KIBOGORA POLYTECHNIC

FACULTY OF HEALTH SCIENCES

DEPARTMENT OF GENERAL NURSING

EXPLORATION OF THE FACTORS CONTRIBUTING TO DELAY OF WOUND HEALING PROCESS AMONG PATIENT UNDER 15 YEARS OLD WITH SCALD BURN

Case study: KIBOGORA DISTRICT HOSPITAL

Period: January 1st, 2022 to June 6th, 2022

Undergraduate research thesis presented in partial fulfillment of the requirements for the award of Bachelor degree with honor in General Nursing

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Kibogora September 2022

DECLARATION

Declaration by candidates

We **NTIBESHYA Promesse** and **UWAMAHORO Adelphine** hereby declare that this is our own original work and not a duplication of any similar academic work. It has therefore not been previously or concurrently submitted for any other degree, diploma or other qualification to Kibogora Polytechnic or any other institution. All materials cited in this paper which are not our own have been duly acknowledged.

NTIBESHYA Promesse

Signed……..

Date…….

UWAMAHORO Adelphine

Signed……..

Date…….

Declaration by the Supervisor

I declare that this work has been submitted for examination with my approval as KP Supervisor

Supervisor's name: **NGIRINSHUTI Védaste**

Signed……..

Date……..

ABSTRACT

According to WHO, burns are a global public health problem, accounting for an estimated 180 000 deaths annually. The majority of these occur in low- and middle-income countries and almost two thirds occur in African and South-East Asia regions.

Purpose of the study is to explore the factor contributing in wound healing process among children under 15 years old with scald burn in KIBOGORA DH. Quantitative research method has been used, with convenient cross-sectional design.

we have found that healthcare-related factors and patient-related factors are still low. The study shows that 79.1% of gap in healthcare-related factor in contributing wound healing process among children under 15 years old with scald burn at KIBOGORA DH. And the study show that patient-related factor has a gap of 61.3% that needed to be completed for improving wound healing process in children under 15 years old with scald burn in KIBOGORA DH.

Better to understand the factor contributing in wound healing process among children under 15years old with scald burn. This will help us as healthcare provider what is needed, what is missing in the management of scald burn specifically in children with scald burn.

DEDICATION

NTIBESHYA Promesse

This thesis is dedicated to:

To God Almighty for his love and blessings

My lovely wife ISHIMWE Joyeuse and our lovely son

My parents, my lovely brothers and sisters, all my classmate and friends

All patients with scald burn and health care providers

UWAMAHORO Adelphine

To God the Almighty for His love and blessings

To my Beloved husband MUGENZI Isaïe

To my Beloved Parents, Brother and Sisters,

To my Friends and Relatives,

To my supervisors,

All patients with scald burn and health care providers

ACKNOWLEDGMENT

We thank almighty God for giving us the courage and the guidance in our study, in conducting this research, despite all difficulties.

We thank fully the Government of Rwanda through the Ministry of Health and Ministry of Education.

We give thanks to our school, **KIBOGORA POLYTECHNIC**, Administration, all Lectures of Nursing and Midwifery for knowledge and their skills which are major tools guide us and achieve our objectives.

We thank **KIBOGORA District Hospital** administration and all staff for guidance and help us to fulfill our objectives.

Finally, we thank all those who assisted, encouraged and supported us during research, be assured that the lord will bless you all for the contribution you made.

LIST OF ABBREVIATION AND ACRONYMS

DH: District Hospital

HIV/AIDS: Human Immunodeficiency Virus/ Acquired Immunodeficiency Syndrome

KP: KIBOGORA Polytechnic

MODS: Multiple Organ Dysfunction Syndromes

NSAIDs: Nonsteroidal Anti-Inflammatory Drugs

TBSA: Total Body Surface Area

WHO: World Health Organization

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CHAPTER I: GENERAL INTRODUCTION

1.0 INTRODUCTION

In this chapter, is all about scald burn background. How is the burn worldwide, how being it severe, worldwide, in the Africa, and see in Rwanda. After looking the situation of burn in KIBOGORA DH, the general objective of research, specific objectives, that the research needs to attain. The general question of the research, with specific questions of this research that helped to develop the research about scald burn in children under 15 years old in KIBOGORA hospital.

1.1 BACKGROUND OF THE STUDY

When looking burn worldwide, is a serious problem, if not treated well lead to more complication even death. (who, 2018)

Burns are a global public health problem, accounting for an estimated 180 000 deaths annually. The majority of these occur in low- and middle-income countries and almost two thirds occur in African and South-East Asia regions. (who, 2018).

According to WHO, burn cause more deaths. According to WHO, they estimate 180 000 deaths annually caused by burns, when looking the data collected during this year of 2018, (who, 2018) different country, there is more deaths, with others permanent complications.

In India, over 1 000 000 people are moderately or severely burnt every year (who, 2018) Nearly 173 000 Bangladeshi children are moderately or severely burnt every year (who, 2018). In Bangladesh, Colombia, Egypt and Pakistan, 17% of children with burns have a temporary disability and 18% have a permanent disability (who, 2018). Burns are the second most common injury in rural Nepal, accounting for 5% of disabilities. In 2008, over 410 000 burn injuries occurred in the United States of America, with approximately 40 000 requiring hospitalizations (who, 2018).

when looking in Rwanda, we have a high rate of burn. Based on, **HP. MUGEMANA,** he conducted a research of burn admitted in CHUK, he found these:" The total number of children with burn injury admitted was 72. Males predominate with 63.9% of all cases. Three-quarters

(77.8%) were aged 3 years and younger. Scalds were by far the commonest type of burn occurring in 93% of the patients (Mugemana, March 2017).. Partial thickness burns accounted for 91.7% of cases. The average length of hospital stay was 20.9 days and the mortality rate 16.7%. Total Body Surface Area (TBSA) burned greater than 25% and full thickness burns were associated with mortality". (Mugemana, March 2017)

1.2 PROBLEM STATEMENT

Worldwide, burn is one the most cause of death in children under 15 years. Actually, scald burn if the treatment is provided correctly, the child's wound heals quickly. In KIBOGORA district hospital children under 15 years comes with burn, many children pass in the hospital long period than expected. Sometimes, you found that children can pass in the hospitals more than 4 months. when you look after healing, you see that the children have the complication like, big scar, psychological pain. According to WHO, burn cause more deaths. According to WHO, they estimate 180 000 deaths annually caused by burns, when looking the data collected during this year of 2018, (who, 2018) different country, there is more deaths, with others permanent complications.

This long hospitalization comes from poor wound healing. Children sometimes urinate in the dressing because of not having Foley catheter size for them, (pediatric catheter). Not having trained team which will caring specifically to those scald burn children. This is also coming from poor environment that the children are. They are mixed with other patients. They develop infection in the wound. Because of scald burn is painful, their dressing requires anesthesia. Sometimes they miss dressing, because of no available anesthetist or anesthesiologist to give anesthesia. This leads to child miss dressing like 3 to 4 days without dressing. Also, the iv line of children is somehow complicated. The team can sometime not find the iv line, which will facilitate to give fluids, and the child will develop hypovolemia. When assessing the hygiene of the children, you see that is poor. Children are in the dirty bed sheet. When you try to talk with the caregiver, or the family, they told you that, this child's burn will lead to poverty, long hospitalization, and impairment of daily activities of the family. Sometimes, the children delay to start school primary because of delaying healing.

1.3 OBJECTIVES OF THE STUDY

1.3.1 General objective

To found out factors contributing wound healing process among patient under 15 years old with scald burn in KIBOGORA DH.

1.3.2 Specific objectives

1. Assess the patient-related factors associated with delay wound healing among children under 15 years old with scald burn in KIBOGORA hospital
2. To describe family-related practice members associated to delay wound healing among children under 15 years old with scald burn in KIBOGORA hospital
3. Assess the healthcare-related factors associated to delay wound healing among children under 15 years old with scald burn in KIBOGORA hospital

1.4 RESEARCH QUESTIONS

1. What are patients-related factors associated with delay wound healing in children under 15 years old with scald burn in KIBOGORA District Hospital?
2. What are practices of family members associated to delay wound healing among children under 15 years old in KIBOGORA district hospital?
3. What is health's-related factors associated to delay wound healing among children under 15 years old with scald burn in KIBOGORA hospital?

1.6 SIGNIFICANCE OF THE STUDY

1.6.1 To academic

It will help learners how serious scalds burn is bad specifically to the children. What measures should be taken as learners in management of scalds burn.

