

**PREVALENCE AND ASSOCIATED FACTORS OF BURNS AMONG  
PATIENTS ATTENDING KAMPALA INTERNATIONAL  
UNIVERSITY-TEACHING HOSPITAL IN BUSHENYI  
DISTRICT, WESTERN UGANDA**

**BY**

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**A DESSERTATION SUBMITTED TO THE SCHOOL OF ALLIED  
HEALTH SCIENCES, IN PARTIAL FULFILMENT OF THE  
REQUIREMENT OF AWARD OF DIPLOMA IN CLINICAL  
MEDICINE AND COMMUNITY HEALTH AT KAMPALA  
INTERNATIONAL UNIVERSITY-WESTERN CAMPUS**

**JULY, 2017**

**DECLARATION**

I KIMULI LAWRENCE, hereby declare that this dissertation is my original work and has not been submitted to any college, university or institution of higher learning for academic award.

Sign

Date

.....

.....

**KIMULI LAWRENCE**

**APPROVAL**

This is to approve that this work has been prepared under my direct supervision and is therefore ready for submission to the school of allied health Kampala international university western campus

Sign

Date

.....

.....

**DR. ODWEE AMBROSE**

## **ACKNOWLEDGEMENT**

I would like to acknowledge the contributions of the following individuals whom without them; my study would not have been a success.

First and foremost, I would like to acknowledge my father Mr. KAWEESA GODFREY, Mother Miss NAKAYIZA JOYCE and my brother, Mr. WALUSIMBI RONALD, for their continued support and perseverance toward paying my tuition, rent and other educational and individual needs.

And my supervisor DR.ODWEE AMBROSE for the guidance and patience he has offered to me during the course of making this report, my class lecturers who have taught me the basic knowledge of research, my friend SSENGENDO ENOCK who could support me financially and finally my classmates for their guidance and moral support.

May the Almighty Father in heaven bless you all

## **DEDICATION**

This research report is dedicated to the Almighty GOD for having given me the knowledge, health, skills and success during the course of my study.

It is also dedicated to my lovely father Mr. Kaweesa Godfrey, my lovely mother Miss. Nakayiza Joyce, all my brothers most especially Mr. Walusimbi Ronald, not forgetting my classmates and friends who have together played a great role towards my academics and success. May God reward you all.

## ABSTRACT

Burns continue to be a public health concern in the developing world especially in African countries, sub-Saharan Africa inclusive. It contributes to 11% mortality, being the second cause of trauma after road traffic accidents in Uganda.

**Objectives:** The purpose of this study was to compile a report regarding the prevalence and associated factors of burns among patients attending Kampala International University Teaching Hospital in Ishaka, Bushenyi district.

**Methodology:** A hospital-based cross-sectional study design was used, conducted at KIU-TH located in Ishaka, Bushenyi district. The data was collected using both open and closed ended data collection tool. The sample size was determined by fisher's formula and focused on patients who seek for health care in KIU-TH. The results were analyzed and checked manually for consistence, validity and completeness.

**Results:** The prevalence of burns was 10%, host factors included; gender(females 67%, males 33%), age(children 81%), low education(60%), and underlying diseases(20%). The socio-environmental factors included; overcrowding(47%), occupation(54%), ignorance (60%), poor housing(50%) and negligence(30%).

**Discussion and Conclusion:** The prevalence was 10% in the population in agreement with (Nakitto & Lett, 2010), whose prevalence was 11% in Uganda. The host and socio-environmental factors were gender, age, education, diseases, overcrowding, risky occupation, housing, ignorance and negligence, in agreement with(Delgado et al., 2012). However, the host factors were majority leading to burns followed by the socio-environmental factors.

**Recommendations:** These target the hospital and the community through health education, avoiding overcrowding, improved proper housing, installation of fire extinguishers in all public places and life style change a responsibility of local council committees, churches, families and VHTs in a PHC programme.

## **OPERATIONAL DEFINITIONS**

**Autonomy:** the ability/capacity of a system to make a decision about its actions independently without the involvement of another system/operator.

**Burn:** is an injury to the tissue due to external stress caused by thermal, cold, radiation, chemical, electricity or friction.

**Chronic:** a condition/problem that continues over an extended period of time

**Confidentiality:** the ability to keep information secretly within certain limited people; not intended to be known publically.

**Consent:** the willingness of an individual to give permission, to involve /participate in a given event.

**Injury:** is a break in the integrity or discontinuation of skin or tissue often, which may be association with disruption of structure or function.

**Morbidity:** the condition of being unhealthy/ suffering.

**Mortality:** the condition of being susceptible to death or death rate of a population

**Prevalence:** is the total number of both old and new cases registered/ diagnosed with burns for a specific period of time.

