HOLY FAMILY NURSING AND MIDWIFERY TRAINING COLLEGE

BEREKUM

A PATIENT/FAMILY CARE STUDY ON GASTROENTERITIS

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A PATIENT/FAMILY CENTERED CARE STUDY ON GASTROENTERITIS

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PREFACE

Centuries ago, the nursing profession was just caring for the sick. From the day the profession started, it has undergone many changes throughout the years. Starting from the patient centered approach to a more complicated form of care which includes: the family and the community as a whole. Nursing became a profession when Florence Nightingale, in the nineteenth century provided and set a pattern which has become the basis of educating nurses today.

In effect to meet the ever-changing demands of the client with time, there must be corresponding innovations in providing quality health care for the benefit of all. The inclusiveness of certain subjects like Sociology, Basic Nursing, Anatomy and Physiology, Therapeutic Communication, Professional Adjustment to mention but a few provides for dynamic skills in the care of the patient and family.

Patient/family care study writing entails a student nurse taking a client with a particular disease condition and nursing him or her taking into account the physical, psychological, social, economic and spiritual needs of the client from the day of admission till the day of discharge.

The patient/ family care study is also one of the requirements towards the award of a license by the Nursing and Midwifery Council of Ghana to practice as a Professional Registered General Nurse.

Patient/family care study again equips the student with the necessary knowledge and skills to render a competent, professional, holistic and quality care to the patient/family. It also gives the student a chance to apply both theoretical and practical approaches to learning as he writes the care study and renders the nursing care to the client and his or her family.

The patient/family Care Study is based on the concept of holistic care taking into account all factors impinging on the health of the individual. It includes a study of the interactions between the patient, family, the community the patient lives in, and the health team. It is done using the nursing process approach which was introduced by Lydia Hall in 1955 and was later modified by Ida Jean Orlando in 1961.

The Care Study offers the student nurse an opportunity to care for the patient by applying the knowledge acquired during classroom academic work with clinical study of practices of nursing to provide holistic care for patient and family. Patient care study ensures patient confidentiality and anonymity by the use of initials for patient and family members' names.

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Again, my sincere gratitude goes to the Nursing officer in charge of the Pediatric Ward of Holy Family Hospital, Berekum, Mrs. Esther Duodu and the entire staff in the hospital for their support and encouragement throughout the period of nursing care to my patient in the ward.

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INTRODUCTION

On the 12th of January, 2023, Master K.N., a 11-months old child was admitted around 6:52am, into the Paediatric ward through the Accident and Emergency Department of the Holy Family Hospital Berekum, on an account of Gastroenteritis. Patient was brought to the pediatric ward on the back of her mother accompanied by his father and a student nurse. On admission, he presented with vomiting, passing loose stools, cannot eat well, high body temperature, headache and often holds his abdomen while crying. He came in with an Intravenous line secured on the back of his left hand and sample taken already at the Accident and Emergency department. He looked weak, moderately dehydrated and very sick. I received Master K.N. and his mother into the ward and during interaction, I made it known to them my interest in taking him for my care study. I assured her of the needed care during hospitalization and after discharge till she finally recovers. They therefore agreed to this. Six health problems were identified during his stay in the hospital. Nursing Diagnosis were formulated and interventions put in place to resolve the health problems.

Master K.N. was discharged on the 15th of January, 2023. His condition on the day of discharge was better. On admission, Master K.N. did the following laboratory investigations; full blood count (FBC), Blood film for malaria parasites, stool for culture and sensitivity and Mid-upper arm circumference (MUAC). He was managed on the following drugs; Intravenous Ringers lactate 35mls/1hr x 24hours, Tablet Zinc 20mg daily × 10 days, Oral Rehydration Salt 100mls after each loose stool, Intravenous Paracetamol 170mg/85mls tid × 24 hours, Intravenous Gentamycin 4.2mg daily x 24 hours and Intravenous Cefuroxime 255mg tid x 24 hours.

During the study, I visited his house three times, thus, on the 14/01/2023, while Miss. A.D was still on admission, on the 21/01/2023, for follow up after discharge and the last visit on 28/01/2023 for termination of care.

The report of the study is written in six chapters.

Chapter one: deals with assessment of patient and family.

Chapter two: presents the analysis of data collected on patient.

Chapter three: focuses on planning for patient and family care.

The fourth chapter: discusses the implementation of patient and family care.

Chapter five: presents the evaluation of care rendered to patient and family and the

final chapter,

chapter six; deals with the summary and conclusion.

CHAPTER ONE

ASSESSMENT OF PATIENT AND FAMILY

1.0 Introduction

According to Toney-Butler and Unison-Pace (2022), the initial nursing assessment, the first step in the five steps of the nursing process, involves the systematic and continuous collection of data; sorting, analyzing, and organizing that data; and the documentation and communication of the data collected. This chapter is the first step of the nursing process which involves the collection of data concerning the patient, family and environment. It is the deliberate and systematic collection of data to determine patient`s current and past health status. The assessment gives the nurse more information about the patient, his family and the entire community. With this, the nurse and the client work together to identify client's strength, needs, and health problems so as to develop an effective nursing care to relieve the patient's health problems. Assessment begins immediately the nurse come in contact with the client, mother and family. Assessment is done through observation, interviewing of patient and family members or mother, physical examination of patient, review of records, percussion, auscultation, palpation and inspection. This chapter consists of;

1. Patient particulars.
2. Family's medical history.
3. Patient and family social economic history.
4. Patient developmental history.
5. Patient's lifestyle/hobbies.
6. Patients past medical history.

7. Patients present medical history.
8. Admission of patient.
9. Patient's concept of illness.
10. Literature review
11. Validation of data

1.1 Patient's Particulars

According to Conaboy (2021), particulars are facts or details about something written down and kept as record, usually of an individual's personal details. The particulars of a person are facts or details about him/her which are written down and kept as record.

Master K.N. is the patient for the study; he was born on 26th January, 2022, at Mpatasie, a suburb of Berekum in the Bono region. My patient is 11 months old. He is born to Madam N.K. and Mr. K.J. He is the last child among the five children born to his parents. He comes from Mpatapo and stays at Mpatasie in house number M/W 56. Master K.N. is fair in complexion with a weight of 8.5kg and height of 0.40m with a body mass index (BMI) of 21.3kg/m^2. Because of his age, he does not have a complete dental formula. He is a Christian and attends Precious Blood International Church at Mpatasie. Madam N.K, his mother who resides at Mpatasie is his next of kin. He speaks his mother tongue (Twi). Master K.N belongs to the creche group at Stop over preparatory school in Berekum of which he started at seventh month of age. He is a registered member of the National Health Insurance Scheme.

1.2 Family's Medical/Surgical History

According to Hovick et al (2019), family medical history is defined as "a record of the health conditions and diseases that run in a family, including the age of onset and severity of the condition, and any relevant environmental or lifestyle factors that may contribute to the condition. Whereas Pendergrass et al (2020), defines family surgical history as "a record of surgical procedures undergone by family members, including the type of surgery, date of surgery, and any complications or outcomes associated with the surgery.

Master K.N is from a family of five of which he is the last born of his parents. The parents of Master K.N and siblings are alive battling no chronic medical/surgical condition, I also inquired about his grandparent's status and Master K. N's mother revealed that, they are also alive without any chronic medical condition. Generally, the family does not have known allergies.

According to patient's mother, there is a hereditary disease of hypertension in both parents' family background, but no other chronic hereditary diseases such as diabetes mellitus, mental illness, asthma and communicable disease like leprosy, epilepsy, tuberculosis in the family. Patient's mother said occasionally when members of the family suffer from minor ailments such as pyrexia, headache, constipation and diarrhea, they often managed them with over-the-counter drugs from the pharmacy shop and if it does not subside, then they seek attention and care in an outpatient basis at Holy Family Hospital, Berekum. Based on this information, I educated them on the effect of taking over the counter drugs and told them to seek medical treatment in any clinic or hospital when they fall sick. She also said their family members do not mostly get hospitalized except when the females are going to deliver. No family member has gone through any operation before. The family do believe in herbs. Master K. N's mother mentioned that there is no known history of allergies in the family.

1.3 Family's Socio-Economic History

According to Chen, Wang and Zhang (2019), "Family's socio-economic history refers to the long-term economic and social status of a family, including information about the family's income, occupation, education level, housing, and other relevant factors. Past and current socio-economic factors can influence access to resources that are important for health and well-being, such as healthcare, nutrition, and education, and can impact health outcomes across the lifespan.

As a child of 11 months old, his parents provide him with all that he needs such as food, cloth, shelter. His father is a farmer which poses him to several occupational hazards, including exposure to pesticides, machinery accidents, and musculoskeletal injuries. These hazards can result in serious health consequences for him, such as respiratory problems, amputations, and chronic pain. According to the mother she sells fish to earn income which also poses her to several occupational hazards, including exposure to cold temperatures, physical strain from lifting heavy objects, and slip and fall injuries. These hazards can lead to serious health consequences for her, such as hypothermia, musculoskeletal injuries, and head trauma. They were educated on how to mitigate these risks, by taking steps to protect themselves, such as wearing proper protective equipment, receiving adequate training, and implementing safety protocols. Upon several deliberations with patient's mother, economically it can be concluded that master K.N. family belongs to the middle class group. A very cordial relationship exists in their family as they give one another emotional support and other necessary things needed. According to the mother, they have no specific taboos in their family but they cherish good moral values. According to the mother, all members of the family attends Assemblies of God church, Ghana and are much concerned with their religious responsibilities. My patient is a registered member of the National Health Insurance Scheme (NHIS) with his membership is active for hospitalization. Master K.N family members are always

in support in terms of finance whenever there is the need. The family indulge and participate in all Christian activities such as Easter, Christmas and New year.

1.4 Patient's Developmental History

According to Balasundaram and Avulakunta (2023), "Growth is defined as an irreversible constant increase in size, and development is defined as growth in psychomotor capacity. Both processes are highly dependent on genetic, nutritional, and environmental factors and occur throughout the lifespan, from conception to death. Growth and development are closely linked, and both are essential for healthy functioning and survival. Growth can be measured in a number of ways, including height, weight, and body composition". The early recognition of growth or developmental failure helps for effective intervention in managing a patient's problem.

Maturation is the emergence of personal and behavioral characteristics through growth process. According to Master K. N's mother, she went through nine months' gestational period without any problem and had a spontaneous vaginal delivery at Mpatasie Clinic, Berekum, on the 26th of January, 2022 by a qualified midwife. She attended antenatal and postnatal at Mpatasie Antenatal clinic. According to the mother, Master K.N was immunized against the vaccine preventable disease as evidenced by the presence of the Bacillus Calmette-Guérin (BCG) scar on his right deltoid region of his shoulder. Master K.N. went through normal developmental milestone: He could cry immediately after birth, move his limbs actively at 3 months and raise his head at 2 months, and arms from a surface and his eyes could follow movement of object at 3 months. He was able to control his neck at 5 months and sat at about age of five 5 months, started crawling at about 8 months and by ten (10) months, he had already walked and could say words like "dada" and "mama". No deformities were found in Master K.N. According to the mother, patient has not suffered from any childhood disease. She said, patient was exclusively breastfed from birth to his

six months of age. He started supplementary feeding on the sixth (6th) month with cerelac. Generally, his developmental status is good. Patient still belongs to the creche group at stop over preparatory school Berekum. He started at his seventh month of age.

Psychosocial development is just a fancy phrase that refers to how a person's individual needs (psycho) mesh with the needs or demands of the society (social). According to Erik Erikson (1959), a person passes through eight developmental stages that build on each other. At each stage we face a crisis.

According to Erik Erikson theory of psychosocial development, Trust versus Mistrust is what an individual develops at birth to 1year of age. According to Erikson, the first stage of development, trust versus mistrust, occurs during infancy and is marked by the establishment of trust in others from interactions with caregivers, especially the mother. Trust gives children the confidence they need to explore their environment and become more independent, while mistrust leads to feelings of insecurity and lack of confidence in their surroundings. In the trust versus mistrust stage of development, children learn either to trust or mistrust the world around them. Judging from my interaction with Master K.N, he has achieved trust in the sense that, he has gained confidence to explore his environment and likes to become more independent sometimes.

1.5 Patient's Lifestyle/Hobbies

According to Brivio et al (2023), "Lifestyle is a system of meanings, attitudes, and values within which the subject acts, which define individual and collective models of health practices within social, historical and cultural contexts". According to Parkhurst (2023), "A hobby can be any activity done regularly during spare or leisure time for pleasure".

Master K.N. mostly wakes up around 6:00am, his oral and personal hygiene is done by the mother immediately he wakes up. Master K.N. visits nature's call each morning before bathing and

whenever necessary during the day. Master K. N's mother bath him around 6:10am and then sends him to school around 7:30am. The mother baths and brushes Master K. N's teeth twice daily. Master K.N mostly takes Hausa porridge as his breakfast before he is sent to school between, 7:00am-7:30am. According to her mother, he usually takes his lunch around 12:30pm-1:00pm during their second break. After school, he returns home by 3:00pm. According to mother, he likes to eat corn dough porridge mixed with groundnut, which he usually takes as supper around 3:30pm, aside this food he likes to take cerelac. She also informed me he has no allergies to drug or food. According to his mother, he normally sleeps as early as 8:00 pm and sometimes wakes up in the middle of the night to suck the mother's breast after which he sleeps again and mostly does not wake up until about 6:00 am.

Master K.N is sociable in the sense that he likes playing with her fellow children in the house and in school. Master K.N has no peculiar communication styles but according to the mother, he looks aggressive whenever she tries to collect something out of his hands. He also like exhibiting temper tantrums when his offers are being denied. His mother further mentioned that he prefers to be with other kids in their compound in the evening after school. He has started showing interest in playing with toys and making some sounds and words no one understands at age of 11 months old. After the days I spent with Master K.N, I got to know his personality type, he is an extrovert in the sense that, he is a very open person as he can cope with others without crying when the mother is not around.

1.6 Patient's Past Medical/Surgical History

According to Nichol, Sunjaja and Nelson (2020), A complete medical history includes a more in-depth inquiry into the patient's medical issues which includes all diseases and illnesses currently being treated, and those which have had any residual effects on the patient's health. Master K.N. has no childhood illness, like measles, whooping cough and other diseases. He has no physical disability. He has no known allergies to drugs, animals, insects or any food. He has never had any accident or injuries before. He has never been hospitalized before.