1.6.2 To Kibogora Hospital

The findings of this research will help the healthcare provider to improve the care to the scald burn patients. It will help the healthcare provider what is on wrongly and try to correct them. To strength the team in order to provide better care to the patient.

1.6.3 To scalds burn patients

Findings from this study will help in delivering appropriate care to the scalds burn patient specifically children.

1.6.4 Significance to the researchers

This study will help researchers to find out factors contributing to delay of wound healing process among patient under 15 years old with scald burn at Kibogora District Hospital. On the other hand, after evaluating and validating this research, the researchers will be awarded with a Bachelor's degree from Kibogora Polytechnic.

1.7 SCOPE OF STUDY

This research will be carried out with scope in three dimensions namely

1.7.1 Scope of study in time

The research is limited to 6 months period ranging from January,2022 to June 2022

1.7.2 Scope of study in Field

As field, this study will emphasize in post-surgery with factors associated with delays burn wound healing in children under 15 years old.

1.7.1 Scope of study in space

The research will be carried out in KIBOGORA District Hospital, KANJONGO sector, NYAMASHEKE District, Western Province of Rwanda.

1.8 LIMITATION OF THE STUDY

As the respondents of this study were kids, in order to get information, the most challenge was to miss the caregiver, and that made the researchers to wait them till they are back. In addition to

miss the healthcare providers due to various factors and this impacted the data collection process which has been long differently to the plan.

CHAPTER TWO: LITERATURE REVIEW

2.0 INTRODUCTION

This chapter concerns of literature review of factors contributing to delay wound healing process among patient under 15 years old with scald burn in Kibogora district hospital. It is all about the literature review.

2.1. SCALD BURN

A boiling water burn is sometimes called a scald. It can also result from contact with steam.

The right care for a boiling water burn can ease the pain and reduce the risk of serious complications.

2.2 CAUSES

Accident involving boiling water commonly cause burns while cooking

Accidents involving boiling water occur frequently. Some common causes of boiling water burns include:

i. spilling boiling water while pouring tea or porridge
ii. forgetting that a kettle or pot contains boiling water
iii. playing near stoves or hot water

Boiling water typically causes more severe burns than water that is just hot.

Beyond the water's temperature, several factors can help indicate the severity of a burn, including:

i. how long the boiling water has touched the skin
ii. how much of the skin has been exposed to the water?
iii. how quickly the person can cool their skin after the burn (Villines, 2020)

2.3 PATHOPHYSIOLOGY CHANGE BEHIND BURNS

The pathophysiology of the burn wound is characterized by an inflammatory reaction leading to rapid oedema formation, due to increased microvascular permeability, vasodilation and increased extravascular osmotic activity. (Gynaecol, 1980)

These reactions are due to the direct heat effect on the microvasculature and to chemical mediators of inflammation. The earliest stage of vasodilatation and increased venous permeability is commonly due to histamine release. (Gynaecol, 1980)

Damage to the cell membranes partly caused by oxygen-free radicals released from polymorphonuclear leucocytes would activate the enzymes catalyzing the hydrolysis of prostaglandin precursor (arachidonic acid) with rapid formation of prostaglandin as the result. Prostaglandins inhibit the release of norepinephrine and may thus be of importance in modulating the adrenergic nervous system which is activated in response to thermal injury.

Furthermore, changes of the interstitial tissue after burn trauma are of great importance. The continuous loss of fluid from the blood circulation within the thermally damaged tissue causes increased hematocrit levels and a rapid fall in plasma volume, with decreased cardiac output and hypoperfusion on the cellular level. If the fluids are not adequately restored burn shock develops. Furthermore, the burn wound provides a vast area of entry of surface infection with a high risk of septic shock. (Gynaecol, 1980)

Four main principles are of utmost importance in the current management of patients with severe thermal injury, namely early wound closure, prevention of septic complications, adequate nutrition and control of the external environment. (Gynaecol, 1980)

The linked between burn and septic shock

Septic shock is highly come in patient with scald burn. When looking on the leading, they said the link between scalds and septic. Burn patients have lost the primary barrier to infectious invasion, their skin. In addition, patients with extensive burns develop a profound hypermetabolic response that persists for months. They are at risk for sepsis and MODS at least as long as the wounds remain open. (Greenhalgh, 2017)

Types of burn according to affected area

There are four main types of burn, which tend to have a different appearance and different symptoms:

i. superficial epidermal burn, where the epidermis is damaged; your skin will be red, slightly swollen and painful, but not blistered
ii. superficial dermal burn, where the epidermis and part of the dermis are damaged; your skin will be pale pink and painful, and there may be small blisters
iii. deep dermal or partial thickness burn, where the epidermis and the dermis are damaged: this type of burn makes your skin turn red and blotchy; your skin may be dry or moist, and become swollen and blistered, and it may be very painful or painless
iv. full thickness burn, where all three layers of skin (the epidermis, dermis and subcutis) are damaged; the skin is often burnt away and the tissue underneath may appear pale or blackened, while the remaining skin will be dry and white, brown or black with no blisters, and the texture of the skin may also be leathery or waxy. (nhs, 2022)

2.4 SYMPTOMS

For many people, the first symptom of a boiling water burn is sudden, sharp pain. However, third degree burns, or full-thickness burns, damage the nerves under the skin and might not hurt at all.

First-degree burn

A first-degree burn, or a superficial burn, is relatively minor. It only damages part of the first layer of skin, called the epidermis.

A superficial burn happens when boiled water lightly splashes on a person, such as while they are cooking, or when boiling water touches the skin very briefly.

Symptoms of a first-degree burn include:

i. immediate pain that may last for several hours
ii. pink or red skin
iii. peeling as the burn heals

iv. dry-looking skin

Second-degree burn

A second-degree burn damages the epidermis and the top of the second layer of skin, called the dermis. Another name for this injury is a partial-thickness burn. These burns are more serious.

They may happen when boiling water remains on the skin for a longer period.

Some symptoms of a second-degree burn include:

i. pain that lasts for days or weeks
ii. wet, watery-looking skin
iii. blisters
iv. red, pink, or white skin under blisters

These burns typically take 2–3 weeks to heal. Sometimes a person needs a skin graft to treat them. Second-degree burns often leave a scar, which may fade over several years.

Third-degree burn

A third-degree burn, or full-thickness burn, is the most serious type. It penetrates all layers of the skin.

It can cause serious infections and may even be fatal if a person does not receive treatment. Immersion in boiling water for a prolonged period can cause a third-degree burn.

Some symptoms include:

i. no pain, or pain that quickly goes away
ii. signs of illness, such as fever and weakness
iii. very damaged-looking skin
iv. white, pink, or red skin
v. grey or black areas of skin

Third-degree burns may require hospitalization. A person may need skin grafting, surgery, antibiotics, or a combination (Villines, 2020).

2.5 MANAGEMENT OF SCALD BURNS

For the management of scalds burn, it is better to look on background of the patient. This guide you as healthcare provider to know exactly the patient you have and the state is in. after you assess the patient following every steps. This will guide you to know what first is needed how you will go systematically. (Melbourne, 2020)

Background

Specific features in children with burns

i. Children have thinner skin than adults, predisposing them to a deeper burn for any given temperature
ii. Assessment of burn depth is difficult, especially early post injury
iii. Young children are at risk of hypothermia, especially during initial cooling of the burn

Burns are described as epidermal, dermal (superficial/mid/deep) and full thickness. (Melbourne, 2020)

Assessment

History of burn

i. Time of injury
ii. Mechanism of injury, including circumstance for specific pattern of burn
    1. Scald: estimated temperature and nature of the liquid
    2. Contact: estimated temperature and nature of the surface
    3. Friction
iii. First aid
    1. Time started (was it within 3 hours and maintained)
    2. Agents used
    3. If clothes and jewelers were removed
    4. Decontamination method (for chemical exposure)
iv. Consider co-existing non-burn injuries
v. Consider non-accidental injury or vulnerable child

vi. Tetanus status

Examination and initial management

Like all traumas pediatric burn assessments require a primary and secondary survey with the initial aim of identifying and managing immediate life threats: do not get distracted by the burn injury. (Melbourne, 2020)

Airway

i. Signs of airway burn: stridor, hoarseness, respiratory distress, singed nasal hairs or facial swelling
ii. Sign of oropharyngeal burn: soot in mouth, erythema
iii. Significant neck burn
iv. If above present, consider early intubation
v. Protect the cervical spine with immobilization if there is associated trauma