**Total body surface area:** is the measurement of the estimation of the space covered by the body

**Prophylaxis:** the action taken to prevent a disease occurrence

## **LIST OF ABBREVIATIONS**

<b>ABC</b>	Airway Breathing and Circulation
<b>AMA</b>	American Burn Association
<b>CDC</b>	Center for Disease Control and prevention
<b>IV</b>	Intravenous
<b>KIU</b>	Kampala International University
<b>KIU-TH</b>	Kampala International University Teaching Hospital
<b>MOH</b>	Ministry of health
<b>NHS</b>	National Health Services
<b>OPD</b>	Out-patient department
<b>PHC</b>	Primary Health Education
<b>SSA</b>	Sub-Saharan Africa
<b>TBSA</b>	Total Burn Surface Area
<b>USA</b>	United States of America
<b>UV</b>	Ultra violent
<b>VHT</b>	Village Health Team
<b>WHO</b>	World Health Organization



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## CHAPTER ONE

### 1.0. INTRODUCTION

In this chapter is an introduction to burns, some background information, problem statement, study objectives and justification of the study about the prevalence of burns among patients attending KIU-TH.

### 1.1 Background

A burn refers to a tissue injury caused by chemicals or electrical contact resulting into protein denaturation, loss of intravascular fluid and edema(Bhat & Rao, 2009). It is either dry or wet heat, due to external stress caused by heat, cold, u.v radiation, electricity and friction(Marx, 2010).

Globally, burns continue to be a significant public health and developmental concern not only in developing countries but also in the all world. It is a serious health problem because approximately 500,000 people seek medical attention for burns and 40,000 of whom require hospitalization in USA. Burns are one of the top most fifteen leading causes of death in children(Schwartz et al., 2007).

The American burn association (AMA) devised a system where it classified burns as major, moderate and minor as criteria for admission. This is based on a number of factors including the total body surface area (TBSA) affected by the burn; involving a number of specific zones, age, and associated injury. The frequency occurrence of burns is similar in both males and females(Judith & Dooley-Hash, 2011).

In 2013, fire and heat resulted in 35 million injuries related to burns in the world(Peck, 2012). This resulted in about 2.9 million hospitalizations and approximately 238,000 deaths due to burns(Juanita, Nick, & Bolliger, 2016). Most of the burn injuries occur in the developing countries particularly Southeast Asia, than in the developed countries. This makes it the 4<sup>th</sup> leading cause of injuries after motor accidents, falls and violence(WHO, 2011).

In the USA, approximately 96% of the admitted patients to the burns center survive their injuries. In USA, 95% burnt patients that present at emergency are treated and discharged while 5% are admitted to hospital

In India, approximately 700,000 to 800,000 people per year sustain burns though very few are looked after in special burn centers. The highest rates occur in women between 16 years

to 35 years of age. It is estimated that a third of all burns in India are due to clothing catching fire from open flames(Peck, 2012).

Overall, nearly 60% of fatal burns occur in Southeast Asia (Vietnam, Thailand, Indonesia, and Singapore) with a rate of 11.6 per 100,000 people. The number of fatal burns has increased from 280,000 in 1990, to approximately 338,000 patients in 2010(Rafael, 2012). Additionally, in the developed world, adult males have twice the mortality from burns as compared to females. This is most probably due to higher risk occupation and greater risk activities undertaken by men(McMillan, 2015)

In Africa generally, complications and major incidence of burns occur most commonly in the developing world; approximately 90%. It has been attributed to overcrowding and unsafe cooking(Forjuoh, Keyl, Diener-West, Smith, & Guyer, 1995). In many countries in the developing world however, females have twice the risk of burns to males. This is often related to kitchen accidents and domestic violence. However, children deaths from burns occur at more than ten times the rate in developing countries than in the developed world (Peck, 2012). In Bangladesh, Egypt and Pakistan, 17% of children with burns have a temporally disability while 18% have a permanent disability due to burns(WHO, 2011).

In sub-Saharan Africa, including Uganda mortality of burns is of a high occurrence. About one of every five burn victims die from burns of its complication(Peter M et al., 2013). Scald burns account for two-thirds of all burns in this region. The majority of those burnt are children; over 80% are below 10 years of age this majority occurs at home related to household characteristic, maternal and child characteristic, economic variables associated with burns, child care practice, chronic illness and risk factor assessment. The prognosis of the burn injury depends on the TBSA for example TBSA below 10% has the best prognosis(85%) while TBSA above 90% and inhalation burns have the worst prognosis of (0.6%)(MD, 2011).

It is important to accurately quantify the magnitude of the problem among the patients affected. About a half of all burns were rendered preventable, where burn prevention programmes have significantly decreased the rates of serious burns(Marx, 2010). Several prevention remedies have been put forward, such as limiting hot water temperatures, smoke detectors and alarms, sprinkler systems, proper and recommended building construction and fire resistant clothes. Additionally other remedies include the splash guards on stoves, use of thermometers to detect bath water temperatures and several recommendations to limit scale

of fireworks usage to children. In the treatment of burns, resuscitation begins with the assessment and stabilization of the patient's airway, breathing and circulation (ABC) (Charles, 2010).