1.7 Patient's Present Medical/Surgical History

The history of the present health concern or illness is the single most important factor in helping the health care team arrive at a diagnosis or determine the patient's needs. Present medical history is the details about the chief complaint or the exact condition that brought the patient to the health facility (Hinkle, Cheever & Overbaugh, 2021). Master K.N. was apparently well until 5th January, 2023 where he started passing out loose stool frequently for about three consecutive times accompanied with vomiting and fever. He was sent to Mpatasie clinic initially on 5th of January, 2023 but there was no improvement until 12th of January, 2023 the symptoms became so severe at 5:10 am early in the morning where he started spiking in temperature, passing out loose stools at a minimum intervals and vomiting profusely. This alarming episode of his symptoms made the mother rushed him in a Tricycle and then proceeded to Holy Family Hospital, Berekum. Patient was brought to the hospital on 12th January, 2023, at 5:40am to the Accident and Emergency department of which he was detained for an hour and some few minutes. He was seen at the Accident and Emergency department by a medical doctor who diagnosed him of infective gastroenteritis, after a thorough review of medical history and physical evaluation. After the diagnosis, commencement of patient treatment was done as he was resuscitated with I.V stat dose

of 250mls of Ringers lactate and 125mg suppository paracetamol was inserted rectally to combat his pain and fever. He was later admitted at the pediatrics' ward to continue treatment after the Doctor saw the condition has stabilized. The onset of his condition developed in a gradual process.

1.8 Admission of the Patient

Admission is the process of receiving a patient into the ward in order to ensure continuity of the nursing care to enhance smooth and faster recovery and to prevent any complications from arising either planned or unplanned. The process of admitting patients from the emergency/ Outpatient department to the general medicine floor is foundational to medical practice more generally (Frush & Krantz, 2022).

On the 12th of January, 2023, Master K.N was admitted around 6:52am, into the Paediatric ward through the Accident and Emergency Department of the Holy Family Hospital Berekum, on an account of Gastroenteritis. Patient was brought to the pediatric ward on the back of her mother accompanied by his father and a student nurse. On admission, he presented with vomiting, passing loose stools, cannot eat well, high body temperature, headache and often holds his abdomen while crying. He came in with an Intravenous line secured on the back of his left hand and sample taken already at the Accident and Emergency department. He looked weak, moderately dehydrated and very sick. A thorough head to toe physical examination revealed the following; Head and face- Hair was black and normal, no cracks at the corners of the lips. Eyes and Ears- symmetrical, no discharge, no abnormality seen. Skin- warm to touch, reduced skin turgor. No abnormality seen on the skin. Respiratory function: clear, no abnormality detected, Abdomen: there were bowel sounds; abdomen was soft and no tender on palpation. Musculoskeletal function: muscle tone was intact, active and resistant. Neurological: He was moody and dull due to ill health. Rectum and genitalia: normal color of the perineum, there was no abnormality found on the genitalia.

Nutritional assessment indicates the child is moderately nourished as patient's mother reports that he has been refusing breast milk and solid foods and also had decreased intake of fluids due to vomiting and diarrhea. Generally, he was normal for his age. Mater K.N. had no known allergies.

At the ward, I established rapport by introducing myself to Master K. N's parents as a student nurse of Holy Family Nursing and Midwifery Training College, Berekum, and other staff on duty. Patient's mother and father were warmly received and offered a seat. I collected the hospital card from the accompanying student nurse and mentioned the name on it which was confirmed by the mother as the name of her son. Master K.N. was made comfortable in an admission bed 7 well laid whilst family was reassured that Master K.N. is in the safe hands and that everything possible will be done for his speedy recovery. Patient's particulars such as Name, Address, Age, Hometown, Sex, Religion, next of kin were all confirmed by the mother and Date of admission as well as condition were recorded in the Admission and Discharge book, in the daily ward state and in the Nurse's notes. Vital signs checked and recorded on admission were;

Temperature 38.6 ^{O}C

Pulse 103bpm

Respiration 28cpm

Oxygen Saturation 96%

His weight on admission was 8.5kg

The following laboratory/ diagnostic investigations were requested and sample taken;

1. Blood film for malaria parasites.
2. Blood for full blood count
3. Stool for culture and sensitivity

4. Mid-upper arm circumference

These laboratory investigations were requested earlier at the Accident and emergency department with an awaiting results. After patient had rested for a while and her condition has become stable, I oriented the mother to the ward. After the orientation, I reintroduced myself to them again as a second-year student of Holy Family Nursing and Midwifery Training College, Berekum who would want to use Master K.N. for my study. I explained to them that the study is a requirement by Nursing and Midwifery Council (NMC) for my license to practice as a nurse. I also made the mother understand that they have the right to refuse at any time. Master K. N's mother accepted to allow me use him for my study and promised to assist me with all the necessary information I may need. I informed Master K. N's mother that both our relationship and their stay at the hospital are temporary and they will be discharged home when Master K. N's condition gets better. I then thanked them and told them to call me whenever they need anything. The doctor held on with the Anti-biotics since the culture and sensitivity test was not ready and prescribed the following drugs;

1.Intravenous Ringers lactate 35mls/1hr x 24hours

2.Tablet Zinc 20mg daily × 10 days

3.Oral Rehydration Salt 100mls after each loose stool

4.Intravenous Paracetamol 170mg/85mls × 24 hours

I asked his mother to go for his medications from the Inpatient pharmacy. Patient's medications which included Intravenous Paracetamol, Tablet Zinc 20mg and Intravenous Ringers lactate 35mls ×1hr were administered and recorded accordingly. I told her about the time for medication and other routine activities at the ward. I made her aware of time for visiting which start from 5:00am to 6:00am in the morning, 11:30 am to 12:30pm in the afternoon and 4:30pm to 5:30pm in the evening. Patient's mother was educated on the importance of breastfeeding and on her son's meals

in order to provide nutritious diet to boost the immune system. Since my patient is a registered member of the National Health Insurance Scheme, no deposit was paid but I made her aware that some medications and oxygen are non-insured and must be paid when discharged. Patient discharge planning was made and the following information were given to patient's mother as; her son will be discharged home when fully recovered with medications and a referral to a public health nurse for follow-up care, mother was instructed to continue giving her child the leftover medications from the ward as prescribed and to follow a healthy diet. The mother was advised to encourage child to engage in regular physical activity. The mother was made aware that she will embark on a follow-up appointment within two weeks after discharge to the hospital. Patient was then made comfortable in bed and mother was reassured once again. I chose to use Master K.N. for my study because I wanted to learn more about gastroenteritis and its management as it is a condition that has been rampant in Ghana for years now. A care plan was quickly drawn to care for patient and family. A nursing care plan was drawn based on patients' problems in order to help give individualized care to them. The actual care rendered is discussed in chapter four.

1.9 Patient's Concept of Illness

Master K. N's mother believes in God and never attributed the cause of her child sickness to any spiritual force. However, she believed that the onset of her son's illness might result from taking contaminated food or water, or probably due to the changes in his feeding, gradually from semi-solid/liquid to solid foods. However, she expressed an expectation that with the help of God and the dedication of the health team, her son would definitely recover quick enough to resume to school.

1.11 The Literature Review on Gastroenteritis

Anatomy and physiology of the gastrointestinal system

Two groups of organs compose the digestive system the gastrointestinal (GI) tract and the accessory digestive organs. The **gastrointestinal (GI) tract,** or **alimentary canal** is a continuous tube that extends from the mouth to the anus through the thoracic and abdominopelvic cavities. Organs of the gastrointestinal tract include the mouth, most of the pharynx, esophagus, stomach, small intestine, and large intestine. The length of the GI tract is about 5–7 meters (16.5–23 ft) in a living person. It is longer in a cadaver (about 7–9meters or 23–29.5 ft) because the muscles along the wall of the GI tract organs are in a state of tonus (sustained contraction). The **accessory digestive organs** include the teeth, tongue, salivary glands, liver, gallbladder, and pancreas. Teeth aid in the physical breakdown of food, and the tongue assists in chewing and swallowing. The other accessory digestive organs, however, never come into direct contact with food. They produce or store secretions that flow into the GI tract through ducts; the secretions aid in the chemical breakdown of food. The GI tract contains food from the time it is eaten until it is digested and absorbed or eliminated. Muscular contractions in the wall of the GI tract physically break down the food by churning it and propel the food along the tract, from the esophagus to the anus. The contractions also help to dissolve foods by mixing them with fluids secreted into the tract. Enzymes secreted by accessory digestive organs and cells that line the tract break down the food chemically (Tortora & Derrickson, 2020).

According to Tortora and Derrickson (2020), overall, **the digestive system performs six basic processes:**

1. *Ingestion.* The process involves taking foods and liquids into the mouth (eating).

2. *Secretion.* Each day, cells within the walls of the GI tract and accessory digestive organs secrete a total of about 7 liters of water, acid, buffers, and enzymes into the lumen (interior space) of the tract.

3. *Mixing and propulsion.* Alternating contractions and relaxations of smooth muscle in the walls of the GI tract mix food and secretions and propel them toward the anus. This capability of the GI tract to mix and move material along its length is called **motility.**

4. *Digestion.* Mechanical and chemical processes break down ingested food into small molecules. In **mechanical digestion** the teeth cut and grind food before it is swallowed, and then smooth muscles of the stomach and small intestine churn the food. In **chemical digestion** the large carbohydrate, lipid, protein, and nucleic acid molecules in food are split into smaller molecules by hydrolysis on.

5. *Absorption.* The entrance of ingested and secreted fluids, ions, and the products of digestion into the epithelial cells lining the lumen of the GI tract is called **absorption.** The absorbed substances pass into blood or lymph and circulate to cells throughout the body.

6. *Defecation.* Wastes, indigestible substances, bacteria, cells sloughed from the lining of the GI tract, and digested materials that were not absorbed in their journey through the digestive tract leave the body through the anus in a process called **defecation.** The eliminated material is termed **feces.**

Anatomy and physiology of the Stomach

The stomach has four main regions: the cardia, fundus, body, and pylorus The **cardia** surrounds the superior opening of the stomach. The rounded portion superior to and to the left of the cardia is the **fundus.** Inferior to the fundus is the large central portion of the stomach, called the **body.**

The region of the stomach that connects to the duodenum is the **pylorus** it has two parts, the **pyloric antrum** which connects to the body of the stomach, and the **pyloric canal,** which leads into the duodenum. When the stomach is empty, the mucosa lies in large folds, called **rugae**, that can be seen with the unaided eye. The pylorus communicates with the duodenum of the small intestine via a smooth muscle sphincter called the **pyloric sphincter.** The concave medial border of the stomach is called the **lesser curvature,** and the convex lateral border is called the **greater curvature.** The stomach performs numerous Functions such as; Mixes saliva, food, and gastric juice to form chyme, serves as a reservoir for food before release into small Intestine, secretes gastric juice, which contains HCl (kills bacteria and denatures protein), pepsin (begins the digestion of proteins), intrinsic factor (aids absorption of vitamin B12), and gastric lipase (aids digestion of triglycerides) and Secretion of gastrin into blood (Tortora & Derrickson, 2020).

Anatomy and physiology of the Small Intestine

The small intestine is divided into three regions. The duodenum, the shortest region, is retroperitoneal. It starts at the pyloric sphincter of the stomach and extends about 25 cm (10 in.) until it merges with the jejunum. Duodenum means "12"; it is so named because it is about as long as the width of 12 fingers. The jejunum is about 1 m (3 ft) long and extends to the ileum. Jejunum means "empty," which is how it is found at death. The final and longest region of the small intestine, the ileum measures about 2 m (6 ft) and joins the large intestine at a smooth muscle sphincter called the ileocecal sphincter. The digestive process continues in the duodenum. Duodenal secretions come from the accessory digestive organs—the pancreas, liver, and gallbladder—and the glands in the wall of the intestine itself. These secretions contain digestive enzymes: amylase, lipase, and bile. Pancreatic secretions have an alkaline pH due to their high concentration of bicarbonate. This alkalinity neutralizes the acid entering the duodenum from the stomach.

Digestive enzymes secreted by the pancreas include **trypsin,** which aids in digesting protein; **amylase,** which aids in digesting starch; and **lipase,** which aids in digesting fats. These secretions drain into the pancreatic duct, which empties into the common bile duct at the ampulla of Vater. Bile, secreted by the liver and stored in the gallbladder, aids in emulsifying ingested fats, making them easier to digest and absorb. The sphincter of Oddi, found at the confluence of the common bile duct and duodenum, controls the flow of bile. Hormones, neuroregulators, and local regulators found in these intestinal secretions control the rate of intestinal secretions and also influence GI motility. Two types of contractions occur regularly in the small intestine: segmentation contractions and intestinal peristalsis. Segmentation contractions produce mixing waves that move the intestinal contents back and forth in a churning motion. Intestinal peristalsis propels the contents of the small intestine toward the colon. Both movements are stimulated by the presence of chyme (Tortora & Derrickson, 2020).

Anatomy and physiology of the large intestine

The large intestine, which is about 1.5 m (5 ft) long and 6.5 cm (2.5 in.) in diameter, extends from the ileum to the anus. It is attached to the posterior abdominal wall by its mesocolon, which is a double layer of peritoneum. Structurally, the four major regions of the large intestine are the cecum, colon, rectum, and anal canal. The opening from the ileum into the large intestine is guarded by a fold of mucous membrane called the ileocecal sphincter (valve), which allows materials from the small intestine to pass into the large intestine. Hanging inferior to the ileocecal valve is the cecum, a small pouch about 6 cm (2.4 in.) long. Attached to the cecum is a twisted, coiled tube, measuring about 8 cm (3 in.) in length, called the appendix or vermiform appendix. The mesentery of the appendix, called the mesoappendix, attaches the appendix to the inferior part of the mesentery of the ileum. The open end of the cecum merges with a long tube called the

colon (food passage), which is divided into ascending, transverse, descending, and sigmoid portions. Within 4 hours after eating, residual waste material passes into the terminal ileum and slowly into the proximal portion of the right colon through the ileocecal valve. With each peristaltic wave of the small intestine, the valve opens briefly and permits some of the contents to pass into the colon. Two types of colonic secretions are added to the residual material: an electrolyte solution and mucus. The electrolyte solution is chiefly a bicarbonate solution that acts to neutralize the end products formed by the colonic bacterial action, whereas the mucus protects the colonic mucosa from the interluminal contents and provides adherence for the fecal mass. Slow, weak peristalsis moves the colonic contents along the tract. This slow transport allows for efficient reabsorption of water and electrolytes, which is the primary function of the colon. The waste materials from a meal eventually reach and distend the rectum, usually in about 12 hours. As much as one fourth of the waste materials from a meal may still be in the rectum 3 days after the meal was ingested (Tortora & Derrickson, 2020).