Breathing

Full thickness and/or circumferential chest burns may require escharotomy to permit chest expansion. (Melbourne, 2020)

Circulation

i. If early shock is present, consider causes other than the burn
ii. IV fluid resuscitation as required
iii. IV or IO access (preferably 2 points of access)
iv. For circumferential burns check peripheral perfusion and need for escharotomy

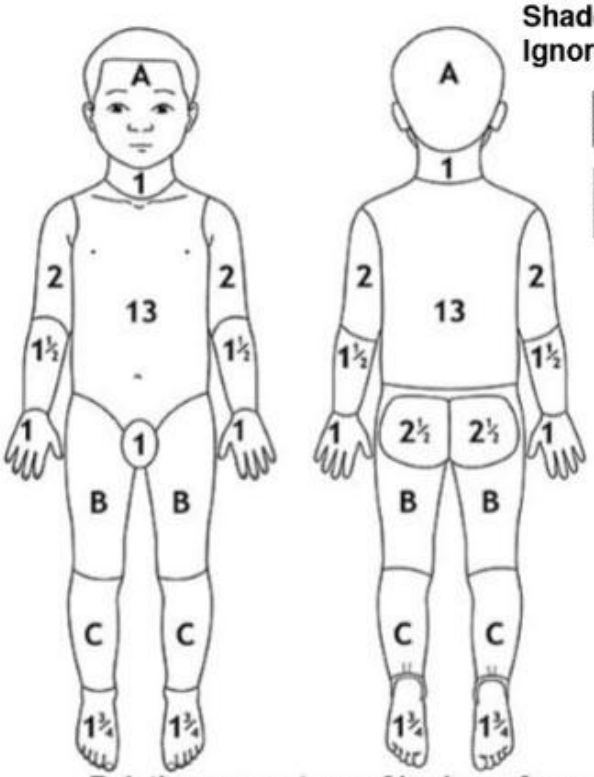
Disability

i. If altered conscious state, consider airway support
ii. Assess neurovascular status if limb involved. (Melbourne, 2020)

Assessment of TBSA

i. Expose whole body - remove clothing and log roll to visualize posterior surfaces
ii. Use Lund & Browder Chart

Assess the extent and depth of the burn



Shade area – indicating depth
Ignore simple erythema

Superficial partial thickness
(brisk cap refill, painful, blisters, moist)

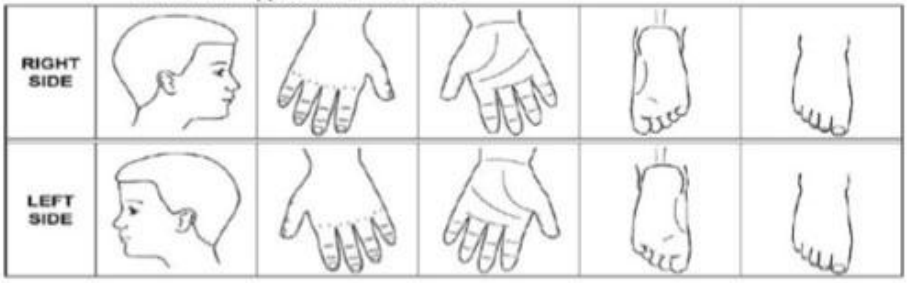
Deep partial or full thickness
(reduced cap refill, loss sensation, pale, mottled, dark, dry)

REGION	%
Head	
Neck	
Anterior Trunk	
Posterior Trunk	
Right Arm	
Left Arm	
Buttocks	
Genitalia	
Right Leg	
Left Leg	
Total Burn	

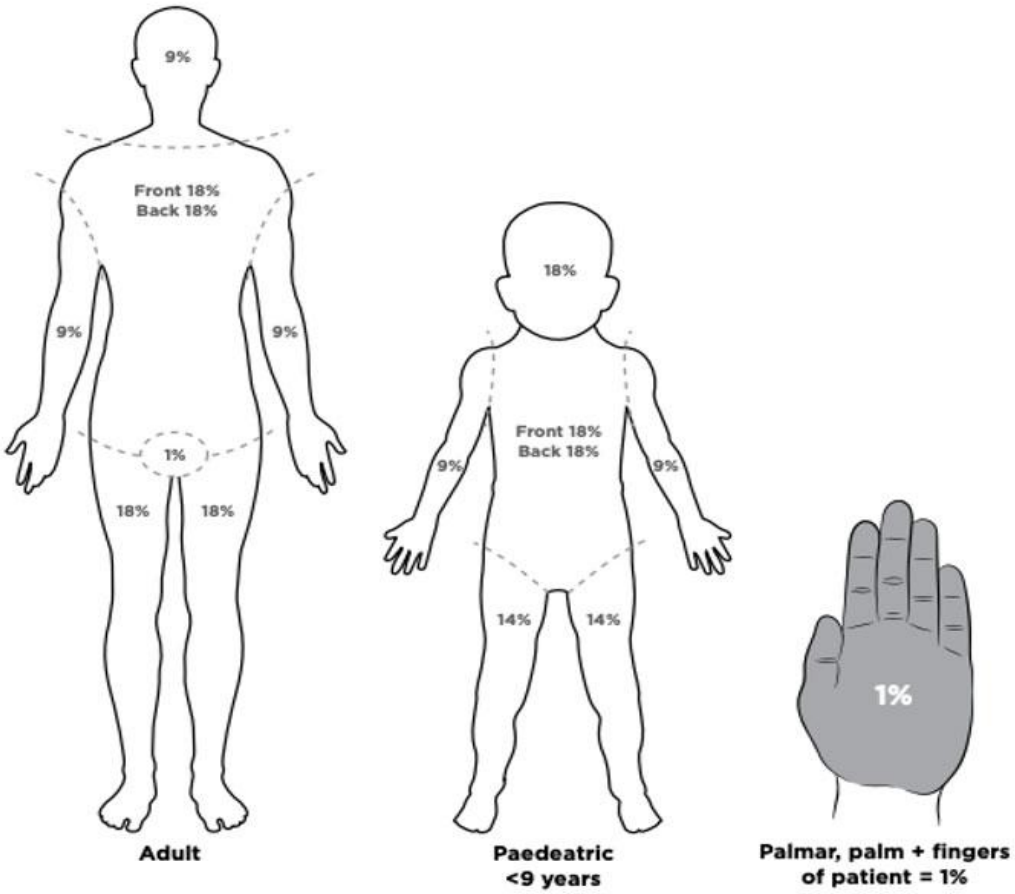
Relative percentage of body surface area affected by growth.

Age (years)	0	1	5	10	15	Adult
A ½ of head	9½	8½	6½	5½	4½	3½
B ½ of one thigh	2¾	3¼	4	4½	4½	4¾
C ½ of one leg	2½	2½	2¾	3	3¼	3½

Small burns - Palm of hand (including fingers together) approximates 1% of body surface area. Palm alone approximates 0.5% BSA.



i. The palmar surface of the child's hand (including fingers) represents approximately 1% TBSA and can be used to approximate TBSA



First aid

i. **Remove** jewelers and clothing in contact with burn source

ii. **Cool** affected area as soon as possible (within 3 hours from time of burn) for 20 minutes with cool running water. If unavailable, other options include: frequently changed cold water compresses, immersion in a basin, irrigation via an open giving set

iii. Prevent hypothermia

1. Remove wet clothes/dressings after initial cooling
2. Try to keep child otherwise warm
3. Cover the wound and the child after assessment
4. When possible, warm intravenous fluids and the room

- ✓ **Fluid management in burns ≥10% TBSA**

The Modified Parkland Formula provides a guide to **resuscitation** fluids to compensate for excess fluid losses in the first 24 hours after burn

Calculate requirements from time of the burn, not time of presentation

Calculate **resuscitation** fluid requirements using Modified Parkland Formula

Hartmann's Solution is the fluid of choice - if unavailable, use 0.9% sodium chloride

Insert urinary catheter for strict fluid balance

Keep nil by mouth and consider nasogastric tube - gastric ileus is a potential complication

Prescribe intravenous **maintenance** fluids until tolerating adequate oral/enteral intake. (Melbourne, 2020)

Analgesia

- ✓ Especially during cooling, dressing and mobilization.
- ✓ Appropriate initial choices include intranasal fentanyl or IV morphine