## **1.2 Problem Statement**

Burns are a significant contributor to prolonged hospitalization leading to morbidity and mortality among children and adults in sub-Saharan Africa (SSA), hence increased expenses for patients, their families and the society (WHO, 2011). Burns, singly or in combination with other diseases such as malnutrition, malaria, pneumonia, is a significant contributor of morbidity and mortality among children and adults in Uganda as well. Burns is greater public health problem, mainly of the children in under developed world (Nakitto & Lett, 2010). However, the government has introduced several interventions to reduce the mortality and morbidity of burns, through strict rules on installation of fire extinguishers in all public places such as schools, institutions, industries, hospitals and some homes, proper housing and health education of natives through media and meetings. Despite these interventions, in Uganda burns continue to be the most devastating house hold injuries rating 11% of all childhood injury and 40% of total home accidents (Nakitto & Lett, 2010). Current accurate information, statistics and the magnitude of the burn problem both on the global, national and local level is scanty.

As it is in the above context, this study will seek to provide the prevalence, pre-disposing factors and the preventive measure of burns in patients who attend KIU-TH in Bushenyi district.

## **1.3 General objective**

To determine the Prevalence of burns among the patients attending KIU-TH in Bushenyi District, western Uganda

## **1.4 Specific objectives**

1. To determine the prevalence of burns among patients enrolled in KIU-TH, Bushenyi District.
2. To assess the factors associated with burns among patients attending KIU-TH in Bushenyi District.

## **1.5 Research Questions**

1. What is the prevalent number of patients affected by burns, enrolled at KIU-TH in Bushenyi District?
2. What are the factors associated with burns among the patients enrolled at KIU-TH in Bushenyi District?

## **1.6 Study Justification**

Up to 40% of the population who sustain severe burns die, death during the first days of treatment is usually due an electrolyte imbalance, dehydration, infection, abnormally low body temperature or heart failure(Peter J.E & Rosemary Foord, 2016).

The result from this will provide more information on the prevalence, pre-disposing factors and measures put in place to control burns among patients attending health care service at KIU-TH in Bushenyi District and western Uganda, intending to lower the problem. This will be disseminated to School of Allied Health Science Kampala International University, Administrator of Kampala International University Teaching Hospital (KIU-TH) and the University.

## **1.7 Scope of the study**

### **1.7.1 Time scope**

Information about the study was collected during the time of ward rotations in Kampala International University-Teaching Hospital, from 24<sup>th</sup>/April/2017 to 4<sup>th</sup>/June/2017.

### **1.7.2 Geographical scope**

The study was conducted in Kampala International University-Teaching Hospital in Ishaka, Bushenyi district located along Mbarara-Ishaka road in south Western Uganda.