Definition of Gastroenteritis

According to Sattar and Singh (2022), Gastroenteritis is a diarrheal disease characterized by an increase in bowel movement frequency with or without fever, vomiting, and abdominal pain. The word "gastroenteritis" originates from the Greek word gastron, meaning "stomach," and enteron, meaning "small intestine." So the word "gastroenteritis" means "inflammation of the stomach and small intestine." Medically, gastroenteritis is defined as a diarrheal disease, in other words, an increase in bowel movement frequency with or without vomiting, fever, and abdominal pain. An increase in bowel movement frequency is defined by three or more watery or loose bowel movements in 24 hours or at least 200 grams of stool per day (Hiyoshi, Tiffany, Bronner & Bäumler, 2018).

Classifications of Gastroenteritis

According to Hiyoshi, Tiffany, Bronner and Bäumler (2018), Gastroenteritis is classified in many ways, but according to the duration of symptoms, it is described as acute, persistent, chronic, or recurrent.

1. Acute: 14 days or fewer than 14 days in duration.

2. Persistent: More than 14 but fewer than 30 days in duration.

3. Chronic: More than 30 days in duration.

4. Recurrent: Diarrhea that recurs after 7 days without diarrhea

Epidemiology of Gastroenteritis

Acute infectious diarrhea is a very common disease worldwide, even in a developed country like the United States. It is among the leading causes of illness globally and associated with 1.5 to 2.5 million deaths per year. Worldwide, around 68% of diarrheal disease has been documented in young children taking 2.5 million lives, and it is recognized as the fifth top reason for child mortality (Hartman, Brown, Loomis & Russell, 2019). In children under five years, acute gastroenteritis (AGE) is a principal cause of mortality and morbidity, 19% of deaths and 10% of hospital admission (Oppong et al., 2020) in resource-poor countries where proper hygiene and contaminations from food products are high (Farfán-García et al., 2020). In the United States, children under 5 years of age are admitted to the hospital in 9 out of 1000 cases per year. In the United Kingdom and Australia, the admission rate is around 12 per 1000 annually. Additionally, Campylobacter is 1 of 4 key global causes of diarrheal diseases. It is considered to be the most common bacterial cause of human gastroenteritis in the world. Campylobacter infections are generally mild, but can be fatal among very young children, elderly, and immunosuppressed individuals (WHO, 2020). Currently, the prevalence of *Clostridium difficile* is also increasing in

adults and children (Dos Santos, Ferrari & Conte-Junior, 2019).

Incubation Period of Gastroenteritis

Typically, within 6 to 48 hours after ingestion of contaminated food or water, nausea, vomiting, and diarrhea develop, but median incubation period of 24 up to 72 hours (Ferri, 2022).

Causes of Gastroenteritis

According to Prescilla (2023), Causes of gastroenteritis include;

1. Bacterial (*Clostridium perfringens*, and enterotoxigenic *Escherichia coli*).

Among these severe bacterial causes, nontyphoidal Salmonella and Campylobacter spp are the most common causes in the United States. The incidence rate per 100,000 persons in 2016 was estimated by the Centers for Disease Control and Prevention controlled active surveillance program, Food Net, survey with results as follows: Salmonella - 15.4, Campylobacter - 11.8, Shigella - 4.6, Shiga toxin-producing E. coli - 2.8, Vibrio - 0.45, Yersinia - 0.42.

2. Viral, the most common causes of acute infectious diarrhea are (norovirus, rotavirus, adenovirus, and others)

3. Fungal, e.g., Candida spp

4. Parasitic; Parasites remain yet another source of gastroenteritis in young children, with Giardia and Cryptosporidium the most common causes in the United States. Parasitic gastroenteritis generally presents with watery stools but can be differentiated from viral gastroenteritis by a protracted course or history of travel to endemic areas.

5. Protozoa, e.g., Entamoeba hertolyliea, Giaelia intestinalis.

6. Helminthes, e.g., Strongyloids, Ascaris.

7. Toxins, e.g., Plants, Toad stools**.**

Mode of Transmission and Reservoirs

Most forms of gastroenteritis are quite infectious. The following are possible reservoirs for the transmission of the causative agents:

a) Domestic animals such as cats, pigs and goats
b) Human (virus found in their feces)
c) Houseflies are vectors for transmission of the disease. The direct mode of transmission is through fecal-oral route by means of fecal secretions from animals to human through contact with their excretions in the environment. Indirect mode of transmission is by ingestion of contaminated food, water, or both and milk.

Pathophysiology of Gastroenteritis

According to Stuempfig and Seroy (2022), the pathophysiology of Gastroenteritis is describe as follows;

The pathophysiology depends on the organism causing the disease. It can be caused by toxins produced by *Staphylococcus aureus*, while others increase secretion leading to dehydration, for example, *Salmonella*. Cytotoxins like *Shigella* and *Clostridium difficile* can invade the more susceptible tissue and cause inflammatory diarrhea. Enterotoxin production agents cause non-inflammatory diarrhea; the virus frequently destroys the villus surface, and parasites adhere to the mucosa. The gut bacteria cause diarrhea by different mechanisms including adherence, mucosal invasion, and toxin production. In that same vain, viral gastroenteritis are due to the effects that the viruses, along with specific cytotoxins, have on the enterocytes of the intestine. The virus uses the enterocyte to replicate, leading to interference with brush border enzyme production, which in turn leads to malabsorption and osmotic diarrhea. Additionally, viral or bacteria toxins lead to direct damage and cell lysis of enterocytes and intestinal villa, causing a transudative loss of fluid into the intestine. One of the main functions of the small intestine is to absorb fluids. With the

disorder of the small intestine, the fluid does not get absorbed properly, and the action of different toxins causes the intestinal lining to start excreting fluid which results in relatively loose or watery stools. Inoculum size is one of the important virulence factors that cause pathology. For Shigella and enterohemorrhagic Escherichia coli (EHEC), at a minimum of 10–100 bacteria can cause infection, while one hundred thousand or one million of Vibrio cholerae bacteria are required to cause infection. For this reason, infective doses of different pathogens differ in a great range and depend on the host as well as bacteria. Adherence is another virulence factor for enteric pathogens. Some bacteria need to adhere themselves to the mucosal lining of the gastrointestinal tract initially. They produce various adhesions and other cell-surface proteins which help them to attach to intestinal cells. V. cholerae, for example, adheres to the brush border of small-intestinal enterocytes via specific surface adhesions, including the toxin-coregulated pilus and other accessory colonization factors. Enterotoxigenic E. coli, which causes watery diarrhea, produces an adherence protein called colonization factor antigen. This is necessary for colonization of the upper small intestine by the organism before the production of enterotoxin, causing disease. Both cytotoxin production and bacterial invasion and destruction of intestinal mucosal cells can cause dysentery. Shigella and enteroinvasive E. coli infections are characterized by the organisms' invasion of mucosal epithelial cells, intraepithelial multiplication, and subsequent spread to adjacent cells. Toxin production is another important virulence factor. These toxins include enterotoxins, which cause watery diarrhea by acting directly on secretory mechanisms in the intestinal mucosa, and cytotoxins, which destroy mucosal cells and associated inflammatory diarrhea.

Clinical features of Gastroenteritis

According to Hartman, Brown, Loomis and Russell (2019), the most common history findings for a patient with gastroenteritis are as follows:

Symptoms of infectious gastroenteritis in children are similar to adults and typically include:

1. Nausea and vomiting
2. Fever
3. Abdominal pain
4. Diarrhea
5. Headache

In children, additional clinical features that raise concern for severe illness include:

1. Fever ≥ 40°C or tachypnea
2. Signs of poor peripheral perfusion
3. Bloody or bilious emesis
4. Petechiae
5. Altered mental status or excessive crying/fussiness

On physical examination, the abdomen would be soft, but there may be voluntary guarding. Palpation may elicit mild to moderate tenderness. Fever suggests the cause is invasive pathogens. Signs of dehydration are the most important thing to look for while performing the physical examination; some cases may be alarming and help to identify that which patient needs hospitalization. The following are red flags:

1. Dry mucous membranes (dry mouth)
2. Decreased skin turgor
3. Altered mental status

4. Tachycardia

5. Hypotension orthostatic

6. Bloody stools

7. Recent hospitalization or antibiotics

8. Age greater than 65 years

9. Comorbidities such as HIV and diabetes

Diagnosis of Gastroenteritis

According to Vasquez (2021), diagnostic investigations include;

1. Examination for white blood cells count and red blood cell in stool to ascertain infection if white blood cells are present.
2. Complete blood count to look out for abnormalities in the blood.
3. Urine for routine examination is used to determine urine abnormalities such as urinary tract infections, kidney disease and diabetes
4. Blood and cerebrospinal fluid culture if septicemia is suspected to rule out the specific organism.
5. Stool culture and sensitivity for both bacteria and virus pathogens to know the exaction organism and to avoid medication mismatch of the organism.
6. Serum sodium to exclude hypernatremia dehydration
7. Immune electron microscopy and radioactive immune assay of fecal specimen (to determine if it is positive for virus)
8. Electron microscopy is used to visualize the nature of the organism.
9. History and physical examination to know the past and current information concerning the illness

Differential diagnoses Gastroenteritis

According to Kanamori (2018), other diseases that can cause watery diarrhea are

1. Crohn disease,
2. Pseudo-membranous colitis,
3. Microscopic colitis,
4. Acute HIV infection,
5. Irritable bowel disease
6. Lactose intolerance.
7. Bloody diarrheal disease other than dysentery includes ulcerative colitis. Celiac disease and malabsorption syndromes also cause diarrhea

Medical management of gastroenteritis

According to Vasquez (2021), medical management of Gastroenteritis includes

1. Fluid management:

- ✓ Intravenous fluids such as normal saline, ringers' lactate and others are useful. Patient with severe Gastroenteritis is often relatively rehydrated due to combination of decrease intake of fluid and increase in passage of loose or watery stool.
- ✓ Oral rehydration salt solution therapy

2. Analgesics and Antipyretics should be given for pain, inflammation and fever example; Paracetamol, ibuprofen, diclofenac etc.

3. The use of antibiotics

Pathological bacteria are isolated in significant majority of patient with bacterial gastroenteritis Antibiotic for bacterial infection. Examples are:

- ✓ Cotrimoxazole, oral if stools have blood and patient has fever.

- ✓ Intravenous ciprofloxacin, for salmonella bacteremia
- ✓ Ciprofloxacin, oral for severe shigella infection
- ✓ Tetracycline, oral if patient has rice water stools
- ✓ Erythromycin, oral for campylobacter infection
- ✓ Gentamycin, IV for treating sever gram negative organisms.
- ✓ Cefuroxime, IV for treatment of infection causing diarrhea.
- ✓ Metronidazole, oral for giardiasis, staphylococcus and parasitic infections.

4. The use of anti-cholinergic/muscarinic

Promethazine Hydrochloride 25mg/ml-50mg/2ml in 24hrs. Anti-cholinergic is given to block acetylcholine receptors, making it useful to prevent and treat nausea, morning sickness and cough.

5 Anti-diarrhea

1. Loperamide hydrochloride is given to coat and absorb bacteria toxins thereby halting the passage of watery stool.

2. Zinc is given to shorten the duration of diarrhea, reduces the number of stools and stool output, reduces the risk of persistent diarrhea and may reduce the risk of subsequent illness.

3. Oral rehydration salt/solution is given to replace lost fluid and electrolytes.

Nursing Interventions (Management) of Gastroenteritis

According to Persson (2020), nursing intervention include the following;

1. Evaluate pattern of defecation
2. Reassure patient and relatives/family throughout the care.
3. Particular attention is given to fluid and electrolyte needs since there is vomiting and diarrhea. The nurse should look out for the signs of dehydration and administers intravenous fluids when the need arises.

4. Assess for abdominal pain, abdominal cramping, hyperactive bowel sounds, frequency, urgency, and loose stools.
5. Submit patient's stool for culture.
6. Teach the patient about the importance of hand washing after each bowel movement and before preparing food for others.
7. Educate the patient about perianal care after each bowel movement.
8. Encourage increase fluid intake of 1.5 to 2.5 liters/24 hour plus 200 ml for each loose stool in adults unless contraindicated.
9. Encourage the patient to restrict the intake of caffeine, milk and dairy products.
10. Encourage the patient to eat foods rich in potassium.
11. Administer antidiarrheal medications as prescribed.
12. Give well balanced diet and highly nutritious diet
13. In case of severe dehydration where the patient cannot take oral drink, nasogastric (NG) tube may be passed.
14. Patient should be taught of proper hand washing, removal of soiled linen and changing of dirty cloths.
15. There should be proper disposal of soiled article and decontamination or disinfect vomitus and stools to prevent the spread of the disease.
16. Body weight, intake and output should be monitored if patient is on infusion.
17. The amount, frequency, character of stool, vomitus, and smell of stool of must be checked and recorded.
18. Monitor intravenous fluid to prevent fluid overload and infiltration.

19. Food must be properly cooked and reheated before consumption and contaminated food should be avoided.
20. Raw fruits and vegetables should be washed properly before eating (Lewis, Heitkemper & Dirkson, 2004).
21. Application of cold compress may help to relieve the headache. Prescribed analgesics/ antipyretics may also help.
22. The vital signs are evaluated every 4 hours.
23. Tepid sponge patient to bring down the temperature.
24. Mouth care should be done for the patient before and after meal or when necessary, avoid foods or articles that may induce anorexia and/or nausea to patient.
25. Serve prescribed drugs to patient as ordered by the physicians.
26. Keep patient in bed and change patient dress and bed linen when necessary.

Prevention of Gastroenteritis

According to Trull (2022), Gastroenteritis preventive measures includes:

1. Stay home while sick, until 48 hours after symptoms have stopped. If symptoms persist, visit your Doctor.

2. Use a separate cutting board for raw meat

3. Wash vegetables, fruits, and salads thoroughly before eating them

4. Avoid close contact with people who have gastroenteritis

5. Wash hands thoroughly with soap and water after going to the toilet or changing nappies, after smoking, after using a handkerchief or tissue, or after handling animals.

6. Wash your hands thoroughly with soap and water before preparing food or eating.

7. Use disposable paper towels to dry your hands rather than cloth towels, since the bacteria can survive for some time on objects.

8. Do not handle raw and cooked foods with the same implements (tongs, knives, cutting boards), unless they have been thoroughly washed between uses.

9. Keep all kitchen surfaces and equipment clean.

10. Keep cold food cold (below 5 °C) and hot food hot (above 60 °C) to discourage the growth of bacteria.

11. Make sure foods are thoroughly cooked.

12. Clean kitchen tops, toys, toilet seats, nappy change tables and taps to ensure you don't spread the infection to others at home.