Initial investigations, Hemoglobin, Electrolytes**,** Blood group**.**

Burn wound management

FACADE = **F**irst aid, **A**nalgesia, **C**lean, **A**ssess, **D**ress, **E**levate. (Melbourne, 2020)

General burn management

i. Limit debridement to wiping away clearly loose/blistered skin
ii. De-roof blisters with moist gauze or forceps and scissors if >5mm or crossing joints.
iii. Clean burn wound and surrounding surface with saline or water
iv. Reassess burn, take photos with appropriate consent
v. Apply appropriate occlusive non-adherent dressing. If these products are not available, refer to local Burns service for alternative options
vi. If there is anticipated delay or time until definitive care. (Melbourne, 2020)

2.6 Patient-related factors associated with delay scald wound healing among children under 15 years old with scald burn

When talking about factors that affect wound healing, the patient is the one that comes first. Specifically in children, we have to consider the patient. When we want that wound heals, we have to look on the patient. To assess some criteria that need to be assess on the patient there

1. Nutrition
2. Immunity
3. Hygiene

1. Nutrition

Nutrition plays an essential role in wound healing and care, and nutritional support needs to be considered a fundamental part of wound management. Poor nutrition before or during the healing process can delay healing and impair wound strength, making the wound more prone to breakdown. (eatwellnutrition)

Eating Healthy After a Burn Injury

Eating a healthy diet is important all of the time but especially after a burn injury. When healing from a burn injury, maintaining proper nutrition is crucial because a well-balanced diet can reduce the loss of lean body mass, stored energy, and protein. Without a proper diet, the healing process can slow, you may lose too much weight, and suppress your immune system. (phoenix-society.org, 2019)

A burn injury increases the need to eat a healthy and nutritious diet because, after a burn injury, your body needs additional support to recover. healing from a burn injury requires more calories and protein than any other type of injury. Eating a proper diet can help wounds heal faster, maintain muscle mass, support the immune system, and minimize weight loss/gain (phoenix-society.org, 2019). Every burn injury is different, and larger burns will require more nutrients to heal. Furthermore, nutrition needs are based on height, weight, and age. Speaking with a medical team, dietitian and/or nutritionist will help determine a healthy diet plan perfect for you. Vitamins and minerals are also necessary factors of any well-balanced diet because they assist

with healing and preventing infection. For example, Vitamin C helps heal burns, reduce the body's stress, and treats some infections (phoenix-society.org, 2019)

In addition, Ongoing nutritional assessment is necessary because the visual appearance of the patient or the wound is not a reliable indicator of whether the patient is receiving the proper amount of nutrients. Albumin and prealbumin levels, total lymphocyte count, and transferrin levels are markers for malnutrition and must be assessed and monitored regularly, as protein is needed for cell growth. (Thomas Hess, 2011)

2. **Hygiene**

Children's hygiene count on wound healing. Good hygiene as patient self, environmental surround the patient is counting in wound healing.

According to Tyler Szelinski, he says that good hygiene, reduce the risk of contracting fungal infection. Maintaining good hygiene and bathing daily is a good way to reduce the risk of contracting most fungal infections. It's especially important to maintain clean skin and hygiene if you have an open wound. Wounds are vulnerable to infection if proper sanitation and hygiene measures aren't observed. If a wound becomes infected, it can take much longer for the healing process to culminate and the risk for hypertrophic and keloid scars increases. You can prevent wound infection by gently washing your wound with soap and running water. After the wound is cleaned, it should be patted dry and covered with an antibacterial ointment and bandage. Some wounds will always lead to scarring, but if you take follow proper wound cleaning techniques, you will have a much more seamless wound healing experience. Given what we know about germs and illness today, proper hygiene should be an aspect of daily life for everyone who has access to soap and water. Not only is good hygiene good for our own well-being, it's for the well-being of others around you. (Szelinski, 2021)

3. **Immunity**

Patients who are immunocompromised present a unique and difficult challenge when considering wound care and healing. These patients may include children, older adults, organ transplant recipients, patients with cancer, those with diabetes mellitus, or those with

HIV/AIDS. Immunocompromised patients are at increased risk of hypothermia, infection, and otherwise poorly healing or recurrent wounds. (woundsource, 2022)

Challenges of Wound Healing in Immunocompromised Patients

A healthy immune system consists of the innate and adaptive immune systems, each employing different cell types. The innate immune system includes neutrophils, macrophages, dendritic cells, complement proteins, and natural killer cells. The adaptive immune system includes B and T cells.

The considerations that need to be made for wound care in various immunocompromised patient populations (woundsource, 2022)

Challenges Presented by Specific Immunocompromised Patient Populations

Population	**Challenge**
Children	✓ Thin skin than adult, ✓ increasing risk for hypertrophic scarring, alopecia and contractures ✓ reduced ability to thermoregulate in neonatal period ✓ immature immune system that increases risk of infection
Cancer	✓ Poor nutrition ✓ Decreased deoxygenation after radiotherapy ✓ Decreased population of macrophage and fibroblasts with chemotherapy
Diabetes mellitus	✓ Upregulation of inflammation without proliferation ✓ Microvascular changes that affect drug delivery and access of immune cells to the wound bed
HIV/AIDS	✓ Increased like hood of infection ✓ Impaired production and effectiveness of CD4 T cell.

(woundsource, 2022)

2.7 Family-related factors associated with delay scald wound healing in children under 15 years

After burn, family have some culture of putting different product on the wound. this causes infections or delays wound healing of burns. The literature review, says different about product that used after burn at home.

According to Jacquelyn Cafasso, she outlined some family acts that performed at home after burns.

Bizarre home remedies and old wives' tales for treating burns are widespread, but not everything your grandma tells you to do is good for you. The following common home burn remedies should be avoided: (Cafasso, 2017)

Butter

Don't use butter on a burn. There's little to no evidence supporting the effectiveness of butter as a burn remedy. On top of that, it may actually make your burn worse. Butter retains heat and also may be harboring harmful bacteria that can infect the burned skin. Save your butter for your bread. (Cafasso, 2017)

Oils

Contrary to popular belief, coconut oil doesn't heal everything. For the same reason why, you shouldn't apply butter to your burns, oils, such as coconut oil, olive oil, and cooking oils, hold heat in and can even cause the skin to continue to burn. (Cafasso, 2017)

Egg whites

Another folktale, uncooked egg whites carry a risk of bacterial infection and shouldn't be placed on a burn. Eggs can also cause an allergic reaction. (Cafasso, 2017)

Toothpaste

Never apply toothpaste to a burn. This is another folktale with no evidence to back it up. Toothpaste could irritate the burn and create a more favorable environment for infection. Plus, it isn't sterile. (Cafasso, 2017)

Ice

Ice and very cold water can actually irritate your burn area more. Ice may even cause a cold burn if used improperly. (Cafasso, 2017)

2.8 Health-related factors associated to delay scald wound healing among children under 15 years

A. Dressing of the wound

Wound dressing is one of the keys help the wound heals well and quickly when is done correctly.

The role of a wound dressing is to provide the optimum conditions for wound healing, whilst protecting the wound from further trauma and invasion by pathogenic microorganisms. It is also important that the dressings can be removed without trauma, so as to prevent further damage to the wound surface during dressing changes (T.R. Hayes, 2011).

Dressing of the burn wound key points to look

i. Treat pain before doing anything to the burn wound. The best analgesics for severe pain are usually IV opioids in titrated doses, such as fentanyl 1 mcg/kg, or morphine 0.1 mg/kg. For minor burns, nonsteroidal anti-inflammatory drugs (NSAIDs) and acetaminophen also may be effective.
ii. Remove all clothing and gross debris from the burned area. Remove any jewelry from the burn and distally, such as rings.
iii. Cover the burn with a moist, sterile dressing soaked in room temperature water or saline. The dressing should be kept cool and moist to provide continued pain relief.
iv. Give tetanus toxoid-containing vaccine depending on patient's vaccination history. (Matthew J. Streitz, 2020)

B. Exercises

A burn injury causes stress to your body. Your heart and lungs may not work as well as before. Your muscles and bones may not be as strong. Remember that muscles get weak or smaller when they are not used being on bed rest probably caused you to lose some muscle. For each day of

bed rest people can lose 1% of their muscle mass. Also, as your burns heal you may notice that your skin feels tighter. You may not be able to move your joints as far and as freely as before. This tightness and lack of movement may make it harder to take care of your everyday activities like bathing, dressing, and eating. (msktc, 2021)

Exercises in treating of burn is necessary, it help in recovery of burn wounds. The sooner you begin everyday activity, the better. Sitting up, getting out of bed, and walking will help you get out of the hospital sooner. Being active or exercising may:

i. Help your breathing
ii. Improve your heart function
iii. Help your body to fight infections, like pneumonia
iv. Improve your flexibility and ability to move
v. Lower your risk of developing scars or contractures that limit your ability to move
vi. Make it easier to take care of your everyday activities
vii. Give you a sense of well-being (msktc, 2021)

Aerobic activities make your heart beat faster and can make your heart, lungs, and blood vessels stronger and more fit.