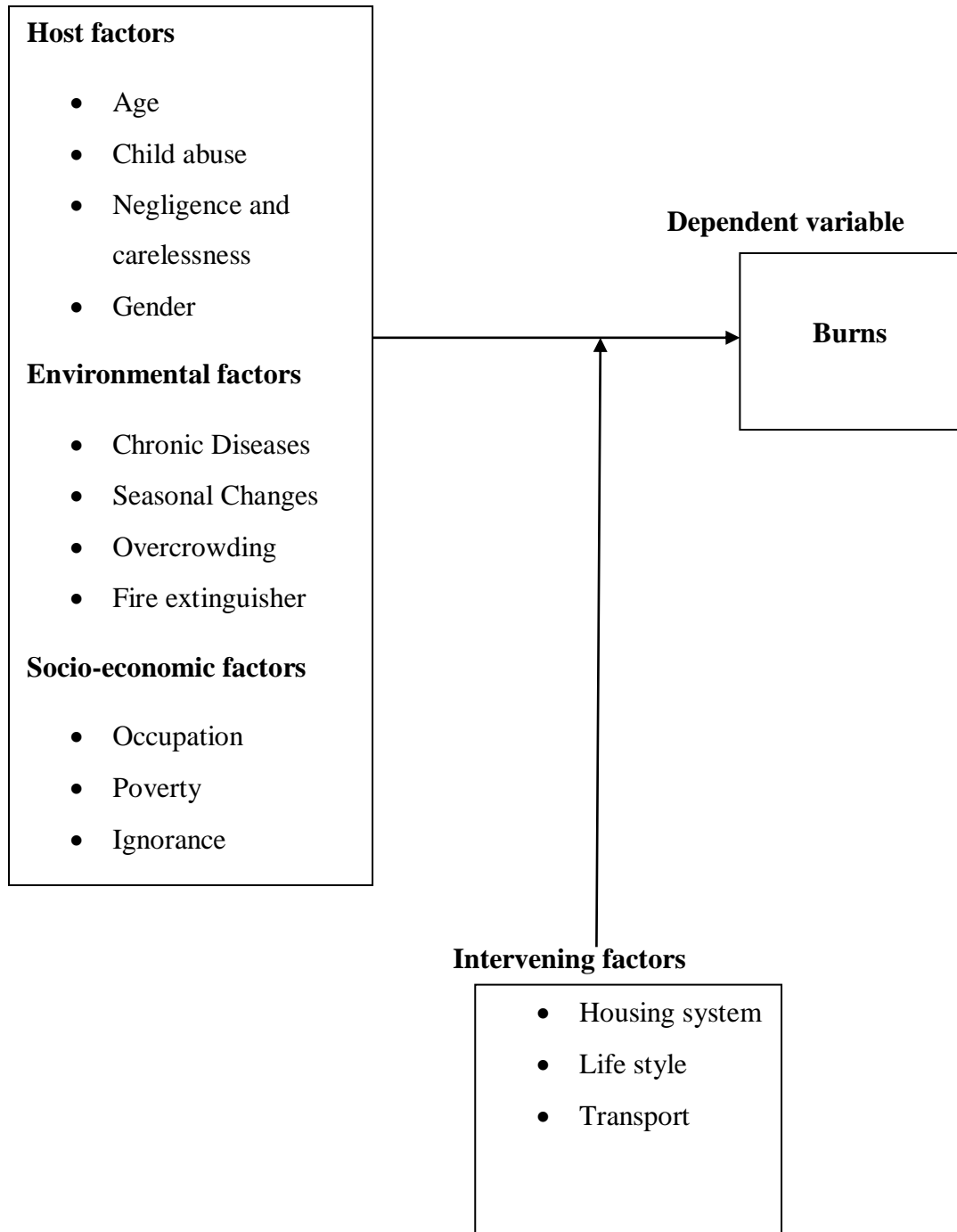
### **1.7.3 Content scope**

The research was limited to the study topic which is, prevalence and associated factors of burns among patients attending Kampala International University-Teaching hospital in Ishaka, Bushenyi district.

## 1.8 Conceptual frame work

Figure 1:

### Independent variables





## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.0 Introduction**

In this chapter, there is review of the available literature on the specific objectives of the study as was done by various scholars.

#### **2.1 Prevalence burns among the patients**

Globally, burns are a serious health problem with a worse prognosis in case they are severe or mismanaged. An estimation of 265000 deaths occur from fire alone, per year in the world with more deaths due to scalds, electrification, and then other forms of burns for which their global data is unavailable(Schwartz et al., 2007).

In Sub-Saharan Africa, the most common causes of burns are, flames(44%), scalds(33%), hot objects(9%), electricity(4%) and chemicals(3%). 69% of burn injuries occur at home, 9% occurs at work place and most burns are accidental, with 2% due to assault by one another. This can cause inhalation injury to airway and this majorly occur to the poor(Forjuoh et al., 1995).

In Uganda, over 96% of the fatal fire related burns occur, including other low and middle income countries. In addition to those who die, millions more sustain and are left with long life disabilities and disfigurement often, with resulting stigma and resection. Major, children and elderly people are affected most(Fredrick & David, 2011).

#### **2.2 Risk and pre-disposing factors to burns among patients**

##### **2.2.1 Host factors**

Age is a major factor that pre-disposes a big population to burns, for example children who are below 5 years of age are more exposed to cooking places. Amongst all the burnt patients in hospitals, 40% are children below 5 years of age, followed by the elderly and the young adults. Due to less monitoring and negligence of their care takers, such children often sustain scalds and fire burns than any other age group(Schwartz et al., 2007).

Additionally, negligence and carelessness of some people also predisposes a number of people to burn trauma. It includes a number of causes such as careless smoking, careless bush burning, unsafe storage of flammable materials, and irresponsible leaving of children in fire

prone houses by parents. These can all lead to extensive fire outbreaks that involve a number of people sustaining severe burns(Delgado et al., 2012)

More so, gender based causes have a percentage that they contribute to burn prevalence among the population in Uganda. Males are known to be two times more prone to burns than the females, due to the occupational factor. Males are more employed in fire prone areas such as factories, welding places, engineering plants and radiation plants hence their exposure is quite higher than females(Delgado et al., 2012).

### **2.2.2 Socio-economic factors**

Furthermore, the low socio-economic factors are connected to be most common in developing countries where a large population is poor and overcrowded hence tend to reside in low/substandard houses, prone to fire outbreaks. These houses include the grass thatched houses in villages, fireplaces in semi-permanent houses and houses without smoke detectors. Most burns are common in the developing country which is 90% of the total burnt patients in the whole world(Peck, 2012).

Additionally, Child abuse and violence (both gender and age-based), involving harass punishments to children such as putting their hands in fire, burning them with hot water. More so, gender based violence is common in some families, where spouses expose each other to corrosive chemicals and burning materials in case of misunderstandings(WHO, 2011).

### **2.2.3 Environmental factors**

Chronic nervous disorders majorly affecting the central nervous system such as epilepsy, schizophrenia, infections (malaria and meningitis), hypoglycemia and drug intoxication such as alcohol, cannabis and opium, are known to predispose the population to burns. Such conditions are sometimes uncontrolled and such patients are often exposed to fire(PJ, R, & A, 2016).

