strengthened me in the writing of this care study successfully. I am also deeply grateful to my Supervisor, Mr Dramani F. Ayamba for his constructive corrections, suggestions and criticisms that led to a successful work done.

I also acknowledge the Principal of Holy Family Nursing and Midwifery Training College Berekum, Monica Nkrumah

To my client, Madam V.A.A. and her family who have been cooperative throughout the writing of this script, I say a big thank you. I also appreciate the support of the medical doctor Martin Acheampong and all nursing staff of the Female's ward in Presbyterian Hospital, Dormaa for caring for my patient.

My last gratitude goes to my mother, Mrs Fautina Osarfo Attim, my lovely brother Godwin Nyarko Twum and my good friend Fobi Grace who always helped me in making this work a success.

My special thanks go to the numerous authors and publishers whose books, articles, journals were use in the writing of my carestudy.

INTRODUCTION

A comprehensive study was conducted on Madam V.A.A. a 65 year old woman who was admitted to the female medical ward of Presbyterian Hospital, Dormaa at 9:45 am on the 4th November 2021per ambulatory through the emergency unit with the diagnosis of Diabetes Mellitus. Madam V.A.A. came with the complaints of frequent urination (polyuria), excessive thirst, excessive hunger, high blood glucose level and weakness. Throughout her stay at the hospital, a very good interpersonal relationship was built between client, her family and the members of the health team. A comprehensive care was planned and rendered to client and family. She received all the treatment needed for early recovery and as the condition improved, she was discharged on 8th of November, 2021.

Laboratory investigations; Full Blood Count(FBC), Urine for routine examination, Random Blood Sugar and Blood film for Malaria Parasite were carried out on admission. Vital signs recorded on admission are as follows: temperature - 36.6^{o}C, pulse - 85 bpm, respiration - 22 cpm, and blood pressure - 150/70mmHg. Madam V.A.A's weight on admission was 61kg and was to be managed with:

1. Insulin 10units Sc + 10 units in 500mls of Normal Saline (Stat)
2. Intravenous Normal Saline 4.5L for 48hours
3. Tablet Metformin 500mg tds x 14 days
4. Tablet Glibenclamide 5mg 12hourly x 30 days
5. Tablet Cefuroxime 500mg bid x 7days

During the period of hospitalization, patient was nursed for four (4) days. Three (3) home visits were made during the period of interaction with my patient. My first home visit was made on 5th November 2021, my second on the 9th November 2021 and last home visit was also made on 10th December 2021. The nursing process was the tool adopted to determine the

patient/family needs and problems for the appropriate nursing interventions to be carried out. At the time of discharge, her condition had massively improved with blood pressure of 110/70mmHg. The care was terminated on the 10th of December, 2021.

The script was written using the nursing process and it is divided into six chapters, namely;

1. Chapter one which talks about assessment of the patient. This comprises of patient particular, past and present medical history, developmental history, admission and literature review, etc.
2. Chapter two which deals with analysis of data collected and this covers comparison of data with standards, health problems and nursing diagnosis.
3. Chapter three which is planning for patient/family care. Patients care was planned in Chapter three where priority was given to the most pressing needs identified and objectives set for meeting them.
4. Chapter four, the nursing orders were implemented.
5. Chapter five evaluates the outcome of the care rendered.
6. Chapter six deals with summary, conclusion and Appendix.

TABLE OF CONTENTS

LIST OF TABLES

CHAPTER ONE

ASSESSMENT OF PATIENT/FAMILY

1.0 Introduction

The assessment of the patient and family is the first phase of nursing process which consist of the patient and family history, physical examination and laboratory studies (Sparks and Taylor's 6th edition). Assessment is the analysis and valuation or judgement of the status or quality of a particular condition situation or other subject of appraisal (Weller, 2014)

Nursing assessment begins the nursing process with appraisal of the health status of the patient. Through observation, interview and examination, data about the patient and her family is gathered and analysed. This chapter documents pertinent data obtained during interaction with Madam V.A.A and her family at the assessment phase of the nursing process. It entails biographical data, developmental data, past and present medical history, the family socioeconomic history as well as the patient's lifestyle. The data collected may be subjective or objective and this may help the nurse to determine patient's health status and identify any potential or actual health problems which the nurse can solve or which can be amenable to nursing actions.

1.1 Patient's Particulars

Particulars refer to a fact or details especially one that is officially written down, usually of an individual's personal details such as name, address sex, etc. (Elaine 2011)

Madam V.A.A, a 68year-old woman is the subject of this care study. She was born on 5th July, 1953 to Mr. K.A and Madam A.H who were both farmers and the father is of blessed memory. She is a Ghanaian who comes from Nsoatre in the Bono region. She speaks Bono. She resides with her family at Dormaa Ahenkro the Dormaa Central Municipality. She is the first and only female of six siblings (all are alive). She is dark in complexion and weighed

61kg on admission with a height of 163 centimeters. She is a farmer who had no formal education.

She is married to Mr P.K.A who is a "Mason "and was blessed with six (6) children of which four (4) are males and the rest are females but unfortunately one has died who was a male remaining three (3) boys . According to madam. V.A.A, her son's death was a natural death as result of ailment. She is a Christian who worships at the Presbyterian Church of Ghana, Dormaa Ahenkro an active member including her children with high respect for their norms and value such as greeting and respect elders in the family as well as the community. Patient interacts well with her church members as well as her neighbours. Her next of kin is her daughter, Madam E.A who lives with her at Dormaa Ahenkro. She is a national health insurance beneficiary and has no physical impairment (disability).Patients does not takes rats and crabs as family taboos.

1.2 Family's Medical/ Surgical History

Through nurse-patient interaction, it was discovered that, apart from patient, no family member has suffered diabetes mellitus condition before or hereditary disease like asthma, hypertension, sickle cell disease and mental illness in her family. In addition, there is no history of communicable disease like leprosy and tuberculosis in the family. However, some of the family members occasionally suffer from minor ailments such as abdominal pain, fever, and headache which is usually treated with herbs and over-the-counter drugs. Patient said her family is allergic to squirrel and crab. From Madam V.A.A point of view all her family members are Christians with high respect for their norms and values such as greeting and respecting elders in the family as well as the community.

1.3 Socio-Economic History

Madam. V.A.A is a farmer. Her farm plays a role in family's source of income but get financial support from her husband who is a Mason. She also has a backyard garden on which she cultivates cassava, yam and plantain. Madam. V.A.A uses the income she generates from the sales of plantain to support her husband to take care of the family. Madam. V.A.A lives with her husband and children in a completed house, with kitchen, bathroom and toilet facility outside and situated at Dormaa Ahenkro, in the Dormaa Central Municipality. The house is built with cement blocks, plastered with cement and roofed with aluminium roofing sheets and not painted. They have access to electricity. Their source of drinking water and for household chores is from the community commercial water supply available. They dispose their refuse at the community waste disposal area. The family do not own a car and therefore uses public transport. All family members are registered under the National Insurance Scheme. With respect to patient family socio-economic history, it can be concluded that patient belong to the middle low class of socio-economic living. Patient said her farm is the common source of livelihood among her family. Madam V.A.A is a member of the Presbyterian Church at Dormaa who is an active member and does not play with her meetings during Women fellowship and other programmes.

1.4 Patient's Developmental History

GROWTH: refers to physical increase in some quantity over time. It includes changes in terms of height, weight, body proportions and general physical appearance. [Dr. Pratima Kumari Mishra, Human Growth and Development- Developmental Psychology]

MATURATION: This is the unfolding of a genetically influence often age related, sequence of physical change and behaviour patterns including readiness to master new abilities or task

[Daniel Attah-Tuffor 2006]

DEVELOPMENT: means a progressive series of changes that occurs in an orderly, predictable patter as a result of maturation and experience [E.B. Hurlock, 2019]. Development takes places in various form from the day of conception till one dies and it entails how a person develops physically, mentally or psychologically and socially. According to Madam. V.A.A, she was informed by her mother some time ago that, she was born on 5thJuly, 1953. She was born at term through a normal vaginal delivery by a traditional birth attendant (TBA). She had no congenital abnormality like cleft palate, extra digits or hare lip. She was nurtured by both parents at Nsoatre. She said she does not know if she was immunized against the six-childhood preventable disease such as measles, tuberculosis, yellow fever and poliomyelitis but a Bacillus Calmatte Guerin [BCG] scar was observed on her right upper arm which indicate that she was vaccinated at childhood. .

She said she had a progressive and successful developmental process without any speech setbacks. According to Madam. V.A.A, she was weaned at age two (2) years. She was introduced to local foods such as porridge, rice and soup etc. Early in her development she started teething at fifth (5th) months, crawling at eighth (8th) months and started walking at fifteen (15th) months old. She could talk at the second (2nd) year of birth. Secondary sexual characteristics developed at age sixteen (16) thus the growth of hair in the armpit and private part, bogey breast, hips and menstruation. She married at age twenty-five (25) and was blessed with six (6) children, two (2) females and (4) males of which one has died. Comparing Madam V.A. A's. age (68years) to Eric Erickson's psychosocial theory, she falls within the category of "Integrity versus despair" Erickson believed that during this stage, people reflect back on the life they have lived and come away with either a sense of fulfilment from a life well lived or a sense of regret and despair over a life misspent. Madam V.A.A is not satisfied with the current situation and when she reflect back in life she regret because she have not been able to meet her dream and fulfil her desire of been a teacher.

Madam V.A.A wanted to be a teacher but because of the rate of financial problems of her parent she couldn't.

1.5 Patient's Lifestyle /Hobbies

Mrs V.A.A said she sleeps around 9:00pm and wakes up around 5:00am. She offers prayers to God Almighty after she observes her personal hygiene by bathing and brushing of teeth. She usually empties her bowel twice and brushes her teeth twice daily with tooth brush and paste (Pepsodent). She often takes a heavy meal in the morning before going to the farm.

She normally returns from the farm around 12:00pm and takes her bath again. She takes her supper usually around 5:00pm which is sometimes prepared by her daughter. Her hobbies are playing "ludu" with her daughter and mostly her children and she also likes chatting with family members and friends. Her favourite meal is Fufu with pepper soup with beef and Ampesie with kontomire stew. She has no specific food, which she dislikes except rats. In the evening, she enjoys her favourite television programme" KUMKUM" on Adom TV.

Madam. V.A.A does not go to the farm on weekends, she usually attends social gatherings like funerals on Saturdays. She goes to church every Sunday morning with her family. Patients said she have not taken any alcohol or caffeinated drink before and what she is allergic to is crab and rats. Madam V.A.A has a sense of humour which makes people love her. According to the people around her and from my own points of view, she tries to hide how she feels but later opens up when she knows of your good intension. Patient claimed her major stressors is her two daughters apart from her work.

1.6 Past Medical History

According to Madam. V.A.A, she has been admitted to the hospital for some number of times with the diagnosis of Hypertension. She was managed with Tablet Losartan and was asked to visit the hospital for regular check-up of her blood pressure. Information gathered from Madam.V.A.A revealed that, she was also previously diagnosed of Diabetes mellitus about two (2) years ago where she was managed on subcutaneous Mixtard, Tablet Metformin and Tablet Glibenclamide until she became a defaulter with her medications leading to the cause of her current condition. She has not undergone any surgical intervention according to her but when she suffers from minor ailments like headaches, and stomach aches, she takes pain relievers such as Paracetamol which she buys from the chemical shop or takes herbal preparations. When symptoms persist, she reports to the Presbyterian Hospital, Dormaa Ahenkro for treatment. Patients has no physical disability or wound due to illness and goes for medicals checks up anytime her date is due. Patients use to takes over the counter drugs for mild headaches but advise have been given to her about drug toxicity and complication of it.

1.7 Present Medical History

On 4th November, 2021 according to Madam. V.A.A, she was apparently well in the morning, until around 8:25am, she experienced headache, excessive urination (polyuria), abdominal pain and felt very further weak. Enquiry revealed that, she missed her anti-diabetic medication and ate her breakfast afterwards, she felt unease and powerless so she was brought to Out Patient department of Dormaa Presbyterian Hospital by her daughter and son at 9:00am where they were directed to the Emergency Department. After history taking, interviews and some laboratory test done for Madam. V.A.A, she was diagnosed of Diabetes Mellitus type II by Dr. M.A. and was admitted through the Emergency Ward into female's medical ward on 4th November, 2021 for further management.