Walking is an easy way to get aerobic exercise.

i. Walk outside or on a treadmill inside.
ii. Start slow.
iii. Increase the time you walk by about 1 minute per day.
iv. Build up to walking 30 minutes to 1 hour three times a week.
v. You should feel as if you are working, but you should not be so short of breath that you can’t talk.

Recreational activities: Playing sports, gardening, and dancing are good recreational activities that can help you build strength and endurance. Children will benefit from playing games that require movement or simulated activities using video gaming technology. (msktc, 2021)

C. Burn team

Multidisciplinary team is needed in treating of burn. Specifically burn team is needed in management of burn and good recovery of burn. If a case of burn is admitted, burn team has to acts quickly to respond on the cases presented for better management.

To complete a burns dressing change in a safe and time efficient manner which minimizes patient and family distress, staffing requirements must be considered.

i. Simple analgesia: 1-2 nursing staff of which 1 is experienced in burns dressing changes.
ii. Oral sedation agents: 2-3 nursing staff of which 1 monitors the patient, 1 is experienced in burns dressing and 1 staff member assists.
iii. Nitrous Oxide: 2-4 nursing staff of which 1 is accredited in nitrous oxide administration, 1 is experienced in burns dressing and 1-2 staff members assists
iv. IV agents: An Anesthetist and Anesthetic technician are required; 2-3 nursing staff of which 1 is experienced in burns dressing and 1-2 nursing staff members to assist. (Kate Glassford, 2022)

All roles must be designated prior to commencement of dressing change and the patient should remain in line of sight to staff at all times.

Prior to the procedure a team leader should be allocated. Other team member's roles/responsibilities i.e. Dressings nurse, in charge of sedation, observations nurse, hygiene nurses should also be communicated.
An ISBAR handover should also occur; identifying patient name, age, weight, allergies, procedure, any pre procedure medication and staff roles. (Kate Glassford, 2022)

Preparation of environment and equipment

For children who have larger %TBSA burn injuries (>10%) consider using a treatment area where heaters can be utilized to minimize the risk of hypothermia. These heaters should be turned on prior to the dressing change commencing. (i.e., Platypus Burns Bathroom, Theatre).

Adequate preparation of the environment should be completed prior to the child being taken into the treatment room/bathroom.

Consider the need to organize:

i. Physiotherapy/Occupational therapy – to review patient mobility and splinting requirements.
ii. Medical team – to review burn injury and wound healing. (Kate Glassford, 2022)

For the Stanford healthcare, because of burn affect different system, it needs multidisciplinary team to work together for better recovery of the patient.

Because so many functions and systems of the body can be affected by severe burns, the need for rehabilitation becomes even more crucial. Burn patients need the highly specialized services of medical specialists who work together on a multidisciplinary team. (stanfordhealthcare, 2022)

The burn rehabilitation program

Burn rehabilitation begins during the acute treatment phase and may last days to months to years, depending on the extent of the burn. Rehabilitation is designed to meet each patient's specific needs; therefore, each program is different. The goals of a burn rehabilitation program include helping the patient return to the highest level of function and independence possible, while improving the overall quality of life - physically, emotionally, and socially. (stanfordhealthcare, 2022)

In order to help reach these goals, burn rehabilitation programs may include the following:

i. Complex wound care
ii. Pain management
iii. Physical therapy for positioning, splinting, and exercise
iv. Occupational therapy for assistance with activities of daily living (ADLs)
v. Cosmetic reconstruction and skin grafting
vi. Counseling to deal with common emotional responses during convalescence, such as depression, grieving, anxiety, guilt, and insomnia
vii. Patient and family education and counseling
viii. Nutritional counseling (stanfordhealthcare, 2022)

CHAPTER 3. RESEARCH METHODOROGY

3.0. INTRODUCTION

This chapter presents the methodology that was used in carrying out the research project. So, this chapter is composed of research approaches and design, target population, sampling procedures, sample size, Data collection process.

3.1. RESEARCH APPROACH

The research approach in this study was conducting by using quantitative method to identify factors contributing to delay wound healing process, and also to know how do nurse practices in promotion of wound healing.

3.2 RESEARCH DESIGN

Research design is the framework of research methods and techniques chosen by a researcher to conduct a study (questionpro, 2022).

The study design was a descriptive cross-sectional study design exploring factor contributing to delay wound healing among patient under 15 years old with scald burn at KIBOGORADH.

3.3 TARGET POPULATION

All child with scald burns under 15 years old who received care at KIBOGORA DH, and nurses working in surgical ward at KIBOGORA DH.

3.4 SAMPLING PROCEDURE

To obtain a representative sample, a convenience sampling technic method was used to get study participants from the study population because it is easy and simple during pilot study and research, the data collection can be done in short period of the time and it is not expensive.

However, all children who fulfill the inclusion criteria and offer informed consent will been recruited and enrolled into the study.

3.5 SAMPLE SIZE

Yamane sample size formula (uniprojectmaterials, 2016) is the number of individuals selected from a population for a study, in such way that they represent the larger group from which they were selected.

Sample size is equal

$$n = \frac{\mathrm{N}}{1 + Ne^2}$$

With **n** as sample size

N population number

e as margin error

$$n = \frac{100}{1 + (100 * 0.05^2)}$$

n=80

with N of 100

margin error of 5%

In this study, the sample size has been calculated by taking all the child with scald burn who attended the surgery department at KIBOGORA DH.

3.6 RESEARCH INSTRUMENT FOR DATA COLLECTION

A questionnaire is a list of questions or items used to gather data from respondents about their attitudes, experiences, or opinions (Bhandari, 2021).To collect data in this research, questionnaire has been used as tools of data collection.

3.7 DATA COLLECTION PROCEDURE

To collect data for this study, we as researchers had been explained the purpose of the study and how the questionnaire will be completed. Signed informed consent forms for those who agree to participate in the study will be obtained, then, questionnaires had been distributed to the respondents. Respondents can be patients, caregiver and healthcare provider. If some are not able

to read, they can ask for help just in case. Data collection was taken 3 days a week for a period of 4weeks.

3.8 ETHICAL CONSIDERATIONS

In process of collection of data, first KP as our institution had given us a letter that authorized us to go in KIBOGORA DH. We submit at KIBOGORA DH administration. The administration of KIBOGORA DH, had given a signed letter that authorized us to go in the service to collected data. During data collection, we have explained the process of what we are in wondering to get, the benefit of the research. After explanation, we got a signed consent from caregiver or to the patient before data collection.

3.9 DATA ANALYSIS

After collection of data, we had to analyze them for better interpretation. In analyzing our data, we will use SPSS software, to get better interpretation. We did edit of the data, coding of the data, classification of the data and tabulation of the result.

3.10 RELIABILITY AND VALIDITY MEASURES

Validity is defined as the extent to which a concept is accurately measured in a quantitative study. For example, a survey designed to explore depression but which actually measures anxiety would not be considered valid.

Reliability, or the accuracy of an instrument. In other words, the extent to which a research instrument consistently has the same results if it is used in the same situation on repeated occasions. (Heale, May 2015)

CHAPTER IV: DATA PRESENSTATION, INTERPRETATION AND DISCUSSION

4.0 INTRODUCTION

After collection of data, by using questionnaires the researchers have collected data surgery ward of KIBOGORA District hospital. We have collected data 80 respondents, in different period. During my data analysis, I have used SPSS software to analyze the data. There will be pie charts and graphic, to analysis them.

4.1 DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS

4.1.1 Classification of respondents by gender

Table 1:Gender of respondents

Sex		Frequency	Percent	Valid Percent	Cumulative Percent
	Males	42	60.0	60.0	60.0
Valid	Females	28	40.0	40.0	100.0
	Total	**70**	**100.0**	**100.0**	

Source. Primary data, August 2022

During the data collection, In70 responding, males were at high percentage the rate of 60% and female to 40%. this shows that there is a high number of males.