13. Clean the toilet and bathroom regularly (especially the toilet seat, door handles and taps).

14. When travelling overseas to countries where sanitation is suspect, only drink bottled water. Don't forget to brush your teeth in bottled water too. Avoid food buffets, uncooked foods or peeled fruits and vegetables, and ice in drinks.

Complications of Gastroenteritis

According to Menta (2019), client with severe Gastroenteritis may suffer the following complications;

1. Dehydration occurs when the body loses more water than it takes in, and can be caused by excessive vomiting, diarrhea, and sweat. Symptoms include dry mouth, fatigue, dizziness, and confusion. Other complications that are common after acute gastroenteritis are

2. The transformation of acute into chronic diarrhea which can lead to lactose intolerance or small-bowel bacterial overgrowth due to the perpetuating effects of the organism without adequate treatment regimen.

3. Exacerbation of inflammatory bowel disease due to the growth of the organisms in the bowel causing destruction to the tissues.

4. Septicemia due to increase in the number of the invaded micro-organisms in the blood stream resulting in high temperature of the body.

5. Enteric fever results due to the effects of multiple micro-organisms halting the intestinal brush border enzymes.

6. Guillain-Barre syndrome, a complication likely after *Campylobacter* infection, a condition in which the immune system attacks the nerves in the body.

7. Reactive arthritis may occur particularly after Shigella, Salmonella, Campylobacter, or Yersinia a condition in which the joints of the body get inflamed.

8. Malnutrition is a state of nutrition in which a person is not receiving enough nutrients to meet their body's needs, and can lead to malnutrition if left untreated. Symptoms include fatigue, weight loss, and poor physical performance.

9. Electrolyte imbalance occurs when the body has too much or too little of certain electrolytes, such as sodium, magnesium, and potassium. Symptoms include confusion, weakness, and dizziness.

10. Acidosis is an excess of acid in the bloodstream as a results of excessive diarrhea, and can lead to shock if left untreated. Symptoms include dizziness, confusion, and rapid breathing.

11. Bacteremia is an infection of the bloodstream caused by bacteria, and can lead to sepsis if left untreated. Symptoms are usually similar to those of flu-like illnesses, including fever, chills, and nausea.

12. Peritonitis is an inflammation of the peritoneum as a result of the micro-organism invading the peritoneum, which is the tissue that lines the abdomen. Symptoms include abdominal pain, nausea, and vomiting.

13. Shock is a life-threatening condition wherein the organs of the body fail to receive enough blood and oxygen. Symptoms include pale skin, low blood pressure, confusion, and lightheadedness.

1.11 Validation of Data

Validation of data simply means to establish the soundness, accuracy or legitimacy of the data gathered so that it will be free from errors and misinterpretations. During my home visit most of the information given to me by Master K. N's mother and family at the hospital were confirmed by other relatives in the house. Data presented by Master K.N and his diagnostic investigations carried out were similar to those in the literature review. When the patient's condition became stable and all the relatives had calm down, I again asked them the same questions which were asked previously and the same response was given. Upon this I therefore believe the information gathered was valid and authentic.

CHAPTER TWO

ANALYSIS OF DATA

2.0 Introduction

According to Zhu & Duan (2019), this is the second phase of the nursing process and it involves the analysis and examination of importance pieces of information gathered from the patient, family, and significant others. Analysis of data is done in the second step of the nursing process. It involves sorting out information gathered on the patient in order to draw conclusion and bring out the exact problem so as to formulate the appropriate intervention. It also entails laboratory investigations and their interpretations as compared to the normal values, causes of the disease and its clinical clinical manifestations, health problems and nursing diagnoses. The chapter contains the following;

1. Comparison of data with standards
2. Patient/Family strengths
3. Health problems
4. Nursing diagnosis

2.1 Comparison of Data with Standards

This involves comparing information gathered from the client with standard in the literature. This includes diagnostic investigation, clinical manifestations and complications.

A. Diagnostic investigation/test

According to Bolboaca (2019), Diagnostic tests are the approaches used in clinical practice to identify with high accuracy the disease of a particular patient and thus to provide early and proper treatment. The following diagnostic tests were carried out on my client.

1. Full blood count.

2. Stool for culture and sensitivity

3. Blood film for malaria parasites

4. Mid upper arm circumference (MUAC)

Table 1 below shows the comparison of diagnostic test carried out on client and those listed in the literature review.

Table 1: Diagnostic Tests/Investigation in Literature Review Compared With Those Carried Out On Master K.N

Diagnostic Investigations Outlined In Literature Review	**Diagnostic Investigations Carried Out On My Patient**
1. Examination for white blood cells count and red blood cell in stool	1. Examination for white blood cells count and red blood cell in stool test was not done
2. Urine for routine examination	2. Urine for routine examination was not done
3. Blood and cerebrospinal fluid culture	3. Blood and cerebrospinal fluid culture was not done
4. Stool culture and sensitivity	4. Stool culture and sensitivity was done
5. Serum sodium estimation	5. Serum sodium estimation was not done
6. Immune electron microscopy and radioactive immune assay of faecal specimen	6. Immune electron microscopy and radioactive immune assay of faecal specimen (to determine if it is positive for virus) was not done
7. Electron microscopy	7. Electron microscopy was not done
8. Haemoglobin level estimation	8. Haemoglobin level estimation was done

9. Complete blood count	9. Complete blood count was done
10. History and physical examination	History and physical examination was done

Many of the investigations mentioned in the literature review were carried out on Master K.N such as Hemoglobin estimation test, Stool for culture and sensitivity, Complete Blood Count (CBC) and History and physical examination.

Table Two (2) below shows the details of the investigations/tests carried out on Master K.N during his admission. It is made up of date of requisition, type of specimen requested, diagnostic investigations/tests carried and results, corresponding normal values, interpretations and remarks.

Table 2: Diagnostic Investigations/Tests Compared with Standards

Date	Specimen	Investigation	Results	Normal Value	Interpretation	Remarks/ Treatment
		Full Blood Count (FBC)				
12/01/2023	Blood	Haemoglobin level estimation	13.90g/dL	13.80-17.20g/dL (Male) 12.10-15.10g/dL (Female)	Results is normal indicating absence of anemia	No treatment was given
		White blood cell count	29.27 x 10^3/Ul	3.0-8.50×10^3/uL	Results is above normal indicating presence of infection.	Anti-bacteria was given
		Red blood cell count	4.56 x 10^6/Ul	4.00 – 5.50 10^6/uL	Results is normal meaning patient is not anaemic	No treatment was given
		Platelet count	166.0 x 10^3/Ul	150.00-400.00 x 10^3/uL	Results is normal meaning patient does not have any clotting problem.	No treatment was given
		Hematocrit	30.20%	26.00-50.00%	Results is normal meaning the proportion of red blood cell in the blood is in line with the other components of the blood.	No treatment was given

		Mean corpuscular volume	87.90 fl	80.00-100.00 fl	Results is normal indicating average size of the Red blood cells free from either macrocytic or microcytic anemia.	No treatment was given
		Mean corpuscular hemoglobin	29.3 pg	26.00-38.00 pg	Results is normal indicating absence of iron deficiency anemia.	No treatment was given
12/01/2023	Blood Film	Blood film for malaria parasite	0 parasites /Ul	0-5 parasites /uL	Results is normal indicating absence of malaria parasite	No treatment was given
12/01/2023	Stool	Culture and sensitivity	Positive campylobacter species isolated	Negative (Absence of Micro bacterial)	Results is abnormal indicating presence of infection	Anti-bacteria was given
12/01/2023	Measurement	Mid-upper arm circumference (MUAC)	13.6cm	MUAC >13.5cm	Patient is normal for his age	No treatment was given

B. Causes of Patient's Condition

Interaction with patient's mother revealed that her son's condition was due to consuming of contaminated food occupied by campylobacter species isolated in the culture and sensitivity results of his stool. With reference to the literature review, K. N's condition was due to the presence of disease causing organism(campylobacter) in the gastrointestinal tract.

C. Clinical features / signs and symptoms

Comparison of clinical features exhibited by client with those listed in the Literature Review

Table 3 below shows the comparison of clinical features

Table 3: Clinical manifestations exhibited by Master K.N compared with those in the Literature Review

CLINICAL FEATURES INDICATED IN THE LITERATURE REVIEW	CLINICAL FEATURES EXHIBITED BY THE PATIENT
High body temperature(fever)	Patient's body temperature was not high (38.6 degree Celsius)
Headache	Patient had headache.
Patient may be restless	Patient was restless
Patient may be nauseated	Patient experienced nausea
Diarrhoea	Patient had diarrhoea
General body weakness	Patient had general body weakness
Vomiting	Patient vomited
Petechiae	Petechiae was not observed
Altered mental status or excessive crying/fussiness	Altered mental status or excessive crying/fussiness was observed
Dry mucous membranes (dry mouth)	Dry mucous membranes was not observed

Decreased skin turgor	Patient had reduced skin turgor
Signs of poor peripheral perfusion	Signs of poor peripheral perfusion was not observed
Bloody or bilious emesis	Bloody or bilious emesis was not observed
Orthostastic Hypotension	Orthostastic Hypotension was not observed
Bloody stools	Bloody stools was not observed
Abdominal pain	Patient had abdominal pain

From the comparison in table 3 above, it is evident that my patient had gastroenteritis because he exhibited most of the clinical features as: headache, abdominal pains, nausea, vomiting, reduced skin turgor, altered mental status or excessive crying/fussiness, restless, general body weakness and diarrhea. From the comparisons, one can conclude that, my patient had gastroenteritis as he manifested most of the major manifestation of the condition as stated in the literature review.

D. Treatment given to Patient

This involves the care provided to improve patient situation (especially medical procedures or applications that are intended to relieve illness or injury).

The following were the treatment which was given to the patient:

1.IVF 5% Ringers lactate 850mls x 35mls/hr x 24hours

2.Tab Zinc 20mg daily x 10 days

3.Oral Rehydration Salt 100mls after each loose stool

4.IV Paracetamol 85mls TDS x 24hrs

5.IV Gentamycin 5mg/kg(42.5mg) daily x 24hrs

6.IV Cefuroxime 30mg/kg (255mg) TDS x 24hrs

Table 4 below shows the treatment given to K.N compared with those in the literature review

Table 4: Comparison of treatment outlined in the literature review with those given to K.N

Medical Treatment in Literature Review	**Medical Treatment Prescribed for Master K.N.**
1. Antibiotics a. Cotrimoxazole b. Ciprofloxacin c. Tetracycline d. Erythromycin e. Gentamycin f. Cefuroxime g. Metronidazole	**1. Antibiotics** a. Gentamycin was administered to patient. b. Cefuroxime was administered to patient.
2. Management of diarrhea a. Loperamide hydrochloride b. Zinc c. Oral rehydration salt/solution	**2. Management of diarrhea** a. Tab Zinc was administered b. Oral Rehydration Salt 100mls stool was administered after each loose.
3. Intravenous infusions/fluid management a. Normal saline,	**3. Intravenous infusions/fluid management** a. Ringers lactate was administered

b. Ringers' lactate	
4. Analgesics and antipyretic a. Paracetamol, a. ibuprofen, b. diclofenac	**4. Analgesics and antipyretic** a. Paracetamol was administered
5. Anti-cholinergic/muscarinic a. Promethazine Hydrochloride	**5. Anti-cholinergic/muscarinic** a. Promethazine Hydrochloride was not prescribed for the patient

Comparing the treatment given to my client and that of the literature review, it could be seen that the treatment given to my patient was in line with that of the treatment in the literature review and this contributed greatly to the recovery of my patient.

Table Five (5) Shows Pharmacology of Drugs Given to K.N as Compared with The Literature Review

DATE	DRUG	DOSAGE AND ROUTE AS IN LITERATURE REVIEW	DOSAGE AND ROUTE OF ADMINISTR-ATION GIVEN TO CLIENT	CLASSIFI-CATION	DESIRED EFFECT	ACTUAL ACTION OBSERVED	SIDE EFFECTS/REMEDIES
12/01/2023	Tab paracetamol	**Child Dose:** 125-250mg **Adult dose:** 500mg -1000mg **Route:** Intravenously, Orally and rectally	**Patient:** 170mg tid for 24hours **Route:** Intravenously	Antipyretic and Analgesics	To relieve pain and reduce fever by preventing the synthesis of prostaglandins	Client was relieved of pain and fever	Hemolytic anemia, neutropenia, leucopenia, pancytopenia, thrombocytopenia, severe liver damage with overdoses, jaundice, rash, urticaria, hypoglycemia. None was observed.
12/01/2023	Ringers Lactate	Dosage depends on patient fluid and electrolyte replacement needs **Route:** intravenous(IV)	**Patient:** 850mls 35mls/hr for 24hours **Route:** Intravenously.	Fluid and electrolyte replacement (alkalinizing agent)	For correction of fluid and electrolyte depletion	Hydration was restored as observed by normal skin turgor, moist mucous membrane and full and bounding pulse.	Infusion of an excessive volume may overload the circulation and precipitate heart failure, increased breathlessness and distended neck vein. None of these was observed.

Table Five (5) Shows Pharmacology of Drugs Given to K.N as Compared with The Literature Review

DATE	DRUG	DOSAGE AND ROUTE AS IN LITERATURE REVIEW	DOSAGE AND ROUTE OF ADMINISTRATION GIVEN TO CLIENT	CLASSIFICATION	DESIRED EFFECT	ACTUAL ACTION OBSERVED	SIDE EFFECTS AND REMEDIES
12/01/2023	Cefuroxime	**Adult: 7**50-3000mg **Child dose:** 12.5mg - 150mg per kg **Route:** Oral, Intravenous and intramuscular	**Patients:** 255mg tid x 24 hours **Route:** Intravenous	Anti-infective, Broad spectrum antibiotic (Cephalosporin)	Inhibition of bacteria cell wall by binding to specific binding proteins(PBP's) resulting in the death of the bacterial	Patient infection was halted.	Pruritus, seizures, tremor. None of these was observed.
12/01/2023	Gentamycin	**Adult dose:** 3.0 mg-5.0/kg/day **Child dose**: 2.0mg-2.5 mg/kg **Route:** Oral, intravenous (IV) and intramuscular	**Patient:** 42.5 mg od x 24 hours **Route:** Oral	Antimicrobial (Aminoglycoside)	Diffuses through the porin channels in the outer membrane of susceptible organisms, once inside causes the death of the organism.	Patient infection was halted.	Headache, dizziness, confusion, restlessness, blurred vision. None of these was observed.