Furthermore, the seasonal changes in some countries lead to extended wild fires which are common in most prolonged summer or sunny seasons, burning several houses and forests. These lead to increased mortality and morbidity rates because they affect a big population. More so, it also involves incised sunburns especially to those people who are not adapted to such conditions, who tend to migrate from their usual places of residence to new weather conditions(Chikwe, Borley, & McLatchie, 2013)

## **CHAPTER THREE**

### **METHODOLOGY**

#### **3.0 Introduction**

This chapter describes the study methodology, study area, study population, study design and sample size determination. It also looks at the inclusion and exclusion criteria, data collection method, data analysis, data quality control, data presentation method, study limitation and ethical consideration.

#### **3.1 Study methodology**

This chapter describes the method and procedure that was used in the course of research. It included the study design, study area, study population, sample size determination, sampling method, inclusion and exclusion criteria, data collection method, data analysis method, data quality control, data presentation method, study limitation and ethical consideration and dissemination of results.

#### **3.2 Study design**

This study was a cross sectional descriptive study to determine the prevalence of burns among patients who attend KIU-TH health care services. This design enabled the researcher to describe the existing situation and review record of key information.

#### **3.3 Study area**

The study was carried out in KIU-TH, Ishaka in Bushenyi District, South western Uganda, along Mbarara-Kasese highway, approximately 20km from Mbarara District headquarters. KIU-TH is a private health facility; the area will be selected because of available services at the health unit. The service include out-patient department/consultation, inpatient department, emergency unit, maternal child services, family planning, Nutritional services, safe male circumcision, laboratory services, integrated management of childhood illness, preventive services, outreach services, epidemic and disease surveillance, management function and training services, accident and emergency, and research services.

#### **3.4 Study population**

The study population involved all patients, males, females, young and adult, enrolled at KIU-TH health care services and care givers of the patients attending KIU-TH.

### 3.5 Sample size determination

The sample size was determined by Fisher's formula, which states;

$$n = Z^2 \frac{pq}{d^2}$$

Where;

n= desired sample size (100 people enrolled in the KIU-TH health service)

$Z^2$  = Standard deviation (1.96) confident interval/ Standard normal variable

P= expected proportion in population based on previous studies (11%),(Nakitto & Lett, 2010).

q = 1-P; (1-0.11) = 0.89

d= the degree of absolute error (0.05 or 5%)

Therefore when substituted in the above formula

$$n = \frac{1.96^2 \times 0.11 \times 0.89}{0.05^2} = 150.43 \approx 160 \text{ respondents}$$

Due to limited resources, a sample size of 100 respondents was used in this research study

### 3.6 Sampling method

In this study simple random sampling was used to select participants, where the researcher seek an informed consent from the patient or care takers of the young children. Then the respondents were selected at random without any bias; any respondent was selected at anytime in KIU-TH, to remove any bias that may have risen so there was an equal probability of selection, this made it relatively easy to estimate the accuracy of the results.

#### 3.6.1 Inclusion criteria

For a patient or care taker to be included in this study, he/she must had been enrolled or seeking health services at KIU-TH, and he/she must had accepted to consent.

#### 3.6.2 Exclusion criteria

All patients who failed to consent were not included in this study.

### 3.7 Data collection method

The data was collected using both closed and open ended structured question that was used to gather data from participants and from records department of KIU-TH. The data was also

collected by review of all medical records available at the record department in the surgical department.

### **3.8 Data analysis**

The data was analyzed electronically and manually with involvement of a scientific calculator and Microsoft spread sheet. Editing will be involved, manual checking for errors and omission in the filled tools to ensure consistency, completeness, validity and accuracy of data collected.

### **3.9 Data quality control**

The data collected was kept in safe custody and treated with respect and confidentiality and the analysis was done at the end of working hours to ensure adequacy, competency and correctness of information gathered. Closed supervision of the data collection was done to ensure the right data was collected.

The pre-testing of the questioners was done in KIUTH.

### **3.10 Data presentation method**

The data was presented as frequency distribution tables.

### **3.11 Study limitation**

The study was limited by patients who failed to consent and language since the questioner was in English, not local language of the respondent, hence research assistance who knew local language was needed for interpretation of questions to respondents.

### **3.12. Study variables**

#### **3.12.1 Dependent variable**

The dependent variable was burns.

#### **3.12.2 Independent variables**

The independent variables included the host factors (age, child abuse, negligence, and gender), environmental factors (chronic diseases, seasonal changes, overcrowding), socio-economic factors (occupation, poverty, ignorance).

### **3.13 Ethical considerations**

The institutional consent and permission to carry out the study was sought from the dean of faculty of Allied Health Science, after submitting the research proposal to the faculty. The

researcher was provided with the letter of introduction to KIU-TH and acquired consent of the Hospital administration before any information was collected. The researcher then introduced himself to the in-charge and other staffs of the unit and then the in-charge introduced him to the record department to compile data.

Confidentiality was maintained to the best of the researcher's ability. The researcher assured the head of the hospital and respondents that no names were to be attached to findings for confidentiality and that the information was to be used strictly for academic purposes.

The health facility was informed of likely risks which were nonexistent in this particular study and benefits of the study. Consent was obtained from the adult patients and those who did not consent were not included in the interview. Children and unconscious patients' consent was obtained from their respective caretakers/parents.

Autonomy for the hospital was respected by giving full information and allowing them to make a decision.

## **CHAPTER FOUR**

### **FINDINGS OF THE STUDY**

#### **4.1 Introduction**

This chapter presents the study findings which have been analyzed and presents following the objectives of the study. Through the selection criteria, a total of more than 150 respondents were recruited and interviewed, then they were excluded until the sample size of 150 respondents was achieved.

#### **4.2 Socio-demographic information**

Most of the respondents were in the age bracket of 5-15 years(47%), followed by those within the age of less than 4 years(33%), then those elders above 50 years(10%), followed by those lying between 16 to 35 years(7%) and the least respondents affected were those in the age bracket of 36-50 years of age(3%).

Majority of the respondents were females with 67% while the least respondents were the males with 33%

Most of the respondents had an education level of primary school with 60%, then followed by those who ended in secondary education with 27%, then those respondents who never gone to school at all with 7%, and the least were those with a university and tertiary/institute level with 3%.

Respondents with a house population of 4-7 people were the most affected with 47%, and then followed by the house population of more than 10 people, with 33%. Those with a house population of 8-10 people were less with 13% and the least was the respondents with a house population of less than 3 people (7%).

Majority of the respondents were peasants (54%), followed by those with a non-specific employment (other) with 33%, then the business men and women with 10% and the least were the civil servants with 3%.

**Table 1:****A table showing the age distribution of the respondents****n=150**

<b>Age(Years)</b>	<b>Frequency(n)</b>	<b>Percentage (%)</b>
≤ 4	50	33
5-15	70	47
16-35	10	7
36-50	5	3
>50	15	10
<b>Gender distribution</b>		
Males	50	33
Females	100	67
<b>Education distribution</b>		
Primary	90	60
Secondary	40	27
Tertiary	5	3
University	5	3
None	10	7
<b>Home Population</b>		
≤ 3	50	7
4-7	70	47
8-10	20	13
> 10	10	33
<b>Occupation status</b>		
Peasant	80	54
Business people	15	10
Civil servants	5	3
Other	50	33
<b>Total</b>	<b>150</b>	<b>100%</b>



### 4.3 Prevalence of burns

The table below shows that most of the respondents had no burns (90%) while those who replied with yes were the least (10%)

**Table 2:**

**A table showing the prevalence of respondents to burns**

<b>Response</b>	<b>Frequency(n)</b>	<b>Percentage (%)</b>
Yes	15	10
No	135	90
<b>Total</b>	<b>150</b>	<b>100%</b>

### 4.4: Factors leading to burns

#### 4.4.1 Host factors

From the table below, 12 respondents reported to care much for children (40%), then 15 respondents cared less for their children (50%) while 3 respondents reported not to care for their children(10%)

15 out of 30 respondents reported to be careful (50%), then 6(20%) respondents reported to be negligent while 9(30%) respondents reported to have full care towards their life

30(30%) respondents reported to absolutely poor, then 54(54%) respondents reported to be relatively poor while 16(16%) respondents reported to be rich.

Respondents with no underlying chronic disease were the majority in this study with 60%, those with epilepsy followed with 20%, and the respondents with other chronic disease that were not specified had 16%. A few of the respondents reported to have been diagnosed with schizophrenia (4%).

**Table 3:****A table showing the host related factors to burns**

<b>Factors</b>	<b>Frequency(N)</b>	<b>Percentage (%)</b>
<b>Child care</b>	<b>Yes</b>	<b>yes</b>
Much	12	40
Less	15	50
None	3	10
<b>Total</b>	<b>30</b>	<b>100%</b>
<b>Negligence</b>		
Much	6	20
Less	15	50
None	9	30
<b>Total</b>	<b>30</b>	<b>100%</b>
<b>Diseases</b>		
Epilepsy	20	20
Schizophrenia	4	4
Others	16	16
None	60	60
<b>Poverty</b>		
Absolute	30	30
Relative	54	54
Rich	16	16
<b>Total</b>	<b>100</b>	<b>100%</b>

#### 4.4.2 Socio-Environmental factors

For all the respondent in this study, a large number of them use fire to prepare their food(70%), then 19% of the respondents use charcoal to cook, 7% use other heat sources to prepare food while a few of the respondents use gas and electricity to cook food.

The table below shows that the majority of the respondents use a kitchen for preparing food (40%). Then 24% of them prepare food from their houses, 20% cook from other unknown places while the least number of the respondents cook from open places (16%).

The biggest number of the respondents resides in semi-permanent houses with a percentage of 50%, then 40% of the respondents reside in permanent houses while 10% of them reside in temporary houses (these were the least).

18 out of the 30 respondents reported to be ignorant about the factors leading to burns (60%), while 12 respondents (40%) reported to have some knowledge on burns leading factors.

The least number of respondents reported to have fire extinguishers at home/place of work 30(70%) while majority reported not to have them 70(30%).

#### Table 4:

The table below shows the socio-environmental factors leading to burns

Variable	Frequency(n)	Percentage (%)
<b>Cooking Method/material</b>		
Fire	70	70
Charcoal	19	19
Electricity	2	2
Gas	2	2
Other	7	7
<b>Cooking place</b>		
House	24	24
Kitchen	40	40

Open place	16	16
Other	20	20
<b>Housing</b>		
Permanent	40	40
Semi-permanent	50	50
Temporary	10	10
<b>Fire extinguishers</b>		
Present	30	30
Absent	70	70
<b>Ignorance</b>		
Knowledgeable	12	40
Ignorant	18	60
<b>Total</b>	<b>100</b>	<b>100%</b>

## CHAPTER FIVE

### DISCUSSION, CONCLUSION AND RECOMMENDATION

#### 5.1 Introduction

This chapter presents a discussion, conclusion and recommendation of the study findings. The discussion and conclusion are all based on the specific objectives of the study.

#### 5.2 Discussion

##### 5.2.1 Prevalence of burns

The study shows that a small number of respondents replied with yes meaning that the smallest percentage (10%) was victims to burns. This agrees with (Nakitto & Lett, 2010) who stated that the prevalence was 11%. The majority respondents with no(90%), implying that a few patients with victims to burns.

##### 5.2.2 Factors associated with burns

###### 5.2.2.1 Host factors

The study shows that a larger number of patients had knowledge about burns (60%) and the less number of patients were ignorant about burns (40%). This agrees with(WHO, 2011), which suggested that 70% of the patients in the developing world know about burns and a less number is ignorant about burns(30%).The more the ignorance, the more the susceptibility and the more the knowledge, the less the susceptibility to burns.

More so, the study shows that a large number of patients who sustain burns don't have a history of chronic illnesses(80%), while a few patients have epilepsy(20%) followed by other diseases(16%), such as meningitis, HIV/AIDS, malaria among others and a few patients with schizophrenia(4%). It contradicts with Cruse *et al.*, 2005 who suggested that chronic illnesses are the major risk factors (60%). This shows that the presence of these diseases have a less effect on susceptibility to burn morbidity.

The study also shows that the children aged between 5-15 years are more exposed o burns (47%) as compared to children below 4 years (33%), followed by the elderly above 50 years (10%) then those between 16-35 years (7%) and lastly those with 35-50 years of age (3%) as suggested by(Schwartz et al., 2007), that children below 4 years are affected by 40%. This shows that the children of 16 years and below sustain more burns because of their familiarity,

curiosity, negligence and ignorance about burns, than those above 16 years who have some information about the dangers of burns.

Additionally, it is also observed that gender/sex is major risk factors to burns where by the women were affected more than men with 67% and 33% respectively. This is because the females are more exposed to fire/hot places than males who are less exposed to fire occupation, in agreement with (Judith & Dooley-Hash, 2011). This is also connected to the occupation status of the individuals where by a high risk to burns is with peasants and house wives (54%) as compared to other jobs. Such a group of individual is exposed fire/hot places as confirmed by (Peck, 2012).

More so, the education status of an individual predisposes him or her to burns where by the results showed that those whose education is low (primary level) are highly exposed (60%) and the risk reduces as one goes to high levels of education such as secondary (27%), university and tertiary institute (3%). This is because education has a big impact on the individuals' level of knowledge and prevention to burns. However, those who have never attended school were few (7%) due to an increasing education system of Ugandans.

#### **5.2.2.2 Socio-Environmental based factors**

The results show that a big percentage of the population use direct fire for cooking (70%) and it highly predisposes them to burns than other people who use other sources of heat such as charcoal (19%) and gas (2%). This also explains that those who use fire for cooking are those with a low socio-economic status with a less level of education and knowledge towards burns, in agreement with (Micheal, 2011) who suggested that 90% of the developing world is burnt due to unsafe cooking practices.

More so results show that a large number of people who were affected cook from the kitchen (40%), followed by those who cook from the house (24%) as compared to those in open places (16%) and other places (20%). This is because most fire users always cook from their kitchens of which most are substandard with protection to fire, hence exposing them to burns

Housing distribution is also a major risk factor to burns where individuals in semi-permanent houses are affected most (50%) as compared to permanent houses (40%) and temporary houses (10%). This is because the semi-permanent houses are substandard places of residence without enough fire preventive mechanisms other than any other housing hence highly exposing the population to burns.

In addition to the less prevention knowledge, a large population reported not to have fire extinguishers in their places of residence and work (80%) while a small number of respondents reported to have fire extinguishers in their places of work (20%). Hence this is one of the barriers to the prevention of burns in the study population.

In reference to the study results, the population residing in a certain home has an impact on the exposure to burns where by the larger the population in house, the more susceptible to causing fire outbreaks. A population of 4-7 people in a home had a big risk (47%), followed by those above 10 people (33%), and followed by those between 8-10 people (13%) and the least by those who were below 3 people (7%) in a home. This agrees with (Peter M et al., 2013), 2013 who suggested that overcrowding has a significant contribution to the exposure to burns especially in homes by 40%.

### **5.3 Weaknesses and Strengths during the study**

#### **5.3.1 Weaknesses**

The researcher faced a number of weaknesses and challenges such as a low financial status, low ICT knowledge and uncooperative respondents hence sample size was not easy reach

#### **5.3.2 Strengths**

Despite all the challenges faced by the researcher, I managed to carefully analyze the results to my best to make the best of the research study.

### **5.4 Conclusions**

The prevalence of burns was generally 10%, in the research study.

The host factors associated with burns illustrated that it is still a problem to the population and these included amongst all; gender, majorly females(67%), age especially below 16years(81%), low education status(60%), and the underlying chronic diseases(20%).

The socio-environmental factors leading to burns among the study population included; overcrowding at home (47%), risky occupation status (54%), ignorance/ low knowledge levels (60%), and poor housing system of the population (50%)

## **5.4 Recommendations**

### **5.4.1 To the hospital**

Management goes hand in hand with health education to the community. Once the problem is identified, a person of concern has to be informed immediately. Strategies should be put forward for the hospital to provide information regarding burns in the community. Often patients are asked to live in a certain way without proper information on the significance of such information. Nurses, clinicians, doctors and the hospital management at large should all play this role to convey information to the patients on discharge. The information required in this case includes; risk factors, preventive measures, immediate management/response for any case and the outcome of the treatment with its costs. This can be done both on discharge of patients, during treatment to admitted patients and holding several health education talk sessions on hospital grounds, to all out patients and the available community.

### **5.4.2. To the community**

Sensitization of the community on life style change, including; avoiding luxury risky practices such as smoking, fireworks, candles, avoiding risky jobs, full monitoring of all young children, avoid cooking from all risky places, minimizing the home population to avoid overcrowding, use of fire protected cooking places, care with the usage of candles, protecting known epileptic cases from cooking, installation of fire extinguishers to public places and flammable susceptible places. This should be based from the community level as part of primary health care (PHC) in relation to health. It is a work and responsibility of the local council communities, church leaders, family majors and village health team.

### **5.4.3. To future researchers**

This study has been descriptive in nature and has showed how a number of aspects have been relating with the study outcome. To have findings in each aspect plays a major role. Researchers should use this information in identifying why for example burns information is still inadequate among patients/population at all age ranges. This is through carrying out entirely qualitative study/studies on various aspects.



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## APPENDICES

### APPENDIX I: INFORMED CONSENT FORM

#### PART A: RESEARCHER

**Introduction:** I am **KIMULI LAWRENCE**, a clinical student of Kampala International University Western Campus. I am conducting a study to assess prevalence of burns among patients attending KAMPALA INTERNATIONAL UNIVERSITY-TEACHING HOSPITAL. This study will involve interviewing of patients treated of burns. The information generated will be primarily used for academic purpose.

**Benefits and Risks:** This information will benefit both the student (researcher) and the hospital in devising preventive measures to burns but will take time to achieve the purpose.

#### PART B: THE RESPONDENT

I have read the information presented in the cover letter attached on this consent form and I have been verbally briefed and understood the study being conducted by **KIMULI LAWRENCE** on the prevalence of burns in this hospital. I have had the opportunity to ask questions related to the study, and received satisfactory answers, and any additional details I wanted.

I am also aware that I have a right to decline following any professional inconvenience that the researcher may introduce in the process. I do not give permission for my identity to be revealed in research reports.

With full knowledge of all foregoing, I agree to participate in this study.

SIGNATURE: .....DATE ...../...../.....

**APPENDIX II: DATA COLLECTION TOOL**

**RESEARCH TOPIC:** THE PREVALENCE OF BURNS AMONG PATIENTS ATTENDING KAMPALA INTERNATIONAL UNIVERSITY-TEACHING HOSPITAL IN BUSHENYI DISTRICT.

**SECTION ONE**

**Bio-data**

Patient number.....

1. Gender

Male

Female

2. Age of the respondent.....

3. Number of people at home (household size).....

4. Type of house.....

5. Occupation.....

6. Level of education.....

7. Address.....

**SECTION TWO**

**Host factors**

8. Do you know burns?

a) Yes

b) No

9 What factors do you think that can cause burns?

i. ....

ii. ....

10) Have you ever been burnt?

a) Yes

b) No

11) If yes, which part was burnt and what burnt you?

Part.....

Cause.....

12) Do you have epilepsy?

a) Yes

b) No

13) Do you usually leave your children alone at home?

a) Yes,

b) No

**Environmental factors**

14) What do you use for cooking?

a) Fire

b) Gas

c) Electricity

d) Paraffin

Other (specify).....

15) Where do you cook from?

a) House

b) Kitchen

c) Open place

d) Other (specify).....

**Thank you for your co-operation and time**