4.1.2 Classification of respondents by age

Table 2: Age of respondents

Age in years		Frequency	Percent	Valid Percent	Cumulative Percent
	<1	7	10.0	10.0	10.0
	2-5	32	45.7	45.7	55.7
Valid	6-10	23	32.9	32.9	88.6
	11-15	8	11.4	11.4	100.0
	Total	**70**	**100.0**	**100.0**	

Source. Primary data, August 2022

Regarding to the age, we had classified in range for better data collection. First classification, is below one year, the respond in this range was 7 which correspond to 10%, the second range is between 1 year to 5 years, the respond was 32 which correspond to 45.7%, the third range is 5 years to 10 years, the respond was 23 which correspond to 32.9%, and the final range is 10 years to 15 years were 8 which correspond to 11.4%.

4.1.3 Classification of respondents by education level

Table 3:Education level of respondents

Education levels		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	None	34	48.6	48.6	48.6
	Nursery	6	8.6	8.6	57.1
	Primary	29	41.4	41.4	98.6
	Secondary	1	1.4	1.4	100.0
	Total	**70**	**100.0**	**100.0**	

Source. Primary data, August 2022

Education level of the patient, was also considered, 34 respondents was not yet attending the school which correspond to 48.6%, 6 respondents was in nursery which correspond to 8.6%, 29 respondents was in primary school which correspond to 41.4%, only one responding was in secondary school which correspond to 1.4%.

4.1.4 Ubudehe categories of respondents

Table 4:UBUDEHE categories of respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	CAT 1	19	27.1	27.1	27.1
	CAT 2	15	21.4	21.4	48.6
	CAT 3	34	48.6	48.6	97.1
	CAT 4	2	2.9	2.9	100.0
	Total	**70**	**100.0**	**100.0**	

Source. Primary data, August 2022

UBUDEHE category was also included because it shows how the family is living in normal life. Category one, the respondents were 19 who correspond to 27.1%, category two, respondents were 15 who correspond to 21.4%, category three, respondents were 34 which correspond to 48.6% and category four were 2 which correspond to 2.9%.

4.2 PATIENT-RELATED FACTORS AND DELAY OF SCALD WOUND HEALING

4.2.1 Balanced diet intake

Table 5:Balanced diet intake

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	31	44.3	44.3	44.3
	No	39	55.7	55.7	100.0
	Total	**70**	**100.0**	**100.0**	

Source. Primary data, August 2022

In 70 respondents, 31 respondents that they eat balanced diet which needed in wound healing which correspond to 44.3%, 39 respond that they can't afford balanced diet which correspond to 55.7%.

4.2.2. Meals' frequency per day

Table 6:Number of meals per day

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Three	57	81.4	81.4	81.4
	Two	13	18.6	18.6	100.0
	Total	**70**	**100.0**	**100.0**	

Source. Primary data, August 2022

In 70, 57 respondents which correspond to 81.4% eat 3 times. 13 respond which correspond to 18.6% eat twice per day.

4.2.3 Food access

Table 7:Hardness in food access

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Easy	24	34.3	34.3	34.3
	Hard	46	65.7	65.7	100.0
	Total	70	100.0	100.0	

Source. Primary data, August 2022

In 70 respondents, 24 respond which correspond to 34.3% found food easily. 46 respond which correspond to 65.7% get food is very difficult.

4.2.4 Vaccination status

Table 8:Vaccination status

		Frequency	**Percent**	**Valid Percent**	**Cumulative Percent**
Valid	Completely	63	90.0	90.0	90.0
	Not yet	7	10.0	10.0	100.0
	Total	**70**	**100.0**	**100.0**	

Source. Primary data, August 2022

In 70 respondents, 63 respondents who correspond to 90% have been vaccinated completely. 7 respondents who correspond to 10% are not yet full vaccinated.

4.2.5 Scald burn and co-existing disease

Table 9. Co-existing disease before burn

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	12	17.1	17.1	17.1
	Not	58	82.9	82.9	100.0
	Total	70	100.0	100.0	

Source. Primary data, August 2022

12 respondents who correspond to 17.1% answer that they have co-existing before burn. 58 respondents who correspond to 82.9% that they have not a co-existing disease before burn.

4.2.6 Sickness frequency

Table 9:Getting sick frequently

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	19	27.1	27.1	27.1
	Not	51	72.9	72.9	100.0
	Total	**70**	**100.0**	**100.0**	

Source. Primary data, August 2022

In 70 responds, 19 respond which correspond to 27.1% get sick frequently, 51 responds which correspond to 72.9% didn't get sick frequently.

4.2.7 Taking bath frequency per day

Table 10:Taking bath frequency per day

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Three	5	7.1	7.1	7.1
	Two	4	5.7	5.7	12.9
	Once	49	70.0	70.0	82.9
	Not everyday	12	17.1	17.1	100.0
	Total	**70**	**100.0**	**100.0**	

Source. Primary data, August 2022

In 70 respondents, 5 respondents who correspond to 7.1% bath three times per day. 5 respondents who correspond to 5.7 % bath twice per day. 49 respondents who correspond to 70% bath one per day. 12 respondents who correspond to 17.1% they answer that bathing is not every day.

4.2.8 Changing bed sheet

Table 11:Change of bed sheet every day

		Frequency	**Percent**	**Valid Percent**	**Cumulative Percent**
Valid	Yes	8	11.4	11.4	11.4
	No	62	88.6	88.6	100.0
	Total	**70**	**100.0**	**100.0**	

Source. Primary data, August 2022

In 70 respondents, 8 who correspond to 11.4% told us that they change bedsheet every day. 62 who correspond to 88.6% didn't change bedsheet every day.

4.2.9 Availability of hygienic facilities and materials

Table 12:Having bathroom and hygienic materials

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	30	42.9	42.9	42.9
	No	40	57.1	57.1	100.0
	Total	70	100.0	100.0	

Source. Primary data, August 2022

In 70 respondents 30 who correspond to 42.9% have everything needed for bathing. 40 who correspond to 57.1% didn't have everything needed for bathing.

4.2.10 Bed cleanness

Table 13:Bed cleanness

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	5	7.1	7.1	7.1
	No	65	92.9	92.9	100.0
	Total	70	100.0	100.0	

Source. Primary data, August 2022

In 70 responds, 5 who correspond to 7.1%, their bed is cleaned every day while 65 who correspond to 92.9% their bed isn't cleaned every day.

4.2.11 Location of burn wound

Table 14:Location of the burn wound

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	A	1	1.4	1.4	1.4
	A,C	1	1.4	1.4	2.9
	A,C,D,E	1	1.4	1.4	4.3
	A,D,E	5	7.1	7.1	11.4
	A,D,F	1	1.4	1.4	12.9
	B,C,D,E	1	1.4	1.4	14.3
	B,C,E	7	10.0	10.0	24.3
	B,CE,	1	1.4	1.4	25.7
	C	10	14.3	14.3	40.0
	C,D	3	4.3	4.3	44.3
	C,D,E	1	1.4	1.4	45.7
	C,D,F	1	1.4	1.4	47.1
	C,E	17	24.3	24.3	71.4

	C,E,F	2	2.9	2.9	74.3
	D	1	1.4	1.4	75.7
	D,E	12	17.1	17.1	92.9
	D,E,F	3	4.3	4.3	97.1
	D.E	1	1.4	1.4	98.6
	D.E.F	1	1.4	1.4	100.0
	Total	70	100.0	100.0	

Source. Primary data, August 2022

In 70 respondents, 1 with who correspond to 1.4 % was burnt at the head, 1 burn legs and arm who also correspond to 1.4%, 1 who correspond to 1.4% has burnt at head, legs, arms, abdomen. 5 who correspond to 7.1% has burn on head, arms and abdomen. 1 who correspond to 1.4% has burn on head arms and back. 1 who correspond to 1.4% has burn on genital area, legs, arms and abdomen, 7 which correspond to 10% has burn on genital area, legs and abdomen. 10 who correspond to 14.3% has burn on the legs. 3 who correspond to 4.3% has burn on the legs and arms. 1 who correspond to 1.3% has burn on the legs, arms and abdomen. 1 which correspond to 1.4% has burn on the legs, arm and back. 17 who correspond to 24.3% has burn on legs and abdomen. 2 who correspond to 2.9% has burn on the legs, abdomen and back. 2 who correspond to 2.9% has burn on arms. 12 who correspond to 17.1% has burn on the arms and abdomen. 3 who correspond to 4.3% has burn on arms, abdomen and back. 1 who correspond to 1.4% has burn on the back.