Table Five (5) Shows Pharmacology of Drugs Given to K.N as Compared with The Literature Review

DATE	DRUG	DOSAGE AND ROUTE AS IN LITERATURE REVIEW	DOSAGE AND ROUTE OF ADMINISTRATION GIVEN TO CLIENT	CLASSIFICATION	DESIRED EFFECT	ACTUAL ACTION OBSERVED	SIDE EFFECTS AND REMEDIES
12/01/2023	Oral Rehydration Salt	Dosage depends on patient fluid and electrolyte replacement needs. **Route:** Orally	**Patients:** 100mls orally after each loose stool **Route:** oral	Fluid and electrolyte replacement (Rehydration solution)	For correction of fluid and electrolyte depletion	Patient was well hydrated and his skin turgor improved.	Nausea, Vomiting and stomach upset.. None of these was observed.
12/01/2023	Zinc	**Adult dose:** 10 mg-40mg **Child dose**: 4 mg-23mg **Route:** Oral, intravenous (IV)	**Patient:** 20mg od x 10 days **Route:** Oral	Mineral supplement	Inhibition of three out of the four main intracellular pathways of intestinal ion secretion, including cyclic adenosine monophosphate (cAMP), calcium, and nitric oxide.	Patient passage of loose stools was controlled.	Nausea, vomiting, increasing diarrhoea and stomach pain. None of these was observed.

E. Complications

This involves any disease or disorder that occurs during the course of (or because of) a current disease.

Table six (6): Comparison of complications outlined in the literature review with those experienced by K.N

Complications in the literature review	**Complications exhibited by patient**
1. Dehydration	1. Patient did not experienced Dehydration
2. The transformation of acute into chronic diarrhea	2. Patient did not experienced the transformation of acute into chronic diarrhea
3. Exacerbation of inflammatory bowel disease	3. Patient did not experienced exacerbation of inflammatory bowel disease
4. Septicemia	4. Patient did not experienced Septicemia
5. Enteric fever	5. Patient did not experienced Enteric fever
6. Guillain-Barre syndrome	6. Patient did not experienced Guillain-Barre syndrome
7. Reactive arthritis	7. Patient did not experienced Reactive arthritis
8. Malnutrition	8. Patient did not experienced Malnutrition
9. Electrolyte imbalance	9. Patient did not experienced Electrolyte imbalance
10. Acidosis	10. Patient did not experienced Acidosis

11. Bacteremia	11. Patient did not experienced Bacteremia
12. Peritonitis	12. Patient did not experienced Peritonitis
13. Shock	13. Patient did not experienced Shock

With regards to the complications outlined under the literature review from the table above, K.N did not develop any of the complications. This can be attributed to the fact that, he was brought early to the hospital and hence early treatment was initiated and led to his early recovery.

2.2 Patient/Family's Strengths

Patient and family strengths refers to the resources that can enable them to cope with stressful conditions leading to patient's recovery.

These involve the activities that contribute to the well-being of patient and her family as well as his speedy recovery.

1. Patient could vomit thrice daily and pass out watery stool four times daily.
2. Patient could cope with tepid sponging.
3. Patient could exhibit the intensity of his pain using the FLACC scale.
4. Patient has good swallowing reflex for 75mls of cerelac served.
5. Patient's mother can verbalize her level of anxiety.
6. Patient's mother could mention some of the signs and symptoms of the condition (gastroenteritis).

2.3 Patient /Family Health Problems

Health is defined as structural, functional and emotional state that is compatible with effective life as an individual and as a member of a society (McCarthney, Popham, McMaster & Cumbers 2019). Health problems can be said to be the major reasons for which a patient/family seeks for health

care. It could be either actual or a potential problem and they are the basis for planning an effective care for a patient. Data collected from my patient/family through observation and interviewing showed that Master K.N had the following health problems;

1. Patient was vomiting and passing out of watery stools. (12/01/23).
2. Patient had headache and abdominal pain. (12/01/23).
3. Patient had high body temperature (Pyrexia, 38.6 ^{O}C), (12/01/23).
4. Patient had Anorexia (12/01/23).
5. Patient and family were anxious, (12/01/23).
6. Patient's family had deficient knowledge about the causes, signs and symptoms, management and complications of gastroenteritis (13/01/23).

2.4 Nursing Diagnosis

A nursing diagnosis according to NANDA International (2021-2023), the official definition of nursing diagnosis is a clinical judgement about individual, family, or community responses to actual or potential health problems/life processes. It is a clear and definite statement of the patient's health status that can be influenced by nursing interventions. It is derived from a validated, critically analysed and interpreted data collected during assessment. Conclusions are drawn regarding the patient's needs, problems, concerns or human responses. The nursing diagnosis, once identified provides a central focus as a reminder of the stages that is based on the nursing process. The plan of care is designed, implemented and evaluated, hence making it possible to give comprehensive health care to the problems. This is done by identifying, validating and responding to specific health problems. The nursing diagnosis also provides an efficient method of communicating the patient's health problems.

Nursing diagnosis for Master K.N. is as follows;

1. Risk for fluid volume deficit related to vomiting and diarrhea (12/01/23).

2. Headache and abdominal pain related to infection (12/01/23).

3. Hyperthermia ($38.6^{O}C$) related to infection of the stomach and intestine (12/01/23).

4. Imbalanced nutrition (less than body requirements) related to anorexia (12/01/23).

5. Anxiety (patient's mother and family) related to unknown outcome of condition and hospitalization (12/01/23).

6. Deficient knowledge related to inadequate information about the causes, management and prevention of the condition(gastroenteritis) (13/01/23).

CHAPTER THREE

PLANNING FOR PATIENT/FAMILY CARE

3.0 Introduction

This is the third stage of the nursing process and it outlines the objectives set to be achieved during the care of the patient/family. In order to achieve and implement an effective nursing care plan, the nurse has to draw a care plan. A nursing care plan documents the process of identifying a patient's needs and facilitating holistic care, typically according to a five-step framework that's; assessment, diagnosis, outcomes and planning, implementation and evaluation. A care plan ensures collaboration among nurses, patients, and other healthcare provider (Vera., "Nursing Care Plans (NCP): Ultimate Guide and Database", July 5, 2021). This will serve as the tools for the nurse to keep record of the patient's health needs and provide the basis for the continuity of care for patient and her family in the hospital and also at home. The care plan is also continuously reviewed and amendments made until patient care objectives are achieved.

3.1 Objectives and outcome criteria for Patient/Family Care

According to Wroblewski (2019), objectives are tools that underlie all planning and strategic activities. They serve as the basis for creating policy and evaluating performance. Put another way, goal pinpoints what you want to achieve which is the outcome. In general, an objective detail how you are going to achieve your goals and how you are going to make that outcome happen.

As a result of the patient/family health problems identified, the following objectives were set for the patient/family.

1. Patient will maintain his normal fluid volume within 24 hours evidenced by;

    a) Patient's mother verbalizing the frequent passage of watery stool has subsided

    b) Nurse observing patient maintains a normal skin turgor and a normal weight for his age.

2. Patient's headache and abdominal pain will resolve within 48hours as evidenced by,

    a) Nurse observing patient cues for pain such as teariness, and restlessness are absent.

    b) Mother verbalizing patient's crying and banging of his head have subsided.

3. Patient's body temperature will restore to normal range (36.2^0C – 37.2^0C) within 24hours as evidenced by:

    a) Nurse recording that patient's temperature is within the normal range (36.2^0C to 37.2^0C).

    b) Mother verbalizing that patient is not warm to touch.

4. Patient will restore and maintain his nutritional status within 72 hours as evidenced by;

    a) Nurse observing patient maintain his normal body weight (8.5kg).

    b) Patient's mother verbalizing that he has regained his normal appetite.

5. Patient's mother / family anxiety will subside within 24 hours as evidenced by:

    a) Patient's mother /family members verbalizing that they are no more anxious.

    b) Nurse observing that mother/family members' show relaxed facial expressions.

6. Patient's mother would have adequate information about the causes, management and prevention of the condition within 48 hours as evidenced by:

a) Patient's mother verbalizing a basic understanding of the causes, management, and prevention of the condition (gastroenteritis)

b) Nurse getting a positive feedback on the information given to patient's family.

3.2 Nursing Care Plan

This is the last step in the series of approaches used for presenting the patient's plan of nursing care. It enables the staff nurse to meet the needs of the patient and his family at a given time. The nursing care plan consists of date and time, nursing diagnosis, objectives/outcome criteria, nursing orders/interventions and evaluation.

Table seven (7): Nursing Care Plan for K.N. and Family.

Date/ Time	Nursing Diagnosis	Objective/ Outcome Criteria	Nursing Orders	Nursing Intervention	Date/ Time	Evaluation Statement	Sign
12/01/23 7:00am	Risk for fluid volume deficit related to vomiting and diarrhea	Patient will maintain his normal fluid volume within 24 hours as evidenced by; a) Patient's mother verbalizing the frequent passage of watery stool has subsided b) Nurse observing patient maintains a normal skin turgor and a normal weight for his age.	1. Reassure patient's mother that diarrhea and vomiting will subside with time. 2. Assess patient's skin turgor and mucous membranes 3. Advise and encourage mother to ensure effective breastfeeding 4. Monitor patient intake and output strictly. 5. Check and record patient's vital signs. 6. Serve prescribed intravenous fluids. 7. Serve oral rehydration salts after each episode of loose stool.	1. Patient's mother was reassured that the diarrhea will subside with time to relieved her anxiety. 2. Patient's skin turgor and mucous membranes were assessed to rule out any dehydration 3. Mother was advised, encouraged and supervised to ensure effective breastfeeding to maintain a normal fluid volume 4. A strict intake and output chart was monitored to ensure accurate fluid balance. 5. Vital signs were checked and recorded as and when the time was due to correct any potential metrics deviation. 6. Intravenous fluids were administered to cater for fluid deficit. 7. Oral rehydration salts (100mls) was served after each loose stool to compensate the lost fluid and electrolyte.	13/01/23 7:10am	Goal fully met as; Patient's mother verbalized, the frequent passage of watery stool has subsided and Nurse observed patient maintains a normal skin turgor and a normal weight for his age.	A.D

Table seven (7): Nursing Care Plan for K.N. and Family Continued.

Date/ Time	Nursing Diagnosis	Objective/ Outcome Criteria	Nursing Orders	Nursing Intervention	Date/ Time	Evaluation Statement	Sign
12/01/23 7:15pm	Headache and abdominal pain related to infection.	Patient's headache and abdominal pain will resolve within 48hours as evidenced by; a) Nurse observing patient cues for pain such as teariness, and restlessness are absent. b) Mother verbalizing patient's crying and banging of his head have subsided.	1. Reassure patient's mother that the pain would subside 2. Assess the level of pain on a pain scale 3. Ensure the use of diversional activity to shift attention from pain 4. Encourage mother to cuddle the child 5. Nurse patient on a comfortable bed 6. Serve prescribed analgesics to relieve abdominal pain and headache	1. Patient's mother was reassured that the pain will subside in the course of treatment. 2. The level of pain was assessed on the FLACC pain scale and it was recorded as 8 indicating severe pain. 3. Patient was allowed to play with toys and watch television to divert his attention 4. Mother was encouraged to cuddle her child to help calm him down. 5. Patient was nursed on a comfortable bed free from creases and cramps to help reduce the potential of skin breakdown (decubitus ulcer) 6. IV Paracetamol 170mg was served to relieve pain	14/01/23 7:15pm	Goal fully met as; Nurse observed patient cues for pain such as teariness, and restlessness were absent and Mother verbalized patient's crying and banging of his head have subsided.	A.D

Table seven (7): Nursing Care Plan for K.N. and Family Continued.

Date/ Time	Nursing Diagnosis	Objective/ Outcome Criteria	Nursing Orders	Nursing Intervention	Date/ Time	Evaluation Statement	Sign
12/01/23 7: 30am	Hyperthermia ($38.6^{O}C$) related to infection of the stomach and intestine.	Patient's temperature will restore to normal range ($36.2^{0}C$ to $37.2^{0}C$) within 24hours as evidenced by; (a) Nurse recording patient's temperature is within the normal range ($36.2^{o}C$ to $37.2^{o}C$). (b) Mother verbalizing that patient is not warm to touch.	1) Reassure patient of competent care. 2)Tepid sponge the patient to reduce his body temperature 3) Changed heavy and tight clothing to light ones. 4) Ensure enough ventilation by opening windows and switching on the fans. (5) Serve prescribed antipyretic agents and prescribed antibiotics 6) Offer cold and sweet drinks.	(1) Patient and relatives were reassured of being in the hands of competent nurses to relieve their anxiety (2) Patient was tepid sponged to allow heat loss through conduction and evaporation for patient temperature to be restored back to normal. (3) Patient heavy clothing was changed to light ones to provide adequate surface area for heat loss. (4) Windows were opened and the fans were switched on to ensure enough ventilation in the room. (5) Iv Paracetamol 170mg and Iv cefuroxime 255mg were served as prescribed. (6) Cold and sweet drink (kalypo) was offered to patient to provide a cooling effect.	13/01/23 7: 30am	Goal was fully met as; Nurse recorded patient's temperature within the normal range ($36.2^{o}C$ to $37.2^{o}C$) and Mother verbalized, patient is not warm to touch.	A.D

Table seven (7): Nursing Care Plan for K.N. and Family Continued.

Date/ Time	Nursing Diagnosis	Objective/ Outcome Criteria	Nursing Orders	Nursing Intervention	Date/ Time	Evaluation Statement	Sign
12/01/23 7:45am	Imbalanced nutrition (less than body requirement) related to anorexia	Patient will restore and maintain his nutritional status within 72 hours as evidenced by; a. Nurse observing patient maintain his normal body weight (8.5kg). b. Patient's mother verbalizing that he has regained his normal appetite.	1. Reassure patient and mother 2. Assess dietary habit of patient 3. Assist and encourage patient to clean her mouth before and after meals. 4. Serve food in bits to patient, taking into consideration his preference. 5. Obtain and record patient's weight at the same time every day. 6. Monitor fluid intake and output 7. Maintain parenteral fluids, as prescribed. .	1. Patient's mother was reassured that client would regain hi normal eating habit to calm her down. 2. Dietary habit of patient was assessed through patient daily eating patterns to ascertain the baseline. 3. Patient was assisted and encouraged to clean his mouth before and after meals to clear any debris and boost his appetite. 4. Cerelac was served in bits for easy intake and to prevents vomiting. 5. Patient's weight was checked and recorded at the same time every day to obtain accurate readings whether he is feeding well. 6. Patient's fluid intake and output was accurately monitored because body weight may decrease as a result of fluid loss. 7. Patient's parenteral fluids were served and maintained, as prescribed, to provide patient with needed fluids and electrolytes.	15/01/23 7:45am	Goal fully met as; Nurse observed patient maintains his ideal body weight (8.5kg) and Patient's mother verbalizing that her son has regained his normal appetite.	A.D

Table seven (7): Nursing Care Plan for K.N. and Family Continued.

