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Prevalence of burns in children 0 to 14 years admitted into Paediatric surgical ward of Murtala Muhammad Specialist hospital Kano-Nigeria

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ABSTRACT

Background: Burns internally, means an injury due to either fire or chemical on the human. In fact burn injury is a major public health problem and leading cause of childhood mobility and mortality world Wide. About 60% of all burn patient suffers from burn of intermediate severity corresponding to less than 10% of the body surface these patients can be treated as our parents. The objectives of the study are (a) To determine the age and gender group that has the highest occurrence of burns from Jan 2019 to Jan 2020 in patient admitted into paediatric surgical ward of Murtala Muhammad Specialist Hospital Kano. (b) To Identify the possible causes of paediatric burns in Paediatric surgical ward of Murtala Muhammad Specialist hospital Kano. (c) Identify the number of children with burns from January 2019 to January 2020. **Methods:** A retrospective study designed and census sampling technique was used were all the patients with burns were record. **Results:** The study shows that children aged 2 – 5 years have the highest occurrence of burns. Also Males have the highest prevalence within these months with about 58.6% compared to females. The most common cause of