4.2.12 Wound dressing

Table 15:Wound dressing done as required

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	27	38.6	38.6	38.6
	No	43	61.4	61.4	100.0
	Total	70	100.0	100.0	

Source. Primary data, August 2022

In 70 respondents, 27 who correspond to 38.6% wound dressing is done as required while 43 who correspond to 61.4% wound dressing was not done as required.

4.2.13. Hospitalization in burn room

Table 16:Hospitalization in burn room

		Frequency	**Percent**	**Valid Percent**	**Cumulative Percent**
Valid	Yes	1	1.4	1.4	1.4
	No	69	98.6	98.6	100.0
	Total	**70**	**100.0**	**100.0**	

Source. Primary data, August 2022

In 70 respondents, 1 who corresponds to 1.4% have been hospitalized in burn room while 69 who correspond to 98.6% didn't hospitalize in burn room.

4.2.14 Physiotherapeutic services

Table 17:Meeting with physiotherapeutic team

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	2	2.9	2.9	2.9
	No	68	97.1	97.1	100.0
	Total	70	100.0	100.0	

Source. Primary data, August 2022

In 70 respondents, 2 who correspond to 2.9% have meet with physiotherapeutic team while 68 who correspond to 97.1% didn't meet with physiotherapeutic during management of the burn.

4.2.15 Bed sharing for patients with different diseases

Table 18:Sleeping with other patients of others diseases

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	64	91.4	91.4	91.4
	No	6	8.6	8.6	100.0
	Total	**70**	**100.0**	**100.0**	

Source. Primary data, August 2022

In 70 respondents, 64 who correspond with 91.4% were sleeping in the same room with other patients who have others diseases while 6 who correspond to 8.6% told us that they sleep in different room with other patient who has others diseases.

4.3 FAMILY-RELATED FACTORS AND DELAY OF SCALD WOUND HEALING

4.3.1 Put something on burned wound at home

Table 19:Put anything on the burned wound at home

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	22	31.4	31.4	31.4
	No	48	68.6	68.6	100.0
	Total	**70**	**100.0**	**100.0**	

Source. Primary data, August 2022

In 70 respondents, 22 who correspond to 31.4% have put something on the burn wound at home after burn accident while 48 who correspond to 68.6% didn’t put something after burn at home.

4.3.2 Coming at hospital immediately after burn

Table 21. Coming at hospital directly after burn

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	46	65.7	65.7	65.7
	No	24	34.3	34.3	100.0
	Total	70	100.0	100.0	

Source. Primary data, August 2022

In 70 respondents, 46 who correspond to 65.7% have direct come after burn while 24 who correspond to 34.3% didn't come to the hospital after burn.

4.4 HEALTHCARE-RELATED FACTORS AND DELAY SCALD WOUND HEALING

4.4.1 Availability of burn team

Table 20:Availability of burn team

		Frequency	**Percent**	**Valid Percent**	**Cumulative Percent**
Valid	Yes	0	0	0	0
	Non	10	10	100	100.0
	Total	**10**	**100.0**	**100.0**	**100.0**

Source. Primary data, August 2022

In 10 nurses, which correspond to 100% all responds that no burn team in the institution.

4.4.2 Availability of materials for burn treatment

Table 21:Getting all material needed for burn treatment

		Frequency	**Percent**	**Valid Percent**	**Cumulative Percent**
Valid	Yes	2	20	20	20
	Non	8	80	80	100
	Total	**80**	**100.0**	**100.0**	

Source. Primary data, August 2022

In 10 respondents, 2 who correspond to 20% have get all materials needed in treatment of burn wound while 8 who correspond 80% didn't get all materials needed in treatment of burn.

4.5. DISCUSSION OF FINDINGS

Patient-related factors

Hygiene, immunity and nutrition must be got together in children when they sick, or when they health. If one is not working properly, it affects another negatively.

After collection of data, the study shows that there is a gap of 75% on the hygiene. We have focused on bathing of the patient where they study shown 70% that take bath once per day. About the material used in bathing, 57.1% don't have those materials, 92.9% beds hygiene is not done every day, 88.6% don't change beds sheet daily. This is given 77.15% mean percentage of gaps in hygiene. In UK, and USA, the study conducted on Wound hygiene survey: awareness, implementation, barriers and outcomes, 20.8% where report of the gaps in wound hygiene (Chris Murphy, 2021)

Regarding to the immunity, we have focused on vaccination calendar, most of them, they have been vaccinated fully, the study shows 90% of the respondent were fully vaccinated. The study shows 17.1% having co-existing diseases; some are living with other diseases which caused them to have burn. Most of these diseases are epilepsy. In other study done shown that:" between February 2008 and January 2012 a retrospective study was conducted at center. The study included 54 patients who sustained burn injuries due to epileptic seizures. They concluded that scald injuries are the major cause of burns in epileptic patients 55% of epileptic patients sustained scald burns. (M.S. Akhtar, 2014)".

Family-related factors

When saying about burn wound management, family is implicated in. some families have believes that after burn you have to put some product on, and even not go to hospital. Yes, we have found some family have this believes where the study shows 22 (31.4%) put some product after burn at home. The study was conducted to see the effect of First aid with cool running water reduces the severity of burn with others material. 168 patients; 73 (43.4%) children and 95

(56.6%) adults were seen. Burns were sustained at home in 95 (74.2%) cases and outside in 33 (25.8%). Water lavage was used in 49 (29.2%) cases, raw eggs in 21 (12.5%), pap in 16 (9.5%) and other materials in 48.8%. 40 (23.8%) patients had not received any form of first aid at presentation. Patients that received no water first aid had higher complication rate (35.3% versus 18.4%) compared with those that had water first aids. The use of water first aid in burns was shown to reduce complication rate in this study. (Nasiru Akanmu Ibrahim, 2015)

The study shows 29 (36.25%) delay to bring the children to the hospital. When you asked them why they delay to bring the children at hospital they told you that they have put medication on at home. This is linked of first aids that was done at home.

Healthcare-related factors

The study shows that 71 (88.8%), didn't see burn team during the hospitalization. And this affect the way wound dressing was performed. Sometimes patient miss daily wound dressing during hospitalization. Even they respond that there are some that were needed for the anesthesia, and this opportunity is missed. And the study shows that 50 (62.5%), wound dressing was not done as required. The study was curry out in Konya Education and Research Hospital Burn Unit. 950 burn patients, the patients 77.2% treated conservatively with burn dressing and them 22.8% treated surgically. The mean hospitalization time is 13.48±6.48 days and the mean burned TBSA 14.02±6.2%. The mortality rate was 2% for the study period. Burn unit should be established in developing countries. Because the burn unit do not have in hospitals, burn patients are forced to be treated, other clinics and unsuitable conditions for burn wounds and the staff have not been received training in burn wounds and treatment of burn injury (Kemal Arslan 1, 2013)

CHAPTER FIVE: CONCLUSION AND RECOMMENDATIONS

5.0. INTRODUCTION

This study that we have conducted is to explore factors contributing wound healing process among patient under 15 years old with scald burn at KIBOGORA DH. We were having the research question of what are factors that contributing in wound healing among patient under 15 years old with scald burn at KIBOGORA DH. We have used quantitative research method.

5.1. CONCLUSION

Generally, findings are grouped in three categories based on objectives. The study was conducted on a sample size which is equal to 80. The first category, is based on patient-related factors. This was established to kwon exactly how patient-factors are linked in burn wound healing. we focused on patient's immunity, where we have looked on vaccination calendar, where we found that 90% have been vaccinated completely. The study shows us that 14 which correspond to 17.5% have co-existing before burn. Regarding to immunity, we asked how about the children frequently get sick,21 respond which correspond to 26.3% get sick frequently.

The study shows us that even if they eat three times per day, because the result shows, 66 respond with correspond to 82.5% eat 3times, but they eat no balanced diet, 45 respond that they can't afford balanced diet which correspond to 53.3% and also to found the food is not easy for them, 53 respond which correspond to 66.3% answer that to get food is very difficult.