1.8 Admission of Patient

Mrs .V.A.A was admitted through the Emergency ward into females medical ward at 9:45am per ambulatory accompanied her two daughters and a student nurse with the complaints of frequent urination, excessive thirst, excessive hunger, high blood glucose level and body weakness. She was diagnosed of having Diabetes Mellitus type II by Dr M.A. On admission, RBS was checked and recorded as 17.9mmol/L.

She was put on the following plans;

- Sc10units soluble insulin + 10units into 500mls of Normal Saline (Stat) medication,
- Tab Metformin 500mg tds x 14,
- Tab Glibenclamide 5mg bd x 30,
- Tab Cefuroxime, 500mg bds7,

It was also ordered to monitor RBS 2hourly and to retrieve HPT drugs and serve. Patient manifested facial grimaces upon movement, restlessness and irritability. Mrs V.A.A and relatives were welcomed and given seats at the nurses' station. Her hospital identification card was collected for verification of identity. Her identity was verified by mentioning her name for response. She and her relatives were reassured that all possible measures will be taken to ensure her speedy recovery. Patient was introduced to nursing staff on duty, she was put in an already prepared admission bed. Her baseline vital signs which include temperature, pulse, respiration and blood pressure and other parameters were checked and recorded as follows;

- Temperature: 36.6 degrees Celsius
- Pulse: 85 beats per minute (bpm)

- Respiration: 22 cycle per minute (cpm)
- Blood Pressure: 150/70mmHg
- Her weight was 61 kilogram.

These values were transferred to the observation chart, nurses' note and the temperature chart. Patient's particulars such as name, age, address, religion, occupation, house number and marital status recorded in her Electronic folder was taken and entered into the admission and discharge book and her name, age and sex were entered in the daily ward state.

They were informed about the visiting hours which is 4:30am in the morning and 5:00pm in the evening and other essential ward protocols such as ward rounds only on Mondays8:00am in the morning and chart rounds. She was introduced to other patients lying next to her bed and was also oriented to the ward and its environment including the urinal and the lavatory. Later her informed consent to be the patient for this care study was requested. How the project would be done from commencement to termination including home visits was explained to her which she agreed and was assured of protection of her identity and that her name would not be in the study.

The following laboratory investigations were requested on patient

- Full Blood Count
- Urine for routine examination.
- Random Blood Sugar.
- Blood film for Malaria Parasite.

On admission she was to be managed on the following medications:

1. Insulin 10units Sc + 10 units in 500mls of Normal Saline (Stat)

2. Intravenous Normal Saline 4.5L for 48hours
6. Tablet Metformin 500mg tds x 14 days
7. Tablet Glibenclamide 5mg 12hourly x 30 days
8. Tablet Cefuroxime 500mg bid x 7days

Madam V.A.A and relatives were reassured that she will obtain optimal health care as she is in the hands of competent staff. I introduced myself again as a second-year nursing student of the Holy Family Nursing and Midwifery Training College, Berekum who wants to care for her with the aid of other staff and would like to take her write my care study. I told Madam V.A.A that, the care study was recommended by the Nursing and Midwifery Council of Ghana in order to be awarded a license to practice as a nurse and they agreed to it. Madam. V.A.A was also informed about a visit which would be made to her home whilst she is on admission and after her discharge. I thanked them for their cooperation and assured them that the information that will be given will be kept confidential.

I chose to write on this condition (Diabetes) because many people in the locality I live have been complaining of the same condition over time. So, I wanted to know what actually cause the disease, its signs and symptoms and the treatment. The discharge process started right from admission by educating the patients and family to maintain proper personal and environmental hygiene and also adhering to the treatment regimen.

1.9 Patient's Concept about illness

Madam. V.A.A did not attribute her illness to any spiritual force since she had knowledge about the condition. She was of the opinion that every individual is liable of falling sick at any point in time. However, she was hopeful that God on her side, her condition will improve

with good nursing and medical management. She promised to adhere to the advice given to her and conform without any hesitation concerning treatment.

1.10 Literature Review on Diabetes Mellitus with Hyperglycaemia

1.10.1 Definition

Diabetes Mellitus is a group of metabolic disease characterised by increased levels of glucose in the blood (hyperglycaemia) resulting from defects in insulin secretion, insulin action, or both (American Diabetes Association [ADA], [(Smeltzer, Bare, Hinkle & Cheever, 2010)]

Normally, a certain amount of glucose circulates in the blood. The major source of this glucose are absorption of ingested food in the gastrointestinal tract and formation of glucose by the liver from food substance.

1.10.2 Incidence

According to American Diabetes Association 2018a [Smeltzer, et al, (2018)], in the United States as at 2002, almost 21million people were diagnosed of Diabetes mellitus and it is estimated to hit above 30million people in 2030.

In the world, the estimated prevalence is 171million people and it is estimated to increase to 366million by 2030 [Wild et al, 2004]

In the type 1 or insulin-dependent diabetes mellitus [IDDM] it affects children between 12-20years and in type II or Non-insulin-dependent diabetes mellitus; it affects people between 50-70years.

It is more common in women than in men in the ratio 3:2.

1.10.3 Types of Diabetes Mellitus

According to American Diabetes Association 2018a [Smeltzer, et al, (2018)],

Most cases of diabetes mellitus fall into the three broad categories of type 1 or type 2 and gestational diabetes.

Type I Diabetes Mellitus

Type I diabetes mellitus is characterized by loss of the insulin-produced by beta cells of the islets of Langerhans in the pancreas leading to insulin deficiency. This type of diabetes can be further classified as immune-mediated or idiopathic. There is no known preventive measure against type I diabetes. Affected people are otherwise healthy and of a healthy weight when onset occurs. Sensitivity and responsiveness to insulin are usually normal, especially in the early stages. Type I diabetes can affect children or adults but was traditionally termed "juvenile diabetes" because it represents a majority of the diabetes cases in children.

Type II Diabetes Mellitus

Type II diabetes mellitus is characterized by insulin resistance which may be combined with relatively reduced insulin secretion. The defective responsiveness of body tissues to insulin is believed to involve the insulin receptor. However, the specific defects are not known. Diabetes mellitus due to a known defect are classified separately. Type II diabetes is the most common type.

In the early stage of type II diabetes, the predominant abnormality is reduced insulin sensitivity. At this stage hyperglycaemia can be reversed by a variety of measures and medications that improve insulin sensitivity or reduce glucose production by the liver. As the disease progresses, the impairment of insulin secretion occurs and therapeutic replacement of insulin often becomes necessary.

Gestational Diabetes Mellitus

It occurs in about 2%–5% of all pregnancies and may improve or disappear after delivery. Gestational diabetes is fully treatable but requires careful medical supervision throughout the pregnancy. About 20%–50% of affected women develop Type II diabetes later in life. Even though it may be transient, untreated gestational diabetes can damage the health of the fetus

or mother. Risks to the baby include macrosomia (high birth weight), congenital cardiac and central nervous system anomalies, and skeletal muscle malformations.

1.10.4 Etiology of Diabetes with Hyperglycemia

According to American Diabetes Association 2018a [Brunner & Saddarth textbook of Medical-Surgical Nursing], the exact cause of diabetes mellitus is not known but the following are predisposing factors:

Age: The incidence of diabetes mellitus, especially Type II is mostly found in people who are older than 30years old and above.

Positive family history: There is a high risk of developing diabetes mellitus if a member of the family has the disease.

Auto immune reaction: This is an abnormal response in which antibodies are directed towards normal insulin secreting cells leading to their destruction.

Diet: Excessive ingestion of refined sugar and fat also increases blood sugar level.

Drugs: Anticonvulsants and cytotoxic drugs reduce insulin production but it reverses when the drug is withdrawn.

Pregnancy: Hyperglycemia develops in pregnancy due to secretion of placental hormones which causes insulin resistance.

Endocrine disorders: Some endocrine disorders like hypersecretion of thyroxin antagonize the work of insulin.

1.10.5 Pathophysiology

The disease condition results from deficiency of insulin function. Our body controls the blood glucose level and keeps it within a healthy range. But in Diabetes Mellitus, the body has problems moving the blood glucose into cells, so the body ends up with too much glucose in the blood and very little of it in the cells.

The body regulates the level of glucose in the blood by the help of two (2) hormones; insulin and glucagon. Insulin decreases the blood glucose level.

Both insulin and glucagon are made in a group of cells within the pancreas known Islets of Langerhans. Theses clusters of cells contain alpha cells which secrete glucagon, and beta cells which secrete insulin. Insulin decreases the level of glucose in the blood by attaching itself to insulin receptors which are found in the cell membrane of muscle cells and adipose tissue. When the insulin receptors are activated, glucose is sucked into cells. It then leaves the bloodstream and enters into cells.

The glucagon hormone acts oppositely. It helps the liver to produce new glucose molecules and then pushed these glucose molecules in the bloodstream. As the blood circulates through the body, it is filtered through the kidney. If the blood contains too much glucose, the kidneys will try to filter it out of the body by sending it off through urine (Glucosuria). Glucose attracts water because it is osmotically active and this leads to increase urination (Polyuria). As a result of frequent urination, the body becomes dehydrated more quickly. This means that people with uncontrolled Diabetes will feel thirsty all the time thereby stimulating thirst receptors for the people to take in more fluid (Polydipsia). Since the glucose remains in the blood, the cells becomes hungry and in turn, the body will look for other ways to supply energy. Over time, the body starts to break down fats and muscles to get energy, and if left uncontrolled, this leads to weight loss. Because of the breakdown of fat and muscles, there is

a decrease in energy consumption and as a result the people have to take in more energy food (Polyphagia). [www.the nursingjournal.com]

1.10.6 Signs and Symptoms of Diabetes with Hyperglycaemia

According to American Diabetes Association 2009a [Brunner & Saddarth textbook of Medical-Surgical Nursing],

The clinical manifestations of all types of diabetes mellitus include:

Hyperglycemia

Dehydration and Electrolyte loss

Acidosis

Polyuria

Polydipsia

Polyphagia

Nocturia

Weight loss

Fatigue

Poor wound healing

Glucosuria

Drowsiness

Dry skin

Recurrent infection

Constipation

Tingling or numbness in the extremities

1.10.7 Diagnostic Investigation

According to American Diabetes Association 2009a [Brunner & Saddarth textbook of Medical-Surgical Nursing],

the diagnostic investigations used are;

Blood sugar analysis which comprises

Fasting blood sugar [FBS] where plasma glucose is lower than 7.0mmoI/L.

Random blood sugar [RBS] where plasma glucose is greater than 11mmoI/L

Urine test for occult glucose

Cardinal signs and symptoms (polyuria, glycosuria, polydipsia and polyphagia)

Two-hour sample during 75g oral Glucose Tolerance Test (OGTT) greater than 200mg (11.1mmol/L)

Blood for culture and sensitivity test to identify the microorganism and the right drug the causative agent reacts to.

Computed Tomography Scan locates insuloma (pancreatic islet cells neoplasm)

1.10.8 Medical Management

According to American Diabetes Association 2018a [Brunner & Saddarth textbook of Medical-Surgical Nursing 14th editon], Diabetic patients need not to be hospitalized, but if there is ketonuria, dehydration or patient is ill then admission is necessary at the initial stages.

On admission 0.9% saline is administered intravenously to correct dehydration. If unconscious, nasogastric tube is passed to prevent gastric dilatation and aspiration.

Treatment of diabetes mellitus depends on the individual involved and the type of Diabetes Mellitus.

Oral hypoglycaemic agents, insulin administration and diet are used in the management of diabetes mellitus. Glucose level normalizes with effective treatment.

Oral Hypoglycaemic Agents

These are group of salphonylurea and Biguanide which tend to control diabetes mellitus by;

Stimulating the release of insulin from the pancreas

Reducing free fatty acids in the plasma by stimulating lipogenesis.

Increasing the number of insulin receptors on cell surfaces and thereby improving glucose uptake.

Examples include: Tolbutamide 1-2g daily 30 days, Glibenclamide [Daonil] 5-15mg 30days, Metformin [Glucophage] 1-2g 30days

Insulin Therapy

This is used in the treatment of insulin dependent diabetes mellitus [IDDM] or type 1 in combination with diet, exercise and hypoglycemic agent such as Daonil and Metformin. Insulin therapy includes the following; Short acting, Intermediate acting and Long acting

Short Acting Insulin

It is known as rapid acting and appears colourless. It starts within 30minutes and lasts for 6-8hours. Examples are; Regular insulin and Crystalline insulin

Intermediate Acting Insulin

It appears cloudy. It starts acting within 2hour and lasts for 12-16hours. Examples are; Neutral Potamine Hagedon (NPH), Humilin N etc

Long Acting Insulin

It is cloudy in appearance and starts acting within 4hours and lasts for 30-36hours.The patient's blood glucose level should be checked before and after therapy. Urine ketone levels should be monitored when blood glucose level is high. Injection sites should be rotated and observed for reactions after administration.

Other Pharmacologic Therapy

Antibiotics such as ciprofloxacin (500mg 12 hourly) may be administered as prophylaxis to combat infection.

Intravenous infusions such as 5% or 10% dextrose or normal saline may be giving depending on the state of condition.

Other drug such as analgesics (paracetamol 1000mg for 7 days) and vitamin supplement may be giving example Zincovit (10ml daily) may be prescribed

The Use of Sliding Scale in Controlling Blood Sugar Level

This is achieved by administering regular insulin 10 units intravascular and 10 units intramuscular stat, and then every 2 hours 5 units is added till blood glucose level drops to 10.9mmol/L together with administration of normal saline. Then below 10.9mmol/L corresponding insulin is given as shown below.

Table 1: Sliding Scale In Controlling Blood Sugar Level

Glucose Level(Mmol/L)	**Units of Insulin to be Administered**
Blood Glucose Results	Amount of insulin to be given (soluble

(4 Hourly)	insulin) regular
≤ 6	No insulin
6.1-9.0	4 units
9.1-12.0	6 units
12.1-15.0	8 units
15.1-18.0	10 units
≥18.0	20units

1.10.9 Dietary Management of a Diabetic Patient

According to American Diabetes Association 2018a [Smeltzer, et al, (2018)],

Diet is an essential component in the management of Diabetes Mellitus. Food that is taken liberally and foods to be avoided are made known to the patient. Foods containing carbohydrates that provide energy to the body these include: cassava, plantain, yam, potatoes, bread and cereals is taken in moderate amount. Foods containing protein that repair worn out tissues such as meats, fish, cheese, green beans, eggs and ‘’agushi’’ is taken in required amount.

Fatty foods such as olive oil, palm oil and ground nut oil should be taken in moderate amount.

Calories should be taken according to the stage of development of the individual and the level of activity especially in type I Diabetes Mellitus. Refined sugar is avoided unless in hypoglycaemia.

The recommendation is that carbohydrate is about 40-60%, protein 10-20%, fats 20-30% of the total daily energy requirement.

1.10.10Nursing Management

According to American Diabetes Association 2009a [Smeltzer, et al, (2010)], these are some of the nursing management under Diabetes and has been classified under the following;

Diet

The aim of management under diet is to lower blood glucose level and also to control weight especially in obese patients. For all diabetic patients, meal plan must take into concentration the patient likes and dislikes, lifestyle, usual eating time, ethnic and cultural background.

If patient is not on oral hypoglycaemic agents or insulin, meals are taken at regular intervals in order to avoid breakdown of fats to cause Ketone bodies. Carbohydrate is given adequately but complex sugar or foods that are high in fibers such as bread, cereals, beans are more preferable since they digest and absorb slowly therefore they do not increase blood glucose level after meals. The diets that also contain enough protein and vitamins are taken to enhance the healing process. Fluids, fruits and roughages should be given to prevent constipation. Sugary foods such as soft drinks are avoided to prevent hyperglycaemia. Alcohol is also avoided as this causes hypoglycaemia when taken on an empty stomach. Insulin is to be taken 30 minutes before meals and the nurse must explain this to patient in order for the patient to comply. In addition, fat intake is made less of cholesterol since it can increase risk of atherosclerosis and arteriosclerosis.

Exercise

Exercise is extremely important in the management of diabetes, because of its effects on lowering blood glucose level. This is achieved by increasing uptake of glucose by body muscles and by improving insulin utilization then also exercise reduces cardiovascular risks factors.

Therefore, it is done daily as a form of exercise. Patient is encouraged to check his blood glucose level regularly before, during and after an exercise. Patients with blood glucose level over 14mmol/L and with ketones in their urine are advised not to begin exercising until the urine test results are negative for ketones and the blood glucose level is close to normal. Patient feet are checked daily after an exercise, for an early detection of cuts. Walking is a safe and beneficial form of exercise that requires no special equipment.

Personal Hygiene

Provide meticulous skin care especially to the feet and legs. Patient is advised to keep fingernails short using nails clippers rather than razor blades which can easily cut the fingers or toes. Oral hygiene is ensured to reduce anorexia. The body prominence is treated against pressure sore. Patient is advised to wear loose shoes and slippers to prevent constricting the feet.

Rest and Sleep

All procedures are planned and done at once to prevent agitating the patient. Visitors are restricted to prevent patient from keeping awake in the night. Patient is engaged in activities like playing “ludo” and watching television during the day to keep patient awake, so he would have adequate night sleep. Noise is minimized on the ward, electrical appliances like television and radio sets should be switched off during the night. Bed linens are straightened to make them free from creases and cramps to promote comfort during sleep. Patient is provided with warm bath and warm beverages but should be free from caffeine.

Observation

Patient's vital signs such as temperature, pulse, respiration and blood pressure are monitored four hourly. Fluid intake and output of patient is monitored and recorded. Blood glucose level is monitored for hyperglycaemia and hypoglycaemia. Patient's skin is observed for bruises and if any, treated to prevent infection. Eye examination is carried out to check for any visual impairments and abnormalities. Skin turgor is observed for dehydration. Signs and symptoms of hypoglycemia such as diaphoresis, cold clammy skin and reduced mental status are monitored and managed if any. Observations are made for therapeutic and side effects of drugs.

Psychological Care

Patient and family are reassured of speedy recovery. Patient is educated on the causes, signs and symptoms and complications of the disease. All nursing procedures are explained before they are carried out. Diversionary therapies like watching television and playing of "oware" are used. Patients and family members are introduced to people who have recovered successfully from diabetes mellitus. Patient is allowed to express his fears and anxiety since it may be as a result of his condition. Patient and family members are allowed to ask questions and answer was given them in simple clear terms.

Protection

Patient is advised to wear long garments to prevent injury. Patient is nursed on a low bed to prevent falling. Floor is mopped of all spillages to prevent patient from falling. Patient is nursed in a well lightened room. All sharps and injurious equipment are placed in safety boxes. Patient is orientated to the ward and its annexes. All personal properties are placed

within the reach of the patient. Strict cautions are taken during care of hands and feet in order not to cause injuries.

Drug Administration

There are two main forms of anti-diabetics, namely, exogenous insulin and oral hypoglycaemic agent.

In Type I, exogenous insulin must be administered for life. In addition, patients with type II who are on diet alone or diet and oral hypoglycaemic agents may need insulin during illness, infection, pregnancy and some other stressful events.

The nurse administers the insulin according to the doctor's prescription. The nurse must ensure that the insulin is not kept is a temperature above 25^{o}C. Also the nurse must know that insulin preparation differs according to the manufacturer in order to administer the right drug at the right time to the right patient and through the right route in order to achieve the desired effect.

Oral anti-diabetic agents may be effective for patients with type 2 diabetes that cannot be treated by diet and exercise. However, they cannot be used during pregnancy.

Education

Diabetes with diabetic ketoacidosis is a chronic illness requiring education of the patient in order to make patient capable of controlling blood glucose level and detecting signs and symptoms of hyperglycaemia and hypoglycaemia in order to prevent complications.
Education of patient should include instructing patient to

1. Become familiar with diabetes and how it affects the body.

2. Maintain health at an optimal level.
3. Follow the prescribed dietary regimen.
4. Be aware of the degree of diabetes control:
    a. Test blood sugar level.
    b. Test urine when blood sugar levels are high.
    c. Keep daily record of blood sugar tests.
    d. Test only freshly voided blood.
5. Become familiar with all aspects of insulin usage.
6. Take prescribed oral hypoglycaemic medication.
7. Appreciate the importance of proper foot care to prevent infection, ischemia and neuropathy which may lead to amputation and death.
8. Take only medications prescribed by the physician.

1.10.11 Prevention of Diabetes Mellitus

Prevention is the process of putting measures in place in order to stop the disease from occurring. It also entails the process of preventing the disease from getting complicated by spreading. The types of prevention are; Primary, Secondary and Tertiary

Primary Prevention

Primary prevention is aimed at educating the general public on lifestyles and factors that predispose an individual to Diabetes Mellitus. This involves;

a. Adequate nutrition.
b. Management of stressful activities by indulging in recreational activities such as playing draft and watching television.
c. Avoiding smoking

d. Weight is monitored to avoid obesity.
e. Pregnant women are encouraged to do regular blood glucose level checks for early detection of abnormality.
f. Families with history of Diabetes Mellitus are educated to do regular checks on blood glucose level.

Secondary Prevention

This is aimed at early identification and prompt treatment of Diabetes Mellitus and preventing it from advancing to it various complications. This involves;

a. Administration of prescribed oral hypoglycaemic agent such as Glibenclamide and Metformin and insulin therapy such as regular insulin.
b. Adhering to planned diet.
c. Performing moderate exercise
d. Wearing of protective clothing and foot wears to prevent injury
e. Avoiding injuries and cuts
f. Teaching patients the right routes and proper administration of insulin
g. Observing for signs and symptoms of hypoglycemia and hyperglycaemia and reporting them.
h. Regular monitoring of blood sugar level
i. Encourage patient to join Diabetes Mellitus health education groups; example Diabetic clinic Dunkwa hospital.

Tertiary Prevention

This is aimed at rehabilitating patients who have suffered from Diabetes Mellitus and its complications. This involves:

a. Provision of spectacles to those with eye defects.

b. Providing walking aids to amputees.

c. Patient is encouraged to join Diabetes Mellitus health clubs.

1.10.12 Complications

According to American Diabetes Association 2018a [Brunner & Saddarth], these are some of the complications associated with Diabetes Mellitus

The following complications are associated with diabetes mellitus;

a. Hypoglycemia[insulin reaction]

b. Diabetic ketoacidosis[DKA]

c. Hyperglycemia hyperosmolar non-ketotic syndrome.

d. Non ketotic syndrome

e. Diabetic retinopathy

f. Diabetic nephropathy

g. Cardiovascular disease such as hypertension

h. Diabetic coma

i. Cerebrovascular accident

1.11 Validation of Data

This is a process of certifying that the information gathered on my client is accurate and reliable. All information concerning my patient and family was obtained from the patient and family, Out-Patient Department (OPD) card, staff nurses in the ward, the doctor in-charge, and other relevant documents read. Therefore, this data collected about my patient is free from biases, errors, and misinterpretations, hence valid.

CHAPTER TWO

ANALYSIS OF DATA

2.0 Introduction

Analysis generally refers to the systematic examination of the nature or case of phenomenon. Data analysis is the second phase of the five step nursing process. Data gathered in the assessment phase of the nursing process needs to be analysed to enable the nurse to diagnose the presence of potential and actual health problems of the patient and how she responds to them. This chapter tackles comparison of the data collected about the patient and her family as well as patient's health problems. It ends with statement of nursing diagnosis for problems identified.

2.1 Comparison of Data with Standards

A comparison is hereby being made between actual experiences of the patient and standard documented evidence to identify deviations. This includes the investigations requested by physicians for medical diagnosis; causes of the patient's illness, clinical manifestations of the patient's condition as well as pharmacological and non-pharmacological management ordered.

2.2 Diagnostic Investigations for MADAM. V.A.A

TEST: The mode of dealing with a patient or disease that in which specific medical or surgical treatment is undertaken (Weller, 2014).

INVESTIGATION: They are procedure performed to establish a diagnosis to monitor a person's health, disease or the effectiveness of treatment (Weller, 2014).

The following investigations was conducted on Madam V.A.A;

- Full Blood Count
- Urine for routine examination.

- Random Blood sugar and fasting blood sugar.
- Blood film for Malaria Parasite.

Table 2: Comparison of Diagnostic investigation in literature with investigations conducted on patient

Diagnosis Investigation From The Literature Review	**Diagnostic investigations conducted on the patient**
Random Blood sugar and fasting blood sugar.	Random Blood sugar and fasting blood sugar was conducted.
Urine for routine examination	Urine routine examination was conducted
Assessment of cardinal signs and symptoms	Assessment of cardinal signs and symptoms was conducted.
Blood for culture and sensitivity test	Blood for culture and sensitivity test was not conducted
Oral glucose test	Oral glucose test was not conducted
Computed tomography scan	Computed tomography scan was not conducted

Blood film for Malaria Parasite was done because the doctor was suspecting malaria.

Table 3: Diagnostic Investigation/Test Conducted MADAM. V.A.A

DATE	SPECIMEN	INVESTIGATION	RESULT OF PATIENT	NORMAL VALUES	INTERPRETATION	REMARKS
4/11/21	Blood	Haemoglobin level estimation Full bloods count Red blood cell count Neutrophils Count	11.5g/dl 9.14 x 10*3/uL 3.12 x 10*3/uL 4.75 x10*3/Ul	Male =12-18g/dl Female=11-16g/dl 4.00 – 12.00 x10*3/uL 2.50 – 5.50 x 10*3/uL 1.50 – 7.00 x 10*3/uL	Result within the normal range. Patient was not anaemic. Result was within normal. Result was within normal. Result was within normal.	No treatment was given. No treatment was given. No treatment was given. No treatment was given.
4/11/21	Urine	Routine Examination	Glucose:	There should be no	Indicates she had no	No treatment was

			Negative Ketones: Negative PH (6.5)	traces of glucose in the urine. There should be no ketones in urine. 4.5-8	glycosuria. Indicates she had no ketones in urine. Normal	given. No treatment given No treatment given

Table 1: Continuation of Diagnostic Investigation / Test Conducted on Mrs V.A.A

DATE	SPECIMEN	INVESTIGATION	RESULT OF PATIENT	NORMAL VALUES	INTERPRETATION	REMARKS
4/11/21	Urine	Routine Examination	Specific Gravity (1.015) Urobilinogen (0.5 mg/dl)	1.005 – 1.025 (0.52 – 1mg/dL)	Normal Normal	No treatment given No treatment given
4/11/21	Blood	Random Blood Sugar	17.9mmol/L	(7.0–11.0mmol/L)	Excess blood glucose	Prescribed anti diabetic served metformin, tab Glibenclamide

						and Sc insulin 10units
4/11/21	Blood	Rapid Diagnostic Test for Malaria	Negative	Negative	No malaria parasite seen	No treatment given

2.3 Causes of Patient Condition

From the result of the diagnostic investigations, presenting signs and symptoms and history as well as literature review, it could be deduced that the cause of Type II diabetes mellitus is unknown. However, there are likely predisposing causes such as poor nutrition, obesity and age. From the history taken from the patient, her diabetes could be attributed age and poor nutrition.

2.4 Clinical Features

The clinical features presented by Mrs V.A.A as compared with clinical features in the literature review are listed below.

Table 4: Clinical Features Presented by Madam. V.A.A with those in the Literature Review

CLINICAL FEATURES FROM THE LITERATURE REVIEW	**CLINICAL FEATURES PRENSENTED BY MRS. V.A. A**
Hyperglycaemia	Patient sugar was high.
Dehydration and electrolyte loss	Patient was dehydrated
Acidosis	Patients had headache
Polyuria	Patient had frequent urination.
Polydipsia	Excessive thirst was present
Nocturia	Patients urinate most at night.
Weight loss	Patient did not lose weight
Fatigue	Patient was weak
Tingling sensation in the legs, feet or	Tingling sensation was present in legs

fingers. [Paresthesia]	and feet.
Poor wound healing	Patient had no wound.
Glucosuria	Glucose was in urine.
Drowsiness	Patient was not drowsy.
Recurrent infection	Patient had no infection.
Drowsiness	Patient was not drowsy.
Recurrent infection	Patient has no infection.
Constipation	Patient did not experienced constipation.

With reference to complication indicated in the literature review, the patient experience hyperglycaemia among the complication .Patient was given 10 unit SC + 10 unit in 500mls of N/S as stat. Then she was put on metformin and Glibenclamide.

2.5 Medical Treatment Given to Madam. V.A.A

The treatments ordered for Madam. V.A.A were as follows

1. Intravenous Normal Saline 4.5L for 48hours
2. Tablet Metformin 500mg tds x 14 days
3. Tablet Glibenclamide 5mg 12hourly x 30 days
4. Tablet Cefuroxime 500mg bid x 7days
5. Insulin 10 unit SC +10 units in 500mls of N/S stat.

Table 5: Comparison Of Treatment In Literature To Treatment Given

Treatment In Literature	**Treatment Given To Patient**
Oral hypoglycaemic agent	Tablet Metformin and Glibenclamide was given
Insulin therapy	Insulin 10 unit SC +10 units in 500mls of N/S was given
Antibiotics	Tablet Cefuroxime was given
Intravenous therapy	Intravenous Normal Saline was given for 48 hours
Analgesics	Tablet Paracetamol was given
Vitamin supplements	Vitamin supplement was not given.
Sliding scale	Patient was monitored on a sliding scale

Table 6: Drugs Administered to Madam. V.A.A
PHARMACOLOGY OF DRUGS ADMINISTERED.

DATE	DRUG	DOSAGE ROUTE OF ADMINISTRATION		CLASSIFICATION	MECHANISM OF ACTION	ACTUAL ACTION OBSERVED	SIDE EFFECT/ REMEDIES
		LITERATURE	PATIENT				
4/11/21	Intravenous Normal Saline	**Adult dose:** 500mls-1liters **Children dose**: 250mls-1500mls **Route:**Intravenously	4.5 Liters for 48 hours **Route:** Intravenously	Isotonic fluid and electrolyte replacement of solution.	To correct and maintain serum Sodium (Na+) and Chloride (Cl-) ion level.	Patient was rehydrated and also her fluid and electrolyte balance was maintained.	Pulmonary edema, Circulatory overload, Pulmonary embolism. None was exhibited by the patient.

Continuation of Pharmacology of Drugs Administered to Madam. V.A.A

DATE	DRUG	DOSAGE ROUTE OF ADMINISTRATION		CLASSIFICATION	MECHANISM OF ACTION	ACTUAL ACTION OBSERVED	SIDE EFFECT/ REMEDIES
		LITERATURE	PATIENT				
4/11/21	Tablet Metformin (Fortamet)	**Adult dose:** 5mls bd x10dyas **Children dose:** 500mg bd x 10days **Route:** Orally	500mg tds x 14days Route: Orally	Anti-diabetic agent (Biguanide)	Metformin decreases blood glucose level by decreasing hepatic glucose level. And increases sensitivity of peripheral tissue to insulin.	Glucose level was normalized to 10.2mmol/dl	Nausea, Vomiting, Diarrhoea Constipation, Disturbance in liver function, Jaundice. None was exhibited by patient.

Continuation of Pharmacology of Drugs Administered to Madam. V.A.A

DATE	DRUG	DOSAGE ROUTE OF ADMINISTRATION		CLASSIFICATION	MECHANISM OF ACTION	ACTUAL ACTION OBSERVED	SIDE EFFECT/ REMEDIES
		LITERATURE	PATIENT				
4/11/21	Tablet Glibenclamide (Daonil)	Dosage is prescribed depending on the age of the patient **Adult dose:** 2-10mg bd x30days. **Child dose:** 1-2.5mgbd x 30days **Route:** Orally	5mg 12hourly x 30days Route: Orally	(Sulfonylurea) Oral anti-diabetic agent	Glibenclamide binds to ATP sensitive potassium channels on the pancreatic cell surface, reducing potassium conductance and causing depolarization of the membrane.	Blood glucose level subsided to 3.	Disturbances in the gut such as Diarrhoea, Abdominal pain, Weight gain, Low Blood glucose, None of the above side effect was exhibited by the patient.

Continuation of Pharmacology of Drugs Administered to Madam. V.A.A

DATE	DRUG	DOSAGE ROUTE OF ADMINISTRATION		CLASSIFICATION	MECHANISM OF ACTION	ACTUAL ACTION OBSERVED	SIDE EFFECT/ REMEDIES
		LITERATURE	PATIENT				
4/11/21	Tablet cefuroxime (Zinacef)	**Adult dose**: 500mg – 1000mg **Child dose:** 250mg -500mg. **Route:**Oral,IV	500mg bd x 7 days Given: Orally	Antibiotic (cefuroxime)	Cefuroxime binds bacterial to cell wall membrane, causing cell death. Bactericidal action against susceptible bacterial.	Patient's excretory levels decreased and blood levels increased.	Nausea, Vomiting, diarrhoea, rashes, anaemia, leukopenia. None were exhibited by patient.

2.6 Complication exhibited by patient.

With reference to the complication indicated in the literature review such as hyperglycaemia, diabetic ketoacidosis, hyperglycaemia hyperosmolar syndrome, cardiovascular diseases and diabetic nephropathy, patient had hyperglycaemia and paraesthesia as an indication of diabetic neuropathy.

2.7 Patient Health Problems

These are stressful conditions or situations which are identified by the nurse in her interaction with patient and family. The problems can be physical, psychological or social problems. The problems may be potential or actual, open or concealed which need the intervention of a health professional. Problems are the bases for the diagnosis. Based on the data collected and the observation made the following problems were identified;

On 4thNovember, 2021

1. Patient had high blood glucose level recording (17.9mmol/L). (4thNovember, 2021)
2. Patient complained of frequent micturition. (4thNovember, 2021)
3. Patient looked very weak and confined to bed. (4thNovember, 2021)
4. Patient complained of excessive hunger and thirst. (4thNovember, 2021)

On 5thNovember, 2021

5. Patient complained of tingling sensation at the right lower extremity. (5th November, 2021)

6. Patient complained of sleeplessness during the night. (5th November, 2021)

2.8 Patient/ Family Strengths

Patient/ family strengths are resources and abilities of the family and patient that will help in the speedy recovery of the patient. The strengths also help the patient to cope with stress. It comprises the physical, psychological, social and spiritual supports of the patient. The strengths listed below were those that were identified during interactions and assessments made on Madam. V.A.A

4th November, 2021.

1. Patient was willing to take prescribed oral antidiabetic to help reduce blood glucose level.
2. Patient could verbalize the urgency and frequency of urination.
3. Patient could perform daily activities when assisted.
4. Patient could eat some amount of meal served.

5th November, 2019.

5. Patient could verbalize the location and intensity of tingling sensation.

6. Patient could have maximum hours of sleeping of about four (4) hours in the day.

2.9 Nursing Diagnoses

4th November, 2021.

1. Alteration in normal blood glucose (hyperglycemia 17.9mmoI/L) related to insufficient insulin production associated with diabetes mellitus.
2. Risk for fluid volume deficit related to frequent urination.
3. Activity intolerance (walking) related to weakness secondary to decrease glucose uptake by cells.

4. Altered nutrition, (more than body requirements) related to decrease glucose level in the cells.

5th November, 2021.

5. Risk for ineffective peripheral tissue perfusion related to decreased blood circulation associated with peripheral blood vessel resistant in diabetes mellitus.
6. Altered sleeping pattern (insomnia) related to frequent urination at night.

CHAPTER THREE

PLANNING OF CARE FOR PATIENT AND FAMILY

3.0 Introduction

In the five step nursing process; planning is the third phase. It is the category of nursing behaviours in which strategies are designed to achieve the goals of care. Planning involves developing and modifying a care plan for the patient. To design the care plan, the nurse anticipates the patient's needs according to established priorities and involves the patient, his family and significant others to decide on outcome criteria to be achieved at the end of a specified period of time. Outlined in this chapter are objectives and outcome criteria of the care rendered to Madam A.G followed by her nursing care plan in a tabular form.

3.1 Nursing Objective / Outcome Criteria

4th November, 2021.

1. Patient's blood glucose level would reduce to the normal range (3.6mmol/L-6.4mmol/L) within 3days as evidence by:

a. Nurse reading and recording a fasting blood sugar level of within normal range by the use of a glucometer.

b. Patient verbalizing diminished symptoms of elevated blood sugar level and improvement in health status.

2. Patient's fluid volume would be maintained throughout the period of hospitalization as evidenced by:

a. Nurse observes the absence of signs of dehydration such as poor skin turgor, dry mucus membrane and among others.

b. Patient verbalizes cessation of frequent micturition.

3. Patient would gain optimal strength to perform activities of daily living within 3 days as evidence by;

a. Nurse observes that patient is up and performing activities of daily living with minimal assistance.

b. Patient verbalizes absence of weakness.

4. Patient's normal eating pattern would be restored within 72 hours as evidence by;

a. Nurse observes that patient eats three square meals a day.

b. Patient verbalizes that she no longer has an increased desire for food.

5thNovember, 2021.

5. Patient's peripheral circulation and sensory perception will be maintained throughout the period of hospitalization as evidence by:

a. Nurse observes that patient can respond to stimuli.

b. Patient verbalizes that she feels sense of touch of extremities and responds to it.

6. Patient's normal sleeping pattern (6-8 hours) would be restored within 48 hours as evidence by:

a. Nurse observes that patient is able to sleep continuously for maximum of about 6 hours at night.

b. Patient verbalizes that she is able to sleep soundly at night.

Table 7: Nursing Care Plan for Madam. V.A.A

DATE /TIME	NURSING DIAGNOSIS	OBJECTIVE/ OUTCOME CRITERIA	NURSING ORDERS	NURSING INTERVENTION	DATE/ TIME	EVALUATION	SIGN
4/11/21 9:45am	Alteration in normal blood glucose (hyperglycaemia 17.9mmoI/L) related to insufficient insulin production associated with diabetes mellitus.	Patient's blood glucose level will reduce to the normal range (3.6mmol/L-6.4mmol/L) within 3days as evidence by: a. Nurse reads and records a fasting blood sugar level of (4.2mmol/L) by the use of a glucometer. b. Patient reports	1. Reassure patient of competent nursing care 2. Explain to the patient the cause of her elevated blood glucose. 3. Monitor and record blood glucose 6 hourly and every morning. 4. Encourage patient to avoid taking oral anti-diabetic drug before	1. Patient was reassured to allay any fears and anxiety and that every measures would be taken to reduce blood glucose level. 2. The causes and effects of elevated blood glucose level were reviewed and explained to the patient to help patient gain insight about her condition. 3. Patient's blood glucose level was recorded and monitored for any anomalies and also to serve as baseline for nursing care. 4. Patient was encouraged to avoid taking oral anti-diabetic drug before exercising to prevent hypoglycemia.	7/11/21 9:30am	Goal fully met as evidenced by: a. Nurse read and recorded a fasting blood sugar level of (4.9mmol/L) by the use of a glucometer. b. Patient verbalized diminished signs of elevated	A.G

		a diminished signs of elevated blood sugar level and improvement in health status.	exercising. 5. Engage a dietician to plan patient's diet. 6. Serve prescribed Anti-diabetic drug. 7. Ensure intravenous fluid therapy.	5. A dietician was engaged in patient's diet planning to manage nutritional status to prevent excessive glucose in blood. 6. Prescribed Anti-diabetic drug (tab Metformin) was administered to patient to decrease blood glucose level. 7. Venous access was established and intravenous therapy such as normal saline was set up as prescribed.		blood sugar level and improvement in health status.	

Continuation of Care Plan for Madam. V.A.A

DATE AND TIME	NURSING DIAGNOSIS	OBJECTIVE/ OUTCOME CRITERIA	NURSING ORDERS	NURSING INTERVENTION	DATE & TIME	EVALUATION	SIGN.
4/11/21 9:48am	Risk for fluid volume deficit related to frequent urination.	Patient's fluid volume will be maintained throughout the period of hospitalization as evidence by: a. Nurse observes the absence of signs of dehydration such as poor skin turgor, dry mucus membrane, among others.	1. Reassure patient of competent care. 2. Assess patient's history of duration or urgency of urination. 3. Encourage patient on the	1. Patient was reassured that the frequency of urination will stop and hence her fluid volume will be maintained. 2. Patient's history related to duration or urgency of urination was assessed as a baseline information. 3. Patient was encouraged on the need to increase fluid intake in	8/11/21 9:35am	Goal fully met as evidenced by: a. Nurse observed the absence of signs of dehydration such as poor skin turgor, dry mucus membrane and among others.	

		b. Patient verbalizes that she is not experiencing excessive thirst and also there is cessation of frequent micturition.	need to increase fluid intake. 5. Weigh patient daily. 6. Encourage liberal fluid intake. 7. Monitor intake and output chart.	order to maintain fluid and electrolyte balance. 5. Patient was weighed daily to monitor signs of dehydration. 6. Liberal fluids were encouraged to be taken by the patient to maintain normal fluid status. 7. Patient intake and output chart was monitored to observes for the signs of dehydration.		Patient verbalized cessation of frequent micturition.	

Continuation of Care Plan for Mrs. V.A.A

DATE AND TIME	NURSING DIAGNOSIS	OBJECTIVE/ OUTCOME CRITERIA	NURSING ORDERS	NURSING INTERVENTION	DATE AND TIME	EVALUATION	SIGN.
4/11/21 9:55am	Activity intolerance (fatigue) related to decrease glucose uptake by cells.	Patient will gain optimal strength to perform activities of daily living within 3 days as evidence by: a. Nurse observes that patient is up and performing activities of daily living with minimal assistance.	1. Reassure patient of competent care. 2. Assess the physical activity level and mobility of the patient. 3. Help patient set practical	1. Reassurance was given to patient that she will be able to perform activities of daily living without assistance to allay anxiety and fear. 2. Patient's physical activity level and mobility were assessed to know the type of exercise patient could perform. 3. Practical activity goals were set with patient to	7/11/21 9:40am	Goal fully met as evidenced by; a. Nurse observed that patient was up and performed activities of daily living with minimal assistance. b. Patient verbalized absence of weakness.	

		b. Patient verbalizes absence of weakness.	activity goals. 4. Encourage patient to choose activities that gradually build endurance. 5. Provide comfort and safety measures in the ward.	offer a sense of control and feelings of achievement. 4. Patient was encouraged to choose activities that would gradually build endurance to avoid potential self-care deficit. 5. Patient was provided with comfort and safety measures to prevent injury.			

Continuation of Care Plan for Madam. V.A.A

DATE & TIME	NURSING DIAGNOSIS	OBJECTIVE/ OUTCOME CRITERIA	NURSING ORDERS	NURSING INTERVENTION	DATE & TIME	EVALUATION	SIGN.
4/11/21 10:00am	Altered nutrition (more than body requirements) related to decrease glucose level in the cell.	Patient's normal eating pattern will be restored within 72 hours as evidence by: a. Nurse observes that patient eat three square meals a day. b. Patient verbalizes that she no longer has an increase desire for food.	1. Reassure patient of competent care. 2. Assess patient's eating pattern and nutritional status 3. Weigh patient daily. 4. Encourage patient to eat in bit at regular intervals.	1. Patient was reassured that she was in the hand of competent health team and they would do their best to restore her nutrition status. 2. Patient's eating pattern was assessed at regular intervals to prevent hypoglycemia. 3. Patient was weighed daily to serve as an assessment tool to determine the adequacy of nutritional intake. 4. Patient meal was served in bit and attractive to stimulate patient appetite.	7/11/21 9:00am	Goal fully met as evidenced by: a. Nurse observed that patient ate three square meals a day. b. Patient verbalized that she no longer had an increased desire for food.	A.G

			5. Engage a dietician to plan patient's diet. 6. Educate patient on the need for adhering to dietary regimen. 7. Serve prescribe oral anti-diabetic drug.	5. A Dietician was engaged in patient's diet planning to prevent excessive glucose in blood. 6. Patient was educated on the needs to adhering to dietary regimen to prevent hypoglycemia and hyperglycaemia. 7. Prescribed oral anti-diabetic such as tablet Metformin and tablet Glibenclamide were administered to help transport glucose to the tissues.			

Continuation of Care Plan for Mrs. V.A, A

DATE/ TIME	NURSING DIAGNOSIS	OBJECTIVE/ OUTCOME CRITERIA	NURSING ORDERS	NURSING INTERVENTION	DATE/ TIME	EVALUATION	SIGN.
5/11/21 9:00am	Risk for ineffective peripheral tissue perfusion related to decrease blood circulation associated with peripheral	Patient's peripheral circulation and sensory perception will be maintained throughout the period of hospitalization as evidence by: a. Nurse observes that patient can	1. Reassure patient of competent nursing care. 2. Monitor and record vital signs.	1. Patient was reassured of competent care and that measures were put in place to prevent discomfort to the extremities. 2. Vital signs usually temperature, pulse, respiration and blood pressure were monitored every four hourly to serve as a baseline data.	8/11/21 8:50am	Goal fully met as evidenced by: A.Nurse observed that patient could respond to stimuli. B.Patient verbalized that She feels sense of touch of	

	blood vessel resistant in diabetes mellitus.	respond to stimuli. b. Patient verbalize that she feels sense of touch of extremities and responds to it.	3. Remove all sharp articles from patient environment. 4. Observe patient's extremity for signs of compartment syndrome. 5. Provide bed cradle to patient.	3. All sharp articles were removed from patient environment to protect the patient from injury. 4. Patient's extremities were checked for signs of compartment syndrome such as tingling sensation, coldness of limb and pain in order to put measures in place to ensure proper circulation of blood and to prevent complications. 5. Bed cradle was provided to reduce discomfort and		extremities and respond to it.	

			6. Assist patient with ambulation and position changes.	potential dermal injury. 6. Patient was assisted in ambulation and position changes to promote patient safety to prevent loss of sensory.			

Continuation of Care Plan for Madam V.A.A

DATE AND TIME	NURSING DIAGNOSIS	OBJECTIVE/ OUTCOME CRITERIA	NURSING ORDERS	NURSING INTERVENTION	DATE /TIME	EVALUATION	SIGN.
5/11/21 9:30am	Alteration in normal sleeping pattern related to frequent urination at night.	Patient's normal sleeping pattern will be restored within 48 hours as evidence by: a. Nurse observes that patient is able to sleep continuously for maximum of	1. Reassure patient of competent nursing care. 2. Prepare a comfortable bed for patient. 3. Explain to patient the reason for frequent urination. 4. Ensure urinals are made accessible to patient.	1. Patient was reassured of competent nursing care and that measures were put in place to allay fear and anxiety. 2. A comfortable bed was made to facilitate sleeping. 3. Reasons for frequent urination was explain to patient to gain insight about the condition. 4. Urinal articles were made accessible to patient to facilitate easy voiding.	7/11/21 9:20am	Goal fully met as evidenced by: a.Nurse observed patient was able to sleep continuously for maximum of about 6 hours at night. b.Patient	

		about 6 hours at night. b. Patient verbalizes that she is able to sleep soundly at night.	5. Restrict visitors and plan nursing activities during patient sleep time. 6. Ensure that patient void before going to bed. 7. Serve prescribed anti-diabetics drug such as Metformin.	5. Visitors were restricted and nursing activities were also planned to avoid interference with patient sleeping time. 6. Patient was ensured to void before she goes to bed to avoid interference with her sleeping pattern. 7. Prescribe anti-diabetic drug such as Tablet metformin was administered to patient to reduce glucose production which will prevent her from voiding frequently during the night.		verbalized that she was able to sleep soundly at night.	

CHAPTER FOUR

IMPLEMENTATION OF PATIENT/FAMILY CARE PLAN

4.0 Introduction

Implementation follows planning and precedes evaluation thus forming the fourth phase in the five step nursing process. It is the stage at which the actions necessary for accomplishing the care plan are initiated and completed. Outlined in this chapter are the summary of actual nursing care rendered to Madam. V.A.A and her family throughout the period of her stay on the ward, preparing for her discharge and home visit for identification of resources in the home environment for social health or health assistance as needed by the patient and her family.

4.1. Summary of Care Rendered to Patient and Family

Madam. V.A.A arrived on the ward on Thursday 4th November 2021, where I met her and relatives and accomplished her admission thus beginning my interaction with her. Nursing care subsequently continued till Monday, 8th November, 2021 when she was finally discharged. The nursing activities undertaken to assist her in the recovery of health is summarily reviewed in this section.

Routine Care

The following routine cares were rendered to the patient during the period of hospitalization.

Personal Hygiene

Madam. V.A.A's personal hygiene such as bathing was maintained twice daily with soap, water and sponge, oral care was performed twice daily using toothpaste with brush. Her bed linens were changed whenever soiled, her hair was also groomed daily and her nails were trimmed whenever overgrown also her cloths were changed anytime they were soiled.

Nutrition

Madam. V.A.A was assisted to meet her nutritional requirements by giving a well-nourished diet three times a day which was taking 30 minutes after administration of oral anti-diabetic medication. Patient was encouraged to take in nutritious diet and replace diet of simple carbohydrate with complex carbohydrates to prevent sharp increase in blood sugar. She was also encouraged to take in more fluid to prevent dehydration and food was served in bits and attractively to improve patient's appetite.

Monitoring and regulation of blood sugar level.

Samples of blood were taken for Random blood sugar and fasting blood sugar. Based on the blood sugar level oral anti-diabetic drugs were served.

Medication

Prescribed medications such as Tablet Metformin 500mg 8hourly x 14 days, Tablet Glibenclamide 5mg 12 hourly x 30, Tablet Cefuroxime 500mg bd x 30days, and Normal Saline 4.5L for 48hours was administered to help the patient to recover.

Ward Rounds

Daily ward rounds were carried during which her condition was assessed by the medical team and necessary interventions given.

Vital Signs

The temperature, pulse, respiration and especially blood pressure were checked 4 hourly as patient's condition improved, and was documented as well. Nursing measures were undertaken to correct any deviation or abnormality detected and observed.

First Day of Admission (Thursday, 4th November, 2021)

Madam .V.A.A was admitted through the Emergency ward into females medical at 9:45am per ambulatory in a conscious state accompanied her two relatives and a student nurse with the complains of frequent urination, excessive thirst, excessive hunger, high blood glucose level and body weakness. She was diagnosed of having Diabetes Mellitus type II by M.A. On admission, RBS was checked and recorded 17.9mmol/L. She was put on the following plans; Sc 10units soluble insulin + 10units into 500mls of Normal Saline (Stat) medication, Tab Metformin 500mg tds x 14, Tab Glibenclamide 5mg bd x 30, Tab Cefuroxime, 500mg bdx 7, monitor RBS 2hourly and to retrieve HPT drugs and serve. Patient manifested facial grimaces upon movement, restlessness and irritability. Madam V.A.A and relatives were welcomed and given seats at the nurses' station. Her hospital identification card was collected for verification of identity. Her identity was verified by mentioning her name for response. She and her relatives were reassured that all possible measures will be taken to ensure her speedy recover. Patient was introduced to nursing staff on duty, she was put in an already prepared admission bed. Patient's particulars such as name, age, address, religion, occupation, house number and marital status recorded in her Electronic folder was taken and entered into the admission and discharge book and her name, age and sex were entered in the daily ward state.

Her baseline vital signs which include temperature, pulse, respiration and blood pressure and other parameters were checked and recorded as follows;

- Temperature: 36.6 degrees Celsius
- Pulse: 85 beats per minute (bpm)
- Respiration: 22 cycle per minute (cpm)
- Blood Pressure: 150/70mmHg
- Weight: 61 kilograms(kg)

These values were transferred to the observation chart, nurses' note and the temperature chart. They were informed about the visiting hours and other essential ward protocols such as ward rounds and chart rounds. She was introduced to other patients lying next to her bed and was also oriented to the ward and its environment including the urinal and the lavatory. Later her informed consent to be the patient for this care study was requested. How the project would be done from commencement to termination including home visits was explained to her which she agreed and was assured of protection of her identity and that her name would not be in the study.

The following laboratory investigations were requested on patient

- Full Blood Count
- Urine for routine examination.
- Random Blood Sugar: 17.9millimoles per liter.
- Blood film for Malaria Parasite.

On admission she was managed on the following medications:

1. Insulin 10units Sc + 10 units in 500mls of Normal Saline(Stat)
2. Intravenous Normal Saline 4.5L for 48hours
3. Tablet Metformin 500mg tds x 14 days
4. Tablet Glibenclamide 5mg 12hourly x 30 days
5. Tablet Cefuroxime 500mg bid x 7days

Madam V.A.A and relatives were reassured that she will obtain optimal health care as she is in the hands of competent staff.

On this day at 9:45am it was realized that patient's blood glucose level upon taking blood samples to measure was very high recording 17.9mmol/L. A nursing diagnosis of alteration in normal blood glucose (hyperglycaemia 17.9mmoI/L) related to insufficient insulin production associated with diabetes mellitus was made. An objective was set to reduce patient's blood glucose to the normal range (3.6mmol/L-6.4mmol/L) within 3days. The following interventions were made; Patient was reassured to allay any fears and anxiety and that every measures would be taken to reduce blood glucose level. The causes and effects of elevated blood glucose level were reviewed and explained to the patient to help patient gain insight about her condition. Patient's blood glucose level was recorded and monitored for any anomalies and also to serve as baseline for nursing care. Patient was encouraged to avoid taking oral anti-diabetic drug before exercising to prevent hypoglycaemia. A dietician was engaged in patient's diet planning to manage nutritional status to prevent excessive glucose in blood. Prescribed Anti-diabetic drug (tab Metformin) was administered to patient to decrease blood glucose level. Venous access was established and intravenous therapy such as normal saline was set up as prescribed.

At 9:48am, patient complained of frequent urination and this makes patient at risk for fluid volume deficit hence a nursing diagnosis of risk for fluid volume deficit related to frequent urination. An objective was set to maintain patient's fluid volume throughout the period of hospitalization. The following nursing interventions were put in place; to maintain patient's fluid throughout the period of hospitalization. Patient was reassured that the frequency of urination will stop and hence her fluid volume will be maintained. Patient's history related to duration or urgency of urination was assessed as a baseline information. Patient was encouraged on the need to increase fluid intake in order to maintain fluid and electrolyte balance. Patient was weighed daily to monitor signs of dehydration. Liberal fluids were

encouraged to be taken by the patient to maintain normal fluid status. Patient intake and output chart was monitored to observes for the signs of dehydration.

At 9:45am, patient was very weak and confined to bed. A nursing diagnosis of activity intolerance (fatigue) related to decrease glucose uptake by cells. An objective was set to restore patient energy to perform daily activities within 3 days. Effective nursing interventions were instituted; Reassurance was given to patient that she will be able to perform activities of daily living without assistance to allay anxiety and fear. Patient's physical activity level and mobility were assessed to know the type of exercise patient could perform. Practical activity goals were set with patient to offer a sense of control and feelings of achievement. Patient was encouraged to choose activities that would gradually build endurance to avoid potential self-care deficit. Patient was provided with comfort and safety measures to prevent injury.

At 10:00am, upon having a conversation with Madam. V.A.A, it was revealed that she experienced excessive hunger and as a result has altered her normal nutritional pattern and demand therefore a nursing diagnosis of altered nutrition (more than body requirements) related to decrease glucose level in the cell was formed. The appropriate nursing interventions were carried out for her. Patient was reassured that she was in the hand of competent health team and they would do their best to restore her nutrition status. Madam A. A eating pattern was assessed at regular intervals to prevent hypoglycemia. Patient was weighed daily to serve as an assessment tool to determine the adequacy of food. Patient's meal was served in bit and attractive to stimulate her appetite. A dietician was engaged in patient's diet planning to prevent excessive glucose in the blood. Patient was educated on the needs to adhere to dietary regimen to prevent hypoglycemia and hyperglycemia. Prescribed oral anti-diabetic such as tablet Glibenclamide and tablet Metformin were administered to

help transport glucose to the tissues. At 1:00pm, patient was served with her launch which was rice and tomato stew.

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

Patient was pre-informed of visiting her home on the next day, approval and permission was granted with directions.

At 5:00pm, patient took her supper. She took her bath after eating.

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

At 10:00pm, vital signs were checked and recorded, due medications were administered.

Patient slept around 10:30pm.

Second Day on Admission (5th November, 2021)

Madam. V.A.A woke up at 5:30am, performed her personal hygiene such as brushing her teeth, eliminating her bowels etc. Vital signs was checked and recorded as shown in the appendix to monitor any deviation from normal. Morning medications were also served and documented. Fasting Blood Sugar was also monitored and document. Patient took in Porridge and Bread as her breakfast.

At 9:00 am on this day, Madam. V.A.A complained of tingling sensation on her right leg. She was at risk for ineffective perfusion of blood to tissues hence the nursing diagnosis of risk for ineffective peripheral tissue perfusion related to decrease blood circulation associated with peripheral blood vessel resistant in diabetes mellitus was formulated. An objective was set to ensure peripheral circulation and sensory perception are maintained throughout the period of hospitalization. The following interventions were put in place: Patient was reassured of competent care and that measures were put in place to prevent discomfort to the extremities. Vital signs usually temperature, pulse, respiration and blood pressure were monitored every four hourly to serve as a baseline data. All sharp articles were removed from patient

environment to protect the patient from injury. Patient's extremities were checked for signs of compartment syndrome such as tingling sensation, coldness of limb and pain in order to put measures in place to ensure proper circulation of blood and to prevent complications. Bed cradle was provided to reduce discomfort and potential dermal injury. Patient was assisted in ambulation and position changes to promote patient safety to prevent loss of sensory.

During interaction with the patient on this day at 9:30am, she revealed to me that she urinated frequently at night and as a result she found it difficult to sleep. The following nursing interventions were put in place to restore her sleeping pattern and normal bladder function. Patient was reassured of competent nursing care and that measures were put in place to allay fear and anxiety. A comfortable bed was made to facilitate sleeping. Reasons for frequent urination was explain to patient to gain insight about the condition. Urinal articles were made accessible to patient to facilitate easy voiding. Visitors were restricted and nursing activities were also planned to avoid interference with patient sleeping time. Patient was ensured to void before she goes to bed to avoid interference with her sleeping pattern. Prescribe anti-diabetic drug such as Tablet metformin was administered to patient to reduce glucose production which will prevent her from voiding frequently during the night.

On this day, Madam V.A.A. could perform simple daily activities unaided gradually and also the excessive demand for food was at reasonable rate. My first home visit was made on this day at 12:00pm after checking vital signs whiles patient was still on admission.

During ward rounds at 10:00am current treatment was asked to be continued and additional medication was added thus Tablet Paracetamol 1g tds x 5days. At 10am, patient vital signs was checked and recorded as shown in the appendix as well as her due medications were served accordingly. RBS was checked and recorded as indicated in the appendix.

At 1:30pm Patient took in banku with okro stew as her lunch.

At 6pm, patient vital signs was checked and recorded as shown in the appendix as well as her due medications were served. RBS was checked and recorded at the said time. Patient ate Rice and Beans stew as her supper. Patient slept around 10:30pm.

Third Day on Admission (6th November, 2021.)

Madam. V.A.A woke up at 6:00am, performed her personal hygiene such as brushing her teeth, eliminating her bowels etc. Vital signs was checked and recorded to monitor any deviation from normal. Morning medications were also served and documented. Fasting Blood Sugar was also monitored and document. Patient took in Tom brown and Bread as her breakfast

During ward rounds, no further problems and complications were detected and Madam. V.A.A was responding to treatment as intended. Doctor ordered continuity of care.

At 10am, patient vital signs was checked and recorded as well as her due medications were served accordingly. RBS was checked and recorded as indicated in the appendix.

At 1:30pm Patient took in Ampesi with Kontomire stew as her lunch.

At 6pm, patient vital signs was checked and recorded as well as her due medications were served. RBS was checked and recorded at the said time. Patient ate Rice and Garden Eggs stew as her supper. Patient slept around 9:30pm.

Fourth Day of Admission (7th November, 2021)

On the fourth day of admission patient was assisted in maintaining her oral hygiene, she had her bath and emptied her bowel. Report from the night nurses read that she was able to sleep well upon the measures put in place. Her due medications were served and her vital signs as well as her fasting blood glucose and weight had already been checked and recorded at 6am as indicated in the appendix. At 7:50am, she was assisted and encouraged to take about 500mls of brown porridge which was sugar free.

During the ward rounds at 9:30am, patient made no new complains so the medical team ordered for treatment to continue.

At 9:30am, evaluation of the set objective on 5th November, 2021 to restore patient's normal sleeping pattern within 48 hours was done and goal was fully met as evidenced by nurse observed patient was able to sleep continuously for maximum of about 6 hours at night and patient verbalized that she was able to sleep soundly at night.

At 9:45am, evaluation of the set objective on 4th November, 2021 to reduce patients blood glucose level will reduce to the normal range (3.6mmol/L-6.4mmol/L) within 3days was done and goal was fully met as evidenced by nurse read and recorded a fasting blood sugar level of (4.2mmol/L) by the use of a glucometer and patient verbalized diminished signs of elevated blood sugar level and improvement in health status.

At 9:50am, evaluation of the set objective on 4th November, 2021 to restore patients optimal strength to help her perform activities of daily living within 3 days was done and goal was fully met as evidenced by nurse observed that patient was up and performed activities of daily living with minimal assistance and patient verbalized absence of weakness.

At 10:00am, evaluation of the set objective on 4th November, 2021 to restore patients normal eating pattern will be restored within 72 hours was done and goal was fully met as evidenced

by nurse observed that patient ate three square meals a day and patient verbalized that she no longer had an increased desire for food.

In the evening, she took rice and stew around 5:30pm for supper. She stayed glued to the ward Television afterwards watching the news and other programs as well.

At 10pm, her due medications were served, her vital signs as well as her random blood sugar was checked and recorded as shown in the appendix. Patient went to bed around 10:30pm.

Fifth day of Admission (Day of Discharge) (8th November, 2021)

Madam. V.A.A woke up at 6:00am, performed her personal hygiene such as brushing her teeth, eliminating her bowels etc. Vital signs was checked and recorded to monitor any deviation from normal. Morning medications were also served and documented. Fasting Blood Sugar was also monitored and document. Patient took in Tombrown and Bread as her breakfast

On this day at 8:00am during ward rounds it was observed that patient's blood glucose level was returning to normal range as glucometer reads a fasting blood sugar of (4.2mmol/L) within 4 days as nurse checked and observed a reduction in her glucose level and also patient verbalized the absence of the signs and symptoms of hyperglycemia.

At 9:00am, evaluation of the set objective on 5th November, 2021 to ensure peripheral circulation and sensory perception are maintained throughout the period of hospitalization was done and goal was fully met as evidenced by nurse observed that patient could respond to stimuli and patient verbalized that She feels sense of touch of extremities and respond to it.

Madam V.A.A and her family were informed by the doctor that she has recovered appreciably and can go home to continue treatment. Patient and family were happy to go

home without complications and in a very good condition. All the procedures were documented especially into the admission and discharge book and the daily ward state.

At 9:48am, evaluation of the set on 4th November, 2021 to maintain patients fluid volume throughout the period of hospitalization was done and goal was fully met as evidenced by nurse observed the absence of signs of dehydration such as poor skin turgor, dry mucus membrane and among others and patient verbalized cessation of frequent micturition.

Patient and her family were educated on how to take her prescribed drugs. They were also educated on the causes, clinical features, management and prevention of the condition.

The need for a well-balanced diet and proper personal and environmental hygiene were stressed to them as the best way to live a healthy life. Home visits were also discussed with them; this was to ensure continuity of care and to make the necessary changes where applicable. Patients cannula was removed and the site been clean. They were asked to report for review on 15th November, 2021.

Madam V.A.A's condition at the time of discharge showed an appreciable improvement. They were seen off to the okada station and bade goodbye at 12:30pm. Patient's bed was decontaminated and made ready for any possible admission.

4.2 Preparation of Patient and Family towards Discharge and Rehabilitation

The aim of this preparation was to ensure family participation and continuity of care at home.

Preparation towards Madam. V.A.A's discharge started on the day of admission. The family was assured that she was at the right place, in the hands of a competent health team and that all activities to be carried out during patient`s stay on the ward were to promote recovery and enhance discharge.

The part they would play to enhance speedy recovery was explained to them. Patient and family were informed of the doctor's intention to discharge her. This was done to help relatives plan towards her discharge, they were advised to conform to the meal plan prepared for patient by dietician which included high calorie diet every day and to avoid starvation. They were also educated to wait for thirty minutes after Glibenclamide administration before giving patients meal to her. She was advised to trim her nails frequently to prevent her from scratching her body with them which could cause injury. Patient and family were educated to always maintain proper personal hygiene for patient especially bathing to relieve patient from the possibility of vaginal discomfort and other infections. They were educated on the disease condition, and the mode of treatment as well as the importance of hospitalization. The importance of follow-ups and the need to report earlier than the scheduled date of review if her condition changes while at home was stressed.

She was finally discharged on the 8th November, 2021 and was seen off with her daughter at 12:30pm.

4.3 Follow-Ups/ Home Visits/Continuity of Care.

This is the act of rendering health service to a patient in her or his home environment to ensure continuity of care. It also determines the health status of the patient following discharge, identify other problems and help find solutions to the identified problems and know the resources at home as well as in the community that can be used to solve actual and potential health problems

This involves visiting the patient home before and after discharge to have first-hand information on the condition of the house and its influence on the patient's health. This is of great importance in the care of the patient.

First Home Visit (5th November, 2021)

The first home visit to patient's home was on the 5th November, 2021 at 12:00pm whiles the patient was still on admission. The first visit was made in the company of the patient's daughter. The aim was to familiarize myself with the patient's home setting whilst gathering enough information that will be relevant in the care and education of the patient and to validate if the description given to me was correct and to find the nearby clinic. We boarded Okada which was heading toward their house area which was opposite to Madam Gyamfua house at ABB at Dormaa as told by her daughter. The road leading to patient's house was rough road.

On entering the house, a quick observation of the environment was made and the environment was well kept and clean. I was received warmly by her husband and other family members present, I was offered a seat outside their room on their veranda. I realized that there were three bedrooms in the house and that there would be no form of overcrowding. I introduced myself and made the purpose of my visit known to them. The house is built with cement blocks and roofed with aluminium sheet. The house was well-ventilated and their kitchen was situated outside as well as their toilet and bathroom made with blocks. The windows was made with wooden windows with clean curtains with carpet on the floor. They have small television with multi TV and a ceiling fan with three plastic chairs at the room. The house had no source of drainage system that conveys waste water into the main gutter outside, instead family members fetch water. Refuse is collected in a big container which is then discarded into the refuse dump situated at the outskirt off the town at AB which is another area. Madam V.A.A and family had access to electricity and also used rechargeable lamps when there was power outage. Their source of water is borehole, they also stored water in two large barrels with lids. Patient and family were educated to keep food stuff covered to avoid transmission of infections by houseflies and other insects. They were also commended for keeping their environment clean and it was again emphasized that their

environment should always be kept clean. The family was allowed to ask questions and the appropriate answers were provided to their satisfaction. Appreciation was given to them and I promised to visit again after patient had been discharged and also surveyed the community to find the nearest health center.

Second Home Visit (9th November, 2021)

The second home visit was made on Tuesday 9th November, 2021 after her discharge. I got to the house around 11:00am and met Madam. V.A.A and her daughter at home relaxing under mango tree in front of their house, she was very happy to see me. Patient and daughter took me inside and served me some water. I asked of the husband and they told me he has gone to work. I told them the purpose of my visit was to remind her of the review on next week Thursday 15th November, 2021 and also to find out how they are doing and to check how he is complying with the medication regimen. I also enquired about her drugs and was informed the she was taking them well as prescribed. I proceeded to talk about the need for her to pay more attention to her health. I entreated that family members who was not registered on the National Health Insurance Scheme to get themselves registered so that they could access healthcare more regularly. Maintenance of good environmental and personal hygiene as an illness prevention was discussed. I informed her that my next visit would be my last and that continuity of care would be handed over to the community health nurse in-charge of their community. I left the house around 2:10pm and accompanied by both Madam. V.A.A and her daughter to the roadside and I was bid goodbye.

Day of Review (Monday 15th November, 2021)

Madam. V.A.A and her relative reported on the said day at 8:30 am at the OPD for review. After assessment, her vital signs were checked and recorded as follows:

- Temperature: 36.0 degrees Celsius,
- Pulse: 72beats per minute,
- Respiration: 18 cycles per minute
- Blood Pressure: 120/80mmhg.
- Weight 58kg

She was examined by the medical officer but no complaints were made. She was informed to report any complications, discomfort and health deterioration urgently to the health facility for immediate management. Patients said some of the drugs were still there, no additional medication was added. We thanked the doctor and left. We planned for my next visit, which was my third home visit. I escorted them to the nearby Okada station and bid them good bye and promised to visit them as planned.

Third Home Visit (10th December, 2021)

The third and final home visit was made on the 10th December, 2021 which Friday. The main aim of the visit was to introduce Madam. V.A.A and family to the community health nurse in-charge of their community for continuity of care. On that day, together with F.A.D, a visit was rendered to the household of the patient since arrangement had already been made about the patient's handing over. Patient and family verbalized that they were doing very well. After exchanging greetings, the family was introduced to the community health nurse for the continuity of care. I suggested that it was better to go to the clinic when feeling unwell. I advised the family to be more proactive about her health regular visits to the hospital even for small conditions so that they would not become worse. I then reminded her that this would be

my last visit but assured her that I would pass by anytime I am in the vicinity. I thanked her and family for their cooperation and support, she also showed gratitude for the care I rendered to her.

CHAPTER FIVE

EVALUATION OF CARE RENDERED TO PATIENT AND FAMILY

5.0 Introduction

According to Smeltzer, et al, (2018), evaluation in simple terms is the outcome of nursing actions against the anticipated goals and it is the final step in the nursing process. This is part of the patient/family care study. Here the nurse tries to determine whether the goals and objectives set are fully met by examining the chief responses and comparing them with the behaviour stated in the expected outcome.

It is a continuous process and occurs concurrently with an on-going assessment, analysis, planning and implementation of nursing care. Outlined in this chapter is the statement of evaluation, amendment of nursing care plan and termination of care rendered to Madam. V.A.A.

5.1 Statement of Evaluation

1. Patient Maintained Normal Blood Glucose [7/11/2021]

On 4th November, 2021 at 9:45am it was realized that patient's blood glucose level upon taking blood samples to measure was very high recording 17.9mmol/L. A nursing diagnosis of alteration in normal blood glucose (hyperglycaemia 17.9mmoI/L) related to insufficient insulin production associated with diabetes mellitus was made. An objective was set to reduce patients blood glucose to the normal range (3.6mmol/L-6.4mmol/L) within 3days. The following interventions were made; Patient was reassured to allay any fears and anxiety and that every measures would be taken to reduce blood glucose level. The causes and effects of elevated blood glucose level were reviewed and explained to the patient to help patient gain insight about her condition. Patient's blood glucose level was recorded and monitored for any anomalies and also to serve as baseline for nursing care. Patient was encouraged to avoid taking oral anti-diabetic drug before exercising to prevent hypoglycemia. A dietician was engaged in patient's diet planning to manage nutritional status to prevent excessive glucose in

blood. Prescribed Anti-diabetic drug (tab Metformin) was administered to patient to decrease blood glucose level. Venous access was established and intravenous therapy such as normal saline was set up as prescribed.

On 7th November, 2021 at 9:45am, evaluation of the set objective on 4th November, 2021 to reduce patients blood glucose level will reduce to the normal range (3.6mmol/L-6.4mmol/L) within 3days was done and goal was fully met as evidenced by nurse read and recorded a fasting blood sugar level of (4.2mmol/L) by the use of a glucometer and patient verbalized diminished signs of elevated blood sugar level and improvement in health status.

2. Patient Maintained Normal Fluid Volume [8/11/2021]

On 4th November, 2021 at 9:48am, patient complained of frequent urination and this makes patient at risk for fluid volume deficit hence a nursing diagnosis of risk for fluid volume deficit related to frequent urination. An objective was set to maintain patients fluid volume throughout the period of hospitalization. The following nursing interventions were put in place; to maintain patient's fluid throughout the period of hospitalization. Patient was reassured that the frequency of urination will stop and hence her fluid volume will be maintained. Patient's history related to duration or urgency of urination was assessed as a baseline information. Patient was encouraged on the need to increase fluid intake in order to maintain fluid and electrolyte balance. Patient was weighed daily to monitor signs of dehydration. Liberal fluids were encouraged to be taken by the patient to maintain normal fluid status. Patient intake and output chart was monitored to observes for the signs of dehydration.

On 8th November, 2021 at 9:48am, evaluation of the set on 4th November, 2021 to maintain patients fluid volume throughout the period of hospitalization was done and goal was fully met as evidenced by nurse observed the absence of signs of dehydration such as poor skin

turgor, dry mucus membrane and among others and patient verbalized cessation of frequent micturition.

3. Patient Regain Her Optimal Strength [7/11/2021]

On 4th November, 2021 at 9:55am, patient was very weak and confined to bed. A nursing diagnosis of activity intolerance (fatigue) related to decrease glucose uptake by cells. An objective was set to restore patient energy to perform daily activities within 3 days. Effective nursing interventions were instituted; Reassurance was given to patient that she will be able to perform activities of daily living without assistance to allay anxiety and fear. Patient's physical activity level and mobility were assessed to know the type of exercise patient could perform. Practical activity goals were set with patient to offer a sense of control and feelings of achievement. Patient was encouraged to choose activities that would gradually build endurance to avoid potential self-care deficit. Patient was provided with comfort and safety measures to prevent injury.

On 7th November, 2021 at 9:55am, evaluation of the set objective on 4th November, 2021 to restore patients optimal strength to help her perform activities of daily living within 3 days was done and goal was fully met as evidenced by nurse observed that patient was up and performed activities of daily living with minimal assistance and patient verbalized absence of weakness.

4. Patient Regain Her Normal Eating Pattern [7/11/2021]

On 4th November, 2021 at 10:00am, upon having a conversation with Madam. V.A.A, it was revealed that she experienced excessive hunger and as a result has altered her normal nutritional pattern and demand therefore a nursing diagnosis of altered nutrition (more than body requirements) related to decrease glucose level in the cell was formed. The appropriate nursing interventions were carried out for her. Patient was reassured that she was in the hand of competent health team and they would do their best to restore her nutrition status. Madam

V.A.A eating pattern was assessed at regular intervals to prevent hypoglycemia. Patient was weighed daily to serve as an assessment tool to determine the adequacy of food. Patient's meal was served in bit and attractive to stimulate her appetite. A dietician was engaged in patient's diet planning to prevent excessive glucose in the blood. Patient was educated on the needs to adhere to dietary regimen to prevent hypoglycemia and hyperglycemia. Prescribed oral anti-diabetic such as tablet Glibenclamide and tablet Metformin were administered to help transport glucose to the tissues. At 1:00pm, patient was served with her launch which was rice and tomato stew.

On 7th November, 2021 at 10:00am, evaluation of the set objective on 4th November, 2021 to restore patients normal eating pattern will be restored within 72 hours was done and goal was fully met as evidenced by nurse observed that patient ate three square meals a day and patient verbalized that she no longer had an increased desire for food.

5. Patient Maintained Peripheral Circulation And Sensory Perception [8/11/2021]

On 5th November, 2021 at 9:00am, Madam. V.A.A complained of tingling sensation on her right leg. She was at risk for ineffective perfusion of blood to tissues hence the nursing diagnosis of risk for ineffective peripheral tissue perfusion related to decrease blood circulation associated with peripheral blood vessel resistant in diabetes mellitus was formulated. An objective was set to ensure peripheral circulation and sensory perception are maintained throughout the period of hospitalization. The following interventions were put in place: Patient was reassured of competent care and that measures were put in place to prevent discomfort to the extremities. Vital signs usually temperature, pulse, respiration and blood pressure were monitored every four hourly to serve as a baseline data. All sharp articles were removed from patient environment to protect the patient from injury. Patient's extremities were checked for signs of compartment syndrome such as tingling sensation, coldness of limb and pain in order to put measures in place to ensure proper circulation of blood and to prevent

complications. Bed cradle was provided to reduce discomfort and potential dermal injury. Patient was assisted in ambulation and position changes to promote patient safety to prevent loss of sensory.

On 8th November, 2021 at 9:00am, evaluation of the set objective on 5th November, 2021 to ensure peripheral circulation and sensory perception are maintained throughout the period of hospitalization was done and goal was fully met as evidenced by nurse observed that patient could respond to stimuli and patient verbalized that She feels sense of touch of extremities and respond to it.

6. Patient Normal Sleeping Pattern Was Restored [7/11/2021]

On 5th November, 2021 at 9:30am, During interaction with the patient, she revealed to me that she urinated frequently at night and as a result she found it difficult to sleep. The following nursing interventions were put in place to restore her sleeping pattern and normal bladder function. Patient was reassured of competent nursing care and that measures were put in place to allay fear and anxiety. A comfortable bed was made to facilitate sleeping. Reasons for frequent urination was explain to patient to gain insight about the condition. Urinal articles were made accessible to patient to facilitate easy voiding. Visitors were restricted and nursing activities were also planned to avoid interference with patient sleeping time. Patient was ensured to void before she goes to bed to avoid interference with her sleeping pattern. Prescribe anti-diabetic drug such as Tablet metformin was administered to patient to reduce glucose production which will prevent her from voiding frequently during the night.

On 7th November, 2021 at 9:30am, evaluation of the set objective on 5th November, 2021 to restore patient's normal sleeping pattern within 48 hours was done and goal was fully met as evidenced by nurse observed patient was able to sleep continuously for maximum of about 6 hours at night and patient verbalized that she was able to sleep soundly at night.

5.2 Amendment of Nursing Care Plan for Partially Met or Unmet Goals

Upon careful evaluation of the nursing care rendered to Mrs. V.A.A all goals and objectives set were fully met. Therefore, there was no need for amendment of any of the objectives set during the care of the patient.

5.3 Termination of Care Rendered to Patient and Family

This is the last phase of the nurse-patient relationship. On 10th of December 2021, I visited Madam V.A A and family after discharge. I observed that she was fine and also had no complain and she had much Knowledge on the disease condition. I also made them aware that the relationship will formally end after the last follow up visit. On the last follow up visit, I reminded Madam. V.A.A that it was the last day of our relationship and thanked her family and her for their co-operation toward her care and the vital information given to me during the care study lead to her speedy recovery and improvement in her condition. I emphasized the need for personal and environmental hygiene as well as proactive health seeking behaviour as a way of maintaining health and prevent the recurrence of the condition. I thank them and promise to visit them anytime I come to Dormaa or call anytime I had the chance. They were grateful and happy.

CHAPTER SIX

SUMMARY AND CONCLUSION

6.1 Introduction

This chapter is the last chapter of the nursing care plan that summarizes the care provided to the patient throughout the nursing process by reviewing the thematic issues that arose in the care study from admission to the last home visit after discharge.

6.2 Summary of Care Rendered To Patient And Family

Madam. V.A.A a 68-year-old Ghanaian old woman, born on 5th July 1953, was admitted on the 4th November, 2021 at Presbyterian Hospital- Dormaa Ahenkro specifically to the female ward through the Emergency ward on account of Diabetes Mellitus Type II. Patient presented the following problems on admission; frequent urination, excessive hunger, high blood glucose level and body weakness.

These health problems were identified during admission and some of the problems such as; difficulty in sleeping and tingling sensation of the right lower extremity were identified during the stay of the patient at the ward. The problems were developed into nursing diagnosis and nursing orders were set and implemented, the objectives set were fully met by implementing basic nursing care which included checking of vital signs and serving of prescribed medications. The drugs prescribed for the patient included;

Sc 10units soluble insulin + 10units into 500mls of Normal Saline (Stat) medication,

Tab Metformin 500mg tds x 14,

Tab Glibenclamide 5mg bd x 30 and

Tab Cefuroxime, 500mg bd x 7days.

All the drugs were administered as prescribed, and documented into the drug administration chart as well as the nurse's notes, taking into consideration the thirteen (13) rights of medication administration.

The patient's condition improved and she was discharged on 8th November, 2021. During discharge, health education was given to patient on her diet, medication, environmental and personal hygiene.

On three different occasions, visits were made to the patient and family at home to supervise and continue with her care. During the last home visit on the 10th of December, 2021, patient and family were handed over to the public health nurse for continuity of care.

6.3 Conclusion of Care Rendered to Patient and Family

This Patient/Family Care Study has given an account of how nursing process approach was used in nursing Madam. V.A.A, the writing of this care study has been beneficial to me and has allowed me to gain an in depth knowledge about Diabetes Mellitus and its management. Particularly, the writing of this report has improved my report writing skills for several nursing procedures. It has also provided me with adequate knowledge about the nursing process approach and how to use it effectively. It has enabled me to understand the unique essence of the care study and nursing profession which 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 would 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.

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Patient's HAMS No: 10661/19

APPENDIX I

Table 5: Vital Signs of Madam. V.A.A throughout the period of hospitalization

DATE	TIME	TEMPERATURE (ºC)	PULSE (bpm)	RESPIRATION (cpm)	BLOOD PRESSURE (mmHg)
04/11/21	9:45am	36.6	85	22	150/70
	2:00pm	36.0	78	21	140/70
	6:00pm	36.0	76	18	140/60
	10:00pm	35.7	70	18	130/70
05/11/21	6:00am	36.3	57	19	130/80
	10:00am	36.3	62	24	120/80
	2:00pm	36.4	65	18	110/70
	6:00pm	36.4	73	18	120/60
	10:00pm	36.0	80	20	130/70
06/11/21	6:00am	35.3	73	18	140/60
	10:00am	36.0	68	20	120/70
	2:00pm	35.9	94	27	120/60
	6:00pm	36.1	78	25	110/70
	10:00pm	36.5	81	20	110/80

07/11/21	6:00am	35.2	73	18	100/60
	10:00am	36.6	82	20	120/80
	2:00pm	34.5	92	22	100/70
	6:00pm	36.6	80	20	100/80
	10:00pm	36.5	81	20	110/70
08/11/21	6:00am	35.5	86	22	120/70
	10:00am	36.1	80	26	110/70

APPENDIX II

Table 6. 1: Blood Sugar Monitoring Chart

DATE	TIME	FBS (mmol/L)	RBS (mmol/L)	INSULIN GIVEN	REMARKS
04/11/21	4:25pm		17.9	20 units	10 units in 500ml N/S and 10 units Subcut
	6pm		12.5		
	10pm		8.3		Oral antidiabetics given
05/11/21	12am		12.4	6 units	Subcutaneous
	6am	3.1			Patient encouraged to eat
	7am		7.9		
	10am	9.7		4 units	Subcutaneous
	2pm		3.4		Patient was told to eat
	6pm		17.1	10 units	Subcutaneous
	10pm		9.8		
06/11/21	6am	7.1			
	10am		25.4	20 units	10 units in 500ml N/S and 10 units Subcut
	11:25am		14.1	4 units	Subcutaneous
	3:25		3.4		Patient encouraged to eat
	7:25		9.6		
	10pm		13.5	6 units	Subcutaneous
07/11/21	6am	5.9			Oral antidiabetics given
	10am		6.2		
	6pm		8.5		
	10pm		9.4		Oral antidiabetics given

	10pm		6.9		Oral antidiabetics given
08/11/21	6am	4.2			Oral antidiabetics given

SIGNITORIES

1. NAME OF CANDIDATE : GLADYS AGYEIWAA

SIGNATURE.....

DATE.....7 - 10 - 2022.....

2. NAME OF WARD IN-CHARGE : FUSEINI AZIZ

SIGNATURE.....

DATE.....06/10/2022.....

3. NAME OF SUPERVISOR : MR DRAMANI. F. AYAMBA.

SIGNATURE.....

DATE.....07/10/2022.....

4. NAME OF PRINCIPAL: MONICA NKRUMAH.

SIGNATURE.....

DATE.....10 - 10 - 2022.....

ACADEMIC CO-ORDINATOR-NURSING
HOLY FAMILY NURSING & MIDWIFERY
COLLEGE-BEREKUSO