Date/ Time	Nursing Diagnosis	Objective/ Outcome Criteria	Nursing Orders	Nursing Intervention	Date/ Time	Evaluation Statement	Sign
12/01/23 9:50am	Anxiety (patient's mother and family) related to unknown outcome of condition and hospitalization	Patient's mother / family anxiety will subside within 24 hours as evidenced by ; a) Patient's mother /family members verbalizing that they are no more anxious. b) Nurse observing that mother /family members' show relaxed facial expressions.	1. Reassure patient mother and family. 2. Educate patient mother and family members on the disease condition 3. Allow them to ask question on whatever bothers their mind and provide tactful answers. 4. Introduce them to patients with similar conditions who are doing well. 5. Explain every procedure to patient and mother	1. Patient and family were reassured of being in the hands of competent health team to calm them down. 2. Patient and family were educated on the disease condition and the treatment regimen so as help them adhere to the various treatment modalities. 3. Patient's mother was allowed to ask questions to clear any misunderstanding and misconception about the condition. 4. Patient and mother were introduced to patients with similar conditions who were doing well to boost their morale towards the attainment and anticipation of good health. 5. Every procedure was explained to patient's mother to encourage compliance and effective delivery of healthcare from the medical team.	13/01/23 9:50am	Goal was fully met as; Patient's mother /family members verbalized, they are no more anxious and Nurse observed Patient's mother /family members' show relaxed facial expressions.	A.D

Table seven (7): Nursing Care Plan for K.N. and Family Continued.

Date/ Time	Nursing Diagnosis	Objective/ Outcome Criteria	Nursing Orders	Nursing Intervention	Date/ Time	Evaluation Statement	Sign
13/01/23 8: 55am	Deficient Knowledge related to inadequate information about the causes, management and prevention of the condition	Patient's mother would have adequate information about the causes, management and prevention of the condition within 48hours as evidenced by; a) Patient's mother verbalizing a basic understanding of the causes, management, and prevention of the condition (gastroenteritis) b) Nurse getting positive feedback on the information given to patient's family.	1. Reassure patient and family and establish rapport with them 2. Assess patient's mother knowledge on the condition 3. Inform patient's mother about ways of preventing the symptoms and some management for the disease 4. Allow patient's mother to ask questions for clarification 5. Answer questions in simple understandable language without using professional jargons. 6. Ask patient's mother to summarize what they heard	1. Patient and family were reassured and rapport established with them to foster cordial relationship. 2. Patient's mother knowledge was assessed on the condition to ascertain her residue knowledge to build upon by asking her anything she knows about the condition. 3. Patient's mother was informed about ways of preventing the symptoms and some management for the disease to speed up the recovery process. 4. Patient's mother was allowed to ask questions for clarifications on issues about the disease bothering their minds. 5. All questions were answered in simple, plain and clear language without the use of professional jargons to help patient's mother understand. 6. Patient's mother was asked to give a feedback on what she heard to evaluate her understanding on the condition.	15/01/23 8: 55am	Goal fully met as; Patient's mother verbalized, she has basically understood the causes, management, and prevention of the condition (gastroenteritis) and Nurse getting positive feedback on the information given to patient's family.	A.D

CHAPTER FOUR
IMPLEMENTATION OF PATIENT/FAMILY CARE PLAN

4.0 Introduction.

This chapter form the fourth part of the patient and family care study. Implementation is the actualization of the nursing care plan through nursing intervention (Hinkle, Cheever & Overbaugh, 2021). This chapter presents the actual nursing care rendered to the client and family throughout the hospitalization period. It covers;

1. Summary of the actual nursing cares.
2. The preparation of the patient / family for discharge and rehabilitation.
3. Follow up / home visit / continuity of care.

4.1 Summary of the Actual Nursing Care

The nursing care given to patient started on the day of admission (12th January, 2023) till discharge (15th January, 2023). The management aimed at making patient comfortable, promoting his early recovery and prevention of complications. During the period of admission, routine care such as bed making, feeding of patient, administration of medication and observations were rendered to Master K.N. Daily nursing cares were also given according to patient's need. For the purpose of organization, the summary of the actual nursing is presented on daily basis as follows;

First day of admission (12-01-23)

On the 12th January, 2023 Master K.N. was admitted around 6:52am, into the Paediatric ward through Accident and Emergency Department of the Holy Family Hospital, Berekum on an account of Gastroenteritis. Patient was brought to the pediatric ward on the back of her mother accompanied by his father and a student nurse. On admission, he presented with vomiting, passing loose stools, cannot eat well, high body temperature and often holds his stomach while crying. He

looked weak, moderately dehydrated and very sick. A thorough head to toe physical examination revealed the following; Head and face- Hair was black and normal, no cracks at the corners of the lips. Eyes and Ears- symmetrical, no discharge, no abnormality seen. Skin- warm to touch, reduced skin turgor. No abnormality seen on the skin. Respiratory function: clear, no abnormality detected, Abdomen: there were bowel sounds; abdomen was soft and no tender on palpation. Musculoskeletal function: muscle tone was intact, active and resistant. Neurological: He was moody and dull due to ill health. Rectum and genitalia: normal color of the perineum, there was no abnormality found on the genitalia. Nutritional assessment indicates the child is moderately nourished as patient's mother reports that he has been refusing breast milk and solid foods and also had decreased intake of fluids due to vomiting and diarrhea. Generally, he was normal for his age. Mater K.N. had no known allergies.

At the ward, I established rapport by introducing myself to Master K. N's parents as a student nurse of Holy Family Nursing and Midwifery Training College, Berekum, and other staff on duty. Patient's mother and father were warmly received and offered a seat. I collected the folder from the accompanying student nurse and mentioned the name which was confirmed by the mother as the name of her son. Patient discharge planning was made and the following information were given to patient's mother as; her son will be discharged home when fully recovered with medications and a referral to a public health nurse for follow-up care, mother was instructed to continue giving her child the leftover medications from the ward as prescribed and to follow a healthy diet. The mother was advised to encourage child to engage in regular physical activity. The mother was made aware that she will embark on a follow-up appointment within two weeks after discharge to the hospital. Master K.N. was made comfortable in an admission bed 7 well laid whilst family was reassured that Master K.N. was in safe hands and that everything possible will

be done for her speedy recovery. Patient's particulars such as Name, Address, Age, Hometown, Sex, Religion, next of kin were all confirmed by the mother and Date of admission as well as condition were recorded in the Admission and Discharge book, in the daily ward state and in the Nurse's notes. Vital signs checked on admission were;

Temperature 38.6 ^{O}C

Pulse 103bpm

Respiration 28cpm

Oxygen Saturation 96%

His weight on admission was 8.5kg

The following laboratory/diagnostic investigations were requested and sample taken;

1. Blood film for malaria parasites.
2. Blood for full blood count
3. Stool for culture and sensitivity
4. Mid-upper arm circumference

After patient had rested for a while and his condition has become stable, I oriented the mother to the ward. After the orientation, I reintroduced myself to them again as a second-year student of Holy Family Nursing and Midwifery Training College, Berekum who would want to use Master K.N. for my study. I explained to them that the study is a requirement by Nursing and Midwifery Council (NMC) for my license to practice as a nurse. I also made the mother understand that they have the right to refuse at any time. Master K. N's mother accepted to allow me use him for my study and promised to assist me with all the necessary information I may need. I informed Master K. N's mother that both our relationship and their stay at the hospital are temporary and they will be discharged home when Master K. N's condition gets better. I then thanked them and told them

to call me whenever they need anything. Due to unavailability of culture and sensitivity test results, the doctor held on with the Anti-biotics and prescribed the following drugs;

1.Intravenous Ringers lactate 35mls/1hr x 24hours

2.Tablet Zinc 20mg daily × 10 days

3.Oral Rehydration Salt 100mls after each loose stool

4.Intravenous Paracetamol 85mls × 24 hours

I asked his mother to go for his medications from the Inpatient pharmacy. Patient's medications which included Intravenous Paracetamol, Tablet Zinc 20mg and Intravenous Ringers lactate 35mls ×1hr were administered and recorded accordingly. I told her about the time for medication and other routine activities at the ward. I made her aware of time for visiting which start from 5:00am to 6:00am in the morning, 11:30 am to 12:30pm in the afternoon and 4:30pm to 5:30pm in the evening. Patient's mother was educated on the importance of breastfeeding and on her son's meals in order to provide nutritious diet to boost the immune system. Since my patient is a registered member of the National Health Insurance Scheme, no deposit was paid but I made her aware that some medications and oxygen are non-insured and must be paid when discharged. Patient was then made comfortable in bed and mother was reassured once again.

At 7:00am, patient was seen vomiting and having diarrhea after some few minutes of breastfeeding, a nursing diagnosis of Risk for fluid volume deficit related to vomiting and diarrhea was made. An objective was set to restore and maintain patient fluid volume back to normal within 24 hours. The following nursing interventions were made; Patient's mother was reassured that the diarrhea will subside with time to relieved her anxiety,patient's skin turgor and mucous membranes were assessed to rule out any dehydration, mother was advised, encouraged and supervised to ensure effective breastfeeding to maintain a normal fluid volume, a strict intake and

output chart was monitored to ensure accurate fluid balance, vital signs were checked and recorded as and when the time was due to correct any potential metrics deviations, Intravenous fluids were administered to cater for fluid deficit and Oral rehydration salts (100mls) was served after each loose stool to compensate the lost fluid and electrolyte..

At 7:15am, patient was observed to be restless, banging his head on the bed and crying indicating the presence of pain, a nursing diagnosis of headache and abdominal pain related to infection was made. An objective was set to resolve Patient's headache and abdominal pain within 48hours. The following interventions were put in place: Patient's mother was reassured that the pain will subside in the course of treatment, the level of pain was assessed on the FLACC pain scale and it was recorded as 8 indicating severe pain, patient was allowed to play with toys and watch television to divert his attention, mother was encouraged to cuddle her child to help calm him down, patient was nursed on a comfortable bed free from creases and cramps to help reduce the potential of skin breakdown (decubitus ulcer) and IV Paracetamol 170mg/85mls was served to relieve pain.

At 7:30am, the problem of fever (38.6°C) was identified, a nursing diagnosis of Fever ($38.6^{O}C$) related to infection of the stomach and intestine was made. An objective was set to restore patient's temperature back to the normal range ($36.2^{0}C$ to $37.2^{0}C$) within 24hours. The following interventions were put in place: Patient and relatives were reassured of being in the hands of competent nurses, patient was tepid sponged to allow heat loss through conduction and evaporation for patient temperature to be restored back to normal, patient heavy clothing was changed to light ones to provide adequate surface area for heat loss, windows were opened and the fans were switched on to ensure enough ventilation in the room, Iv Paracetamol 170mg/85mls was served as prescribed as a pharmacological way of treating pain and cold and sweet drink (kalypo) was offered to patient to provide a cooling effect.

At 7:40am, the laboratory results of stool for culture and sensitivity was ready indicating the presence of a gram negative bacteria (campylobacter species). This made Doctor D.A prescribed the following anti-biotics;

1. I.V Gentamycin 42.5mg daily x 24 hours
2. I.V Cefuroxime 255mg tid x 24 hours

I asked the Doctor concerning the shorter duration of the drug and he made me understood that, campylobacter species cause of gastroenteritis sometimes resolve without taking of any antibiotic. He further explained that is a matter of ensuring the patient takes in more fluids and the condition will be resolved, but with this, the species has grown to a certain point that requires anti-biotics therapy in order to prevent Gullain barre syndrome complication. An arrangement was made and the mother was asked to go and get the drugs from the in-patient pharmacy of which she obliged. Later, about five minutes the mother came in with the drugs and the initial doses were served as prescribed by the Doctor.

At 7:45am, the problem of anorexia was identified, a nursing diagnosis of Imbalanced nutrition (less than body requirements) related to anorexia was made. An objective was set that, Patient will restore and maintain his nutritional status within 72 hours The following interventions were put in place: Patient's mother was reassured that client would regain hi normal eating habit to calm her down, dietary habit of patient was assessed through patient daily eating patterns to ascertain the baseline, patient was assisted and encouraged to clean his mouth before and after meals to clear any debris and boost his appetite, Cerelac was served in bits for easy intake and to prevents vomiting, patient's weight was checked and recorded at the same time every day to obtain accurate readings whether he is feeding well, patient's fluid intake and output was accurately monitored

because body weight may decrease as a result of fluid loss and patient's parenteral fluids were served and maintained, as prescribed, to provide patient with needed fluids and electrolytes.

At 9:50am, the problem of patient's family being anxious was identified, a nursing diagnosis of Anxiety (patient's mother and family) related to unknown outcome of condition and hospitalization was made. An objective was set to help Patient's mother / family anxiety to subside within 24 hours. The following interventions were put in place: Patient and family were reassured of being in the hands of competent health team to calm them down. Patient and family were educated on the disease condition and the treatment regimen so as help them adhere to the various treatment modalities. Patient's mother was allowed to ask questions to clear any misunderstanding and misconception about the condition. Patient and mother were introduced to patients with similar conditions who were doing well to boost their morale towards the attainment and anticipation of good health. Every procedure was explained to patient's mother to encourage compliance and effective delivery of healthcare from the medical team. At 10:00am, patient vital signs were checked and recorded as shown in the appendix.

At 10:30am, mother was advice to breastfeed her son and she concorded, patient was able to suck more than enough without any spit of it coming out from the mouth. The mother was rest assured that, her son is going to fine and they would be discharge as soon as he gets better. Master K.N. was put in bed to have some rest and sleep. A serene environment was created for him free from noise and visitors' interruptions. Patient woke up around 1:30pm and he was served with an ice kenkey with meat pie as lunch. Patient was able to consume half of the ice kenkey served. The mother was happy concerning an improvement in her child's health. At 2:00pm, patient vital signs were checked and recorded as as shown in the appendix. His afternoon medications such as; I.V

Paracetamol 170mg/85mls and I.V Cefuroxime 255mg were served accordingly as prescribed. As his Ringers Lactate was still insitu he was made comfortable in bed under strict monitoring.

At 6:00pm, he was served with Tuo Zaafi with an okro stew and fish as supper. His evening vital signs were checked and recorded as shown in the appendix. Patient due medications were also served as appropriate. At 6:45pm, I sorted for permission and left them in the hands of the Afternoon staffs after he took his bath.

Second Day of Admission (13-01-23)

On the second day of admission, at 7: 00am I went to the ward to continue with my nursing care for Master K.N. According to the night nurses, patient woke up at 5:30am and routine care was rendered, thus, patient oral care using tooth brush and paste and bed bath was done to him by the mother using warm water, sponge and a mild soap to remove dirt and improve circulation.

At 6:00am and recorded as as shown in the appendix. Patient's bed linen was changed and the bed dressed, and the last doses of his IV medications were served accordingly such as; Paracetamol 85mls, Cefuroxime 255mg, Gentamycin 42.5mg and Ringers Lactate. His oral medication tablet Zinc 20mg was also served and documented at 6:00am as well. Patient was served about 200mls of porridge with a slice of bread and egg for breakfast but could not eat all. Anorexia was assessed at 6:15am, he was not able to take all his breakfast, hence interventions to help improve nutritional status was continued.

At 7:00am, the objective set on 12th of January to re-establish and maintain patient normal fluid volume within 24 hours was evaluated and the goal was fully met as Patient's mother verbalized, the frequent passage of watery stool has subsided and Nurse observed patient maintains a normal skin turgor and a normal weight for his age. Headache and abdominal pain was assessed at 7:15am, the FLACC pain assessment scale proved pain intensity to be moderate, hence interventions to

help him relieve his pain was continued. At 7:30am, the objective set to restore patient temperature back to normal was evaluated and the goal was fully met as Nurse recorded patient's temperature within the normal range (36.2^0C to 37.2^0C) and Mother verbalized, patient is not warm to touch. During ward rounds by Doctor D.A at 7:40am, my patient was prescribed with Oral suspension of Paracetamol 120mg/5mls tid x 5 days as I.V Paracetamol has been completed. An arrangement was made and drug was collected from the In-Patients pharmacy by the mother.

At 8: 55am, I asked patient's mother whether if she knows much about her son's condition. She told me apart from the signs and symptoms her son exhibited, she doesn't know anything about it. I therefore made a nursing a nursing diagnosis of Deficient knowledge related to inadequate information about the causes, management and prevention of the condition(gastroenteritis). An objective was set that, Patient's mother would have adequate information about the causes, management and prevention of the condition within 48hours. The following interventions were put in place: Patient and family were reassured and rapport established with them to foster cordial relationship, patient's mother knowledge was assessed on the condition to ascertain her residue knowledge to build upon by asking her to say anything she already know about the condition, patient's mother was informed about ways of preventing the symptoms and some management for the disease to speed up the recovery process, patient's mother was allowed to ask questions for clarifications on issues about the disease bothering their minds, all questions were answered in simple, plain and clear language without the use of professional jargons to help patient's mother understand and patient's mother was asked to give a feedback on what she heard to evaluate her understanding on the condition. At 9:50am, on 13th of January, 2023 the objective set to help Patient's mother / family anxiety to subside within 24 hours was evaluated and the goal was fully met as Patient's mother /family members verbalized, they are no more anxious and Nurse observed

Patient's mother /family members' show relaxed facial expressions. At 10:00am, patient vital signs were checked and recorded as shown in the appendix.

At 11:15am, he was breastfed by the mother and was put to bed to have some nap, serene environment was created for him free from noise and visitors' interruptions. Patient woke up around 1:50pm and he was served with an ice kenkey with meat pie as lunch. This time around Patient was able to consume about 180mls of the ice kenkey served more than what he took a day before. The mother thanked me and was also happy concerning the gradual improvement in her child's health. At 2:00pm, patient vital signs were checked and recorded as shown in the appendix. His afternoon medications such as; Suspension Paracetamol 120mg/5mls tid was served accordingly as prescribed. At 6:00pm, His evening vital signs were checked and recorded as shown in the appendix.

Patient due medications were also served as appropriate and recorded. Patient took in cerelac for supper but could not eat all at 6:10pm after his bath. Vital signs were checked and recorded and due medications served and documented at 10:00pm. Patient finally slept at 10:20pm

Third Day of Admission (14-01-23)

Master K.N woke up around 5:50am, his oral and personal hygiene was performed by the mother. His bed linen was straightened. At 6:00am, vital signs were checked and recorded as shown in the appendix. Patient due medications such as suspension paracetamol 120mg/5mls and tablet Zinc 20mg was administered after he was done with his breakfast which was made of tom brown and slice of bread with fried egg. But he could eat one slice and ten teaspoon of the food served. At 7:15am, the objective set to resolve Patient's headache and abdominal pain within 48hours was

evaluated and the goal was fully met as Nurse observed patient cues for pain such as teariness and restlessness were absent and Mother verbalized patient's crying and banging of his head have subsided.

During ward rounds at 9:30am, patient and mother made no complaint as the condition was markedly improved. At 10:00am, my patient vital signs were checked and recorded, patient's temperature was 36.5℃ (normal) and patient had no complain of headache or any others. At 12:00pm my patient was served with his favourite fruit juice Kalypo with biscuit but could not finish all.

At 2:00pm vital signs were checked and recorded as shown in the appendix and due medications were administered and recorded in the Nurses notes. I informed patient's mother of my intention to visit their home and the purpose of the visit explained to her. I then sought for permission which she consented and gave me direction to their house. I embarked on the first home visit at 2:35pm accompanied by my client's uncle Mr. ARD. I was able to returned to the ward within some few hours. My patient slept around 5:00pm but the mother woke him up to take his supper (Tuo Zaafi with an Okro stew) which he took little. I assisted the mother in bathing of my patient afterwards. At 6:00pm, vital signs were checked and recorded and no due medications served as he was not having any bid/qid medication. My patient slept around 8:30pm and was asked to awake on 10:00pm to allow for vital signs to be taken. Vital signs were checked and recorded with due medication served.

Fourth Day of Admission, Day of (Discharge) 15-01-23

On the fourth day of admission, I visited my patient at 6:00am by then my patient has woken up. Mouth care and personal hygiene were maintained. Night report indicated that, the patient had a sound sleep. Family members who visited patient and mother were happy because of the

tremendous improvement of Master K.N. Patient looked cheerful and active as he was playing with his toys. At 6:00am, due medications such as suspension paracetamol 120mg/5mls and tablet zinc 20mg were administered and the vital signs were checked and recorded as shown in the appendix.

At 7:45am, the objective set to restore and maintain his nutritional status within 72 hours was evaluated and the goal was fully met as Nurse observed patient maintains his ideal body weight (8.5kg) and Patient's mother verbalizing that her son has regained his normal appetite as he ate all the breakfast served. At 8:00am, Master K.N. was discharged during ward rounds. His mother was happy and grateful to go home. My patient's mother was asked to continue giving the rest of the paracetamol and zinc tablet to him, no any other drugs were added during the discharge plan. After he was discharged, the objective set at 8:55am, to help patient's mother gain adequate information about the causes, management and prevention of the condition(gastroenteritis) within 48hours, was evaluated and the goal was fully met as Patient's mother verbalized, she has basically understood the causes, management, and prevention of the condition (gastroenteritis) and Nurse getting positive feedback on the information given to patient's family.

My patient's mother was informed to come for a review on Monday, 23rd January 2023. My patient's mother was educated on how to take the drug, side effect of the drug and the need to report any illness. Master K.N's mother was also educated on the infection prevention of gastroenteritis such as; the importance of personal and environmental hygiene, I also elaborated more about the need of washing their cooking utensils with soap and water, desist from eating cold foods, wash raw vegetables and fruit before consuming them, wash their hands with soap at any time before and after visiting the toilet, foods should always be covered properly to prevent its exposure from contamination and many more. Education on malaria was also given as their

environment was prone to mosquitoes breeding during my first home visit. I encouraged them to sleep under treated mosquito net, drained choked gutters and weeding of bushy area at the back of their house as this helps to deteriorate the breeding places of mosquitoes. I also educated client's mother about the early signs of gastroenteritis and the need to always ensure their environment is well kept. Client and family were educated on issues such as the need to continue with the medications and how to take them whiles in the house and the need to eat nutritious diet that would keep them healthy and to also avoid the use of over-the-counter drugs in the treatment of ailments but rather report to a health facility. They were also made known about the importance of coming back for review when the date is due. All his bills were fully settled, because he was insured with National Health Insurance Scheme. The interventions undertaken were documented for continuity of care and for references. Arrangement was made with client's family about my second home visit on 21st January, 2023. After the patient had been discharged, the bed side locker and the bed were disinfected. All dirty linens were removed. This was done to ensure cleanliness at the ward and to prevent cross infections. My patient's mother was informed to come for a review on Monday, 23rd January, 2023 and also encouraged to report any signs and symptoms even if the review date has not reached. I escorted them to the entrance of the hospital's premises where they took a taxi at 11:30am and were bid farewell.

4.2 Preparation of Patient/Family for Discharge and Rehabilitation

Preparation towards discharge of Master K.N commenced on the day of his admission into the ward. The aim was to enable the family to take active role in patient's care. I made the mother and father understand that they are in the hands of competent health professionals who will do everything possible to restore her child's health. I explained to the family the need to visit the

hospital immediately in case of any illness for early treatment to avoid complications. They were educated on the following;

Drugs

Education on his drugs was given, therapeutic effects and side effect of the drugs were explained to them and the need to report if side effects develop. I also advised them on the need to avoid self –medication and buying over –the – counter drugs which may have serious effect on their health. I also stressed on the need for review. However, if symptoms reoccur before the review date they should report to the hospital.

Diet

Dietary instructions given took into account patients food preferences and pattern of eating. Education was given to patient's mother on the importance of a well-balanced diet. Patient's mother was urged to ensure that he takes enough fruits and adequate fluid, lots of vegetables and to limit the intake of fatty, salty and cholesterol foods.

Personal and Environmental Hygiene

My client's mother was educated on the need to maintain good personal and environmental hygiene and ensure adequate rest and sleep for her child. I also advised her to bath him twice daily, wash hands regularly when handling his foods, wash his clothes frequently, proper disposal of refuse, weeding around the house and also ensuring good drainage systems by draining all stagnant waters around the house which can be a breeding place for mosquitoes.

4.3 Follow up/home visit/continuity of care

A home visit is a visit to the home of the patient with the aim of promoting health through education and assessment of health status. It is carried out before and after discharge. The reasons for this home visit is, to help assess the nature of patient and family's home/community and the people in the home/community to determine people at risk (vulnerable) of contracting the disease. It also helps patient's family to be educated on any unhealthy living. The health status of patient and family's health are assessed and documented.

First home visit (14-01- 2023)

The first home visit was made on Saturday 14th January, 2023 whilst patient was still on admission. The purpose of this visit was to know my patient's residence and the environment in which he lives, verify the information given to me as well as to identify the predisposing factors such as untidy environment, dirty and unwashed cooking utensils, how they handle raw vegetables and fruits etc.. It was 2:35 pm when my client's aunt Ms. S.M came to visit him and I took the opportunity to go to my patient's house. It is 15 minutes' drive away from the hospital. I visited my patient's house at Berekum-Mpatasie. Behind "Mpatasie Presby school park" is my patient house. Upon my arrival, I was welcomed with a cup of water and was made to sit inside the compound of the house. The house is not a self-contained and consist of seven bed rooms. The house of my patient is an old building. The house has been plastered and unpainted. Upon entering the house, around 3:00pm, a quick observation was made on the environment and it was found to be clean. It was built with blocks and roofed with aluminum roofing sheet which my patient's family own a room and a kitchen where they prepare their food. The whole house has two wooden kitchens. They share bathroom and toilet facilities outside. My patient's family room is neat and clean with their carpet on the floor. The windows of my patient house are fixed with louver blades. Their water supply is from a public stand pipe behind the house and a borehole just a few meters

from the house. They have access to electricity supply. The household refuse was kept in a plastic dustbin and finally disposed off at the main refuse dump provided by the municipal Assembly every day. Patient's aunt was happy about my visit. I use the opportunity to educate her about the condition, thus its causes, signs and symptoms, treatment and prevention. She was congratulated for keeping a neat compound. I educated other family members who were fortunate to be around on the need to always keep their surroundings clean. The rooms in the house were spacious enough for ventilation. However, the dusty compound of the house makes their windows dusty. They were encouraged to dust them often to prevent minor upper respiratory tract infections like common cold that impaired respiratory function and suppresses the immune system. Upon my investigations, it reviewed that the household contains vulnerable individuals such as; children under five years, pregnant women and the aged. I took my time to educate parents with kids under 5years on the need to use mosquito nets to prevent mosquito's bites and malaria. Information on balanced diet, immunizations and recommended vaccines and tips on good hygiene practices and disease prevention was given. The pregnant women were given information concerning their prenatal, child birth and postpartum care. Advice on focused antenatal care visit and how to manage pregnancy symptoms were also given. The household youths were educated to support the elderly and also to guide them on how to manage their chronic conditions such as diabetes, hypertension and arthritis. I also encouraged my patient's father and relatives to continue assisting Master K.N. and mother in all their activities after discharge. I made it clear to them that I will visit them frequently even when patient has been discharged home. I then asked for permission to leave which was granted and I left at 3:50pm.

Second home visit -21/01/ 2023

My second home visit was on Wednesday, 21st January, 2023 a week after my patient was discharged to find out the health status of patient after discharge and to remind my patient of the review date. On entering the house, Master K. N's family welcomed me warmly. After exchanged of greetings, they introduced me to other family members who were not around during my first home visit. Enquiry was made of any new complaint and general health of Master K.N and the family. There were no complaints as he looked very active and cheerful. Again, it was inquired if my patient has been taking the drugs correctly and mother was advised to help child adhere to treatment regimen. Master K. N's mother was also encouraged to continue to serve his son a nutritious diet and avoid fatty, salty and cholesterol diet as well as foods that will irritate the stomach and aggravates his sickness. Education on sanitation to family members during my first home visit was ensured as environment has been kept clean. Master K. N's mother was reminded of the review date which was 23rd January, 2023. Awareness on handing over patient to public health nurse was made known to patient's mother during this visit, that my next visit will be our last visit for the termination of patient and family care. A date for my last visit was communicated to them to prepare towards the handing over ceremony to the public health nurse. After some conversation on K. N's condition, permission was sought to leave. I reinforced on my last visit date as they saw me off to the roadside.

Day of review – 23/01/ 2023

On the 23rd January, 2023 patient and mother were met at the Out Patient Department of Holy Family Hospital Berekum, around 8:00am. Patient looks well and cheerful. I accompanied them to go for registration at the records. Vital signs were checked and recorded as follows;

1. Temperature 36.4^0C

2. Pulse 97bpm

3. Respiration 23cpm

Weight measured and recorded as 8.7 kg.

Patient was seen by the doctor in consulting room 1 and FBC was ordered and results were as follows;

1. Hemoglobin level 14.2g/dl

2. White Blood Cells 5.9 x 10^3/uL

Upon the doctor's examination, Patient was found to be healthy. My patient's mother made no new complains. Master K. N's mother was asked to serve client with a well-balanced diet, abstained him from consuming citrus fruits on an empty stomach and also avoid giving of NSAID's from over the counter. She was advised to use Paracetamol as a remedy for mild pain instead and in an appropriate dose. The mother was advised to also protect him against cold weather, smoke, and dust particles. Master K. N's mother was also informed to wash hands with soap and water before and after eating. Patient' mother was reminded of my third visit which will be my last visit and to terminate care. Patient's mother and father were seen off at the roadside at 10:05am.

Third home visit (28-01-2023)

On the 28th January, 2023, around 9:00am, a visit was paid to patient's house to find out how patient was faring after review and to hand over patient to a community health nurse for continuity of care. Upon reception and exchange of greetings, enquiry was made about the general condition of the patient. No new complains were made as patient's condition looked improved. Because

patient's mother had already been informed about my visit and its purpose, she got ready and we left for the community clinic at Mpatasie 10minutes' walk from their house. At the community clinic, we went to the public health unit. I introduced myself and the reason for our visit was made known to the nurse-in-charge. She then introduced one community health nurse Mr. T.A.B. to me and I handed Master K.N. over to him for continuity of care. Patient' mother was encouraged to give him maximum cooperation to the community health nurse. Health education on the prevention of gastroenteritis was emphasized and questions asked by my patient were answered precisely. The community health nurse also promised to take good care of patient and promised to always visit them at home. After some few discussions, permission was sought to leave as we bid each other good bye. I left the public health unit around 12:00pm.

CHAPTER FIVE

EVALUATION OF CARE RENDERED TO PATIENT/FAMILY

5.0 Introduction

Evaluation in simple terms is the outcome of nursing actions against the anticipated goals and it is the final step in the nursing process (Hinkle, Cheever & Overbaugh, 2021). The chapter gives information about the statement of evaluation, amendment of nursing goals and the termination of the care rendered to the patient and family.

5.1 Statement of Evaluation

Throughout the period of admission, six health problems were recorded and objectives were set to solve them. Below is the summary of the interventions carried out and to what extent the goals were met.

1. Patient maintained his normal fluid volume (15-01-2023).

At 7:00am, on the 12th of January, 2023 patient was seen vomiting and having diarrhea after some few minutes of breastfeeding, a nursing diagnosis of Risk for for fluid volume deficit related to vomiting and diarrhea was made. An objective was set to restore and maintain his fluid volume back to normal within 24 hours. The following nursing interventions were made; patient's mother was reassured that the diarrhea will subside with time to relieved her anxiety, patient's skin turgor and mucous membranes were assessed to rule out any dehydration, mother was advised,

encouraged and supervised to ensure effective breastfeeding to maintain a normal fluid volume, a strict intake and output chart was monitored to ensure accurate fluid balance, vital signs were checked and recorded as and when the time was due to correct any potential metrics deviation, intravenous fluids were administered to cater for fluid deficit and oral rehydration salts (100mls) was served after each loose stool to compensate the lost fluid and electrolyte. On 13th January, 2023 at 7:00am, the objective was evaluated and the goal was fully met as; Patient's mother verbalized, the frequent passage of watery stool has subsided and Nurse observed patient maintains a normal skin turgor and a normal weight for his age.

2. Patient's headache and abdominal pain was resolved (14-01-2023)

At 7:15pm, on the 12th of January, 2023 patient was observed to be restless, banging his head on the bed and crying indicating the presence of pain, a nursing diagnosis of headache and abdominal pain related to infection was made. An objective was set to resolve Patient's headache and abdominal pain within 48hours. The following interventions were put in place: Patient's mother was reassured that the pain will subside in the course of treatment. The level of pain was assessed on the FLACC pain scale and it was recorded as 8 indicating severe pain. Patient was allowed to play with toys and watch television to divert his attention. Mother was encouraged to cuddle her child to help calm him down. Patient was nursed on a comfortable bed free from creases and cramps to help reduce the potential of skin breakdown (decubitus ulcer). IV Paracetamol 170mg/85mls was served to relieve pain. On 14th January, 2023 at 7:15am, the objective was evaluated and the goal was fully met as Nurse observed patient cues for pain such as teariness, and restlessness were absent and Mother verbalized patient's crying and banging of his head have subsided.

3. Patient's temperature was restored back to normal range (13-01-2023)

At 7: 15am, on the 12th of January, 2023, the problem of fever was identified (38.6℃) a nursing diagnosis of Fever (38.6^{O}C) related to infection of the stomach and intestine was made. An objective was set that; Patient's temperature will restore back to the normal range (36.2^{0}C to 37.2^{0}C) within 24hours. The following interventions were put in place: Patient and relatives were reassured of being in the hands of competent nurses. Patient was tepid sponged to allow heat loss through conduction and evaporation for patient temperature to be restored back to normal. Patient heavy clothing was changed to light ones to provide adequate surface area for heat loss. Windows were opened and the fans were switched on to ensure enough ventilation in the room. Iv Paracetamol 85mls and Iv cefuroxime 255mg were served as ordered. Cold drink and sweet drink (kalypo) was offered to patient to provide a cooling effect. On 13th January, 2023 at 7:15am, the objective was evaluated and the goal was fully met as Nurse recorded patient's temperature within the normal range (36.2^{0}C to 37.2^{0}C) and Mother verbalized, patient is not warm to touch.

4. Patient maintained his nutritional status (13-01-2023)

At 7:45am, on the 12th of January, 2023, patient's problem of anorexia was identified, a nursing diagnosis of Imbalanced nutrition (less than body requirement) related to anorexia was made. An objective was set that, Patient will restore and maintain his nutritional status within 72 hours. The following interventions were put in place: Patient's mother was reassured that client would regain hi normal eating habit to calm her down, dietary habit of patient was assessed through patient daily eating patterns to ascertain the baseline, patient was assisted and encouraged to clean his mouth before and after meals to clear any debris and boost his appetite, cerelac was served in bits for easy intake and to prevents vomiting, patient's weight was checked and recorded at the same time every day to obtain accurate readings whether he is feeding well, patient's fluid intake and output was accurately monitored because body weight may decrease as a result of fluid loss and patient's

parenteral fluids were served and maintained, as prescribed, to provide patient with needed fluids and electrolytes. On 15th January, 2023 at 7:45am, the objective was evaluated and the goal was fully met as Nurse observed patient maintains his ideal body weight (8.5kg) and Patient's mother verbalizing that her son has regained his normal appetite.

5. Patient's mother / family anxiety was subsided (13-01-2023)

At 9:50am, on the 12th of January, 2023, the problem of patient's family being anxious was identified, a nursing diagnosis of Anxiety (patient's mother and family) related to unknown outcome of condition and hospitalization was made. An objective was set that; Patient's mother / family anxiety will subside within 24 hours. The following interventions were put in place: Patient and family were reassured of being in the hands of competent health team to calm them down. Patient and family were educated on the disease condition and the treatment regimen so as help them adhere to the various treatment modalities. Patient's mother was allowed to ask questions to clear any misunderstanding and misconception about the condition. Patient and mother were introduced to patients with similar conditions who were doing well to boost their morale towards the attainment and anticipation of good health. Every procedure was explained to patient's mother to encourage compliance and effective delivery of healthcare from the medical team. On 13th January, 2023 at 9:50am, the objective was evaluated and the goal was fully met as Patient's mother /family members verbalized, they are no more anxious and Nurse observed Patient's mother /family members' show relaxed facial expressions.

6. Patient's mother gained adequate knowledge on gastroenteritis (15-01-2023)

At 8: 55am, on the 13th of January, 2023, I asked patient's mother whether if she knows much about her son's condition. She told me apart from the signs and symptoms her son exhibited, she doesn't know anything about it. I therefore made a nursing a nursing diagnosis of Deficient

knowledge related to inadequate information about the causes, management and prevention of the condition(gastroenteritis). An objective was set that, Patient's mother would have adequate information about the causes, management and prevention of the condition within 48hours. The following interventions were put in place: Patient and family were reassured and rapport established with them to foster cordial relationship. Patient's mother knowledge was assessed on the condition to ascertain her residue knowledge to build upon. Patient's mother was informed about ways of preventing the symptoms and some management for the disease to speed up the recovery process. Patient's mother was allowed to ask questions for clarifications on issues about the disease bothering their minds. All questions were answered in simple, plain and clear language without the use of professional jargons to help patient's mother understand. Patient's mother was asked to give feedback on what she heard to evaluate her understanding on the condition. On 15th January, 2023 at 8:55am, the objective was evaluated and the goal was fully met as Patient's mother verbalized, she has basically understood the causes, management, and prevention of the condition (gastroenteritis) and Nurse getting positive feedback on the information given to patient's family.

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

There were no partially met or unmet objectives, hence there was no need for amendment of the care plan.

5.3 Termination of Care

This is the end stage of all the nursing and medical care given to patient to help him recover from her condition. Master K. N's care started on the first day of admission on 12th January, 2023 and ended at him on the third home visit on 28th January, 2023. Patient's mother and father were

informed that our relationship was a therapeutic one and would last for a reasonable period of time. Three home visits were embarked on of which the first visit was on 14th January, 2023 the aim was to verify the data I had already collected, to check if patient's environment contributed to his illness and to give health education on any health issue identified in the house. Education was given on the causes, effects and prevention of gastroenteritis to patient's mother, and his father after the visit. The second visit was done on 21st January, 2023 with the aim of assessing patient and family health status, offer the necessary health education and also remind them about the review date. Education was re-enforced in the areas of health promotion such as ensuring good personal and environmental hygiene and avoid the use of over-the-counter drugs. The last home visit was made on 28th January, 2023. The purpose of this home visit was to see how my patient was faring after review, terminate my nursing care rendered to him and the family and handover to a Community Health Nurse. I went with a Community Health Nurse, Mr. T.A.B. who works at the Mpatasie community Clinic of which I introduced him to my patient's mother and handed patient over for continuity of care. Master K. N's mother was reminded to put into practice all education and also to avoid over the counter drugs and report to the hospital in case of any illness for early intervention. I made her aware that this was my last visit since I needed to report back to school for my academic work. I thanked them for their support and co-operation during the period of care and they also congratulated me. I finally asked permission to leave after she had thanked me for my service and she escorted me to the road side where I picked a car.

CHAPTER SIX
SUMMARY AND CONCLUSION

6.0 Introduction

Summary according to Papandrea (2018) is a comprehensive and usually brief abstract, recapitulation or compendium of previously stated facts or statements. Conclusion is something that you decide when you have thought about all the information connected with the situation.

This is the last step of the patient/family care study which entails the student's personal appreciation of the therapeutic relationship with the patient as well as the use of the nursing process.

6.1 Summary

Master K.N is a 11 months-year-old boy, who was admitted to the pediatrics' ward through the accident and emergency department at the Holy Family Hospital, Berekum on the 12th of January, 2023, at 6:52am with the diagnosis of gastroenteritis. On admission, he presented with fever, passing of loose stool, inability to eat, vomiting, abdominal pain, headache and general body weakness. Patient's mother was educated on gastroenteritis and its management. Patient was also assisted in maintaining his personal hygiene, rest, sleep, nutrition and exercises were also encouraged.

The following laboratory/diagnostic investigations were requested;

1. Blood film for malaria parasites.
2. Blood for full blood count
3. Stool for culture and sensitivity
4. Mid-upper arm circumference

The following were the treatment which was given to the patient:

1.Intravenous Ringers lactate 35mls/1hr x 24hours

2.Tablet Zinc 20mg daily × 10 days

3.Oral Rehydration Salt 100mls after each loose stool

4.Intravenous Paracetamol 85mls × 24 hours

5. Intravenous Gentamycin 4.2mg daily x 24 hours

6. Intravenous Cefuroxime 255mg tid x 24 hours

On the 23rd January, 2023, patient reported for review as scheduled. It was to find out if patient was adhering to the advice and all the education given to improve their health and standard of living. Three home visits were embarked on. The first visit was done whilst patient was still on admission on 14th of January, 2023 to check whether patient home environment predisposes him to his condition. The second home visit was on the 21st of January, 2023 a week after his discharged to see whether patient is adhering to treatment regimen, improvement in health status after discharged, taking the right doses of drugs as prescribed and also to remind patient's mother of their review date. The third home visit was on the 28th of January, 2023 five days after his review to terminate patient and family care and to hand over patient to the public health nurse for follow up care. The care of Master K.N and family was terminated during the third and last home visit I made to my patient house to hand him over to the community nurse when he had fully recovered.

6.2 Conclusion/Recommendation

In conclusion, there is no doubt that a successful patient/family care depends on the cooperation of the patient and family with the nurse and other members of the health team. This care study has help me gain much insight into the management of gastroenteritis and has also broadened my knowledge in rendering comprehensive care to patient and family. I have been able to put the

knowledge acquired in the classroom into practice and has also led to my development of therapeutic relationship between patient and their family and improved my interaction with colleagues and senior staff. Patient and family care study is beneficial to the patient's family in the sense that, a holistic care is rendered to the patient and family on the very first day of admission till he/she is fully recovered. This also gives credit to the hospital as is through this the student was able get accessed to a patient to provide the holistic care. It is therefore my recommendation that, the nursing process concept should be adhered to in all clinical areas to help nurses continue delivering quality and holistic care to patients.

APPENDIX 1.0

TABLE 8.0 Vital Signs check for Master K.N. on Admission till Discharge

Date	Time	Temperature (^{0}C)	SPO2 (%)	Pulse (bpm)	Respiration (cpm)
12/01/23	6:52am	38.6^{0}C	96%	103bpm	28cpm
	10:00am	37.4^{0}C	96%	101bpm	26cpm
	2:00pm	37.1^{0}C	96%	105bpm	26cpm
	6:00pm	36.8^{0}C	97%	103bpm	25cpm
	10:00pm	36.2^{0}C	99%	99bpm	23cpm
13/01/23	6:00am	36.4^{0}C	97%	110bpm	28cpm
	10:00am	36.4^{0}C	98%	107bpm	26cpm
	2:00pm	36.5^{0}C	98%	107bpm	27cpm
	6:00pm	36.4^{0}C	98%	103bpm	25cpm
	10:00pm	36.3^{0}C	98%	101bpm	25cpm
14/01/23	6:00am	36.5^{0}C	98%	100bpm	25cpm
	10:00am	36.6^{0}C	97%	106bpm	23cpm
	2:00pm	36.8^{0}C	99%	104bpm	22cpm
	6:00pm	36.2^{0}C	98%	110bpm	24cpm

	10:00pm	36.5^0C	98%	114bpm	22cpm
15/01/23	6:00am 10:00am	36.2^0C 36.2^0C	98% 99%	110bpm 109bpm	22cpm 24cpm

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