Regarding to the hygiene, the study shows us now great number get birth one per day 55 respond which correspond to 68.8% bath one per day and some didn't bath daily. They respond in this way, 15 responds which correspond to 18.8% they answer that bathing is not every day. The study shows us that 45 which correspond to 56.3% told us they didn't have everything needed for bathing.

The study shows us that the family is implicated in management of the children's burn wound where the study showed 54 which correspond to 67.5% didn't put something after burn at home. It shows us that 51 which correspond to 63.8% have direct come after burn.

On how healthcare-related factor, the study had showed that 71 which correspond to 88.8% have said that they didn't meet with burn team during hospitalization, 50 which correspond to 62.5% told us wound dressing was not done as required, 79 which correspond to 98.8% told us they didn't hospitalize in burn room, 61 which correspond 76.3% didn't get all materials needed in treatment of burn, , 71 which correspond with 88.8% were sleeping in the same room with other patients who have others diseases.

This is the summary of the findings of the study which was focused of factor contributing wound healing process among patient under 15 years old with scald burn at KIBOGORA DH

5.2. RECOMMENDATIONS

To the institution

1. To construct burn team and provide training about management burn in children.
2. To separate burn children from other patients with other diseases
3. To provide essential material in management of burn
4. Advocacy for those who can't get food easily

To the family

1. To bring the children at hospital after burn injury
2. To educate first- aid for burn after injury

To the academic

1. To reinforce the literature regarding management of children with scald burn

5.3. Suggestion for further research

It could be better to do more research about scald burn wound to discover the failure of skin graft in those who have been burnt with hot water.

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APPENDICES

Appendix 1: Questionnaire designed to assess contributing factors associated with delay scald wound healing process in children under 15 years old in KIBOGORA DH.

Dear participant,

We are NTIBESHYA Promesse and UWAMAHORO Adelphine, students at KIBOGORA Polytechnic, Faculty of health sciences, and Department of general nursing. We are conducting research **to assess contributing factors associated with delay scald wound healing process in children under 15 years old in KIBOGORA DH.** We would like to ask your help in this study by responding to the questions in the questionnaire. All information provided will be confidentially treated and used for academic purposes only.

Questionnaire number…… date…. /…../2022

INSTRUCTIONS

a. Do not write your name.

b. Put a tick (∨) on your choice among the alternative responses provided.

Demographic information

1. Gender
    a. Male ☐
    b. Female ☐
2. Age
    a. Below 1year ☐
    b. 1 year to 5 years ☐
    c. ≤ 5 years to 10 years ☐
    d. ≤10 years to 15 years ☐
3. Education level
    a. None ☐
    b. Nursery ☐

c. Primary ☐

d. Secondary ☐

4. Ubudehe category

a. Category 1 ☐

b. Category 2 ☐

c. Category 3 ☐

d. Category 4 ☐

Part II **Patient-related factors**

1. Do you eat a balanced diet in it there is eggs, fruit, legumes, soja, during hospitalization?

a. Yes ☐

b. Non ☐

2. How many times do you eat per day?

a. 3 time ☐

b. 2 times ☐

c. One ☐

d. None ☐

3. do you find food easily?

a. Yes ☐

b. Non ☐

4. have you been fully vaccinated?

a. Yes ☐

b. Not yet finish ☐

5. Have you any co-existing disease before burn?

a. Yes ☐

b. Non ☐

6. Do you frequently get sick?

a. Yes ☐

b. Non ☐

7. Do you take bath how many times per day?

a. 3 times ☐

b. 2 times ☐

c. Once ☐

d. Not very day ☐

8. Do you change your bed sheet every day?

a. Yes ☐

b. Non ☐

9. Do you have everything (soap, basin, water, bathroom,) needed for bathing?

a. Yes ☐

b. Non ☐

10. Is your bed be cleaned every day?

a. Yes ☐

b. Non ☐

11. Location of the burn wound

a. Head ☐

b. Genital area ☐

c. Legs ☐

d. Arms ☐

e. Abdomen ☐

f. Back ☐

12. Is it your wound dressing done as required?

a. Yes ☐

b. Non ☐

13. Have you been hospitalized in burn room?

a. Yes ☐

b. Non ☐

14. Did you meet with physiotherapeutic team in your management of burn?

a. Yes ☐

b. Non ☐

15. Do you sleep with other patients of others diseases?

a. Yes ☐

b. Non ☐

Family-related practice

16. Have you put anything on the burn wound at home after burn?
    a. Yes ☐
    b. Non ☐
17. Did you come at hospital directly after burn?
    a. Yes ☐
    b. Non ☐

healthcare-related factors

18. Do you have burn team in the institution?
    a. Yes ☐
    b. Non ☐
19. have you been getting all material needed for burn treatment?
    a. Yes ☐
    b. Non ☐

Appendix 2:INFORMED CONSENT FORM TO PARTICIPATE IN THE RESEARCH STUDY

The purpose of this study will be to assess contributing factors associated with delay scald wound healing process in children under 15 years old in KIBOGORA DH**.** District Hospital. The study will benefit the participants with recommendations that may lead to treatment of scald burn patient. Data will be collected using a structured questionnaire and you will be given explanations about how it will be completed. There will be no significant negative or any issue related to study participation except stress. Permission to conduct the study was obtained from the health care facility.

The participants are allowed to ask questions about the study and free to drop out of the study at any point in time if it discomforts them. The study is voluntary to participate, it isn't an obligation to participate. Your identity will be hidden reason why confidentiality will be applicated to kept the information and for access of the information.

Finally, this research is conducted to meet the requirements of Bachelor of Science in Nursing at KIBOGORA Polytechnic. Therefore, the results of this research will be submitted to KIBOGORA Polytechnic, Faculty of Health Sciences, Department of General Nursing and defended in panel during presentation the form of thesis. However, the researcher can also present the study results to the healthcare facility and study participants upon request. Confidentiality will be maintained at all levels of the study. During the presentation of the results, the participants will not be mentioned.

I have understood this consent form and voluntarily consent to participate in the study.

Date…….

Participant signature……

See DAF
Clinical Director
DNM
HR

KIBOGORA POLYTECHNIC

Granted Accreditation and Legal Personality by The Ministerial Order N°7/2015 Official Gazette N°03 of 19/01/2015
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KIBOGORA DISTRICT HOSPITAL
RECEPTION / MAIL RECEIVED
Date: 12 AUG 2022
Names
Signature

August 11, 2022

To: Director General of Kibogora District Hospital

Dear DG,

Subject: Request for data collection

We would like to submit this request for data collection at Kibogora District Hospital for the completion of Bachelor degree dissertation of **Miss UWAMAHORO Adelphine no 1900410** and **NTIBESHYA Promesse no 900150**. The above mentioned are students of Kibogora Polytechnic pursuing Bachelor of general nursing with Honors Program. They will need to conduct questionnaires with nurses and caregiver who are caring for the children with burn about the factors contributing to delay wound healing process among patient under 15 years old with scald burn especially in **(post-surgery and theater).**

The study title is **": Exploration of factors contributing to delay wound healing process among patient under 15 years old with scald burn at KIBOGORA DH RWANDA".**

Kibogora Polytechnic pledges to ensure that all provided information will be confidential and used in the strict academic purpose.

Any assistance rendered to the candidates will be highly appreciated. Please do not hesitate to contact me in case you need to do so.

Sincerely,

Dr Eléazar NDABARORA
Dean of Health Sciences Faculty, KP
Email: eleazarndaba@gmail.com
Tel: 0785371340.

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/ Faculty of health sciences Department of general nursing Topic: Exploration of factors contributing wound healing process among patient under 15 years old with scald burn at KIBOGORA DH Period: January 1st, 2022 to June 6, 2022 Undergraduate thesis presented in partial fulfillment of the requirements for the award of Bachelor degree with honor in General Nursing Prepared by NTIBESHYA Promesse 1900150 UWAMAHORO Adelphine 1900410 SUPERVISOR: NGIRINSHUTI Vedaste Declaration Declaration by candidate We NTIBESHYA Promesse and UWAMAHORO Adelphine hereby declare that this is our own original work and not a duplication of any similar academic work.

It has therefore not been previously or concurrently submitted for any other degree, diploma or other qualification to Kibogora Polytechnic or any other institution. All materials cited in this paper which are not our own have been duly acknowledged. Signed…….. Date…… ……. Signed…….. Date… ……. Declaration by the Supervisor I declare that this work has been submitted for examination with my approval as KP Supervisor Supervisors name:… ……. Signed…… ……..

Date……9/5/2022……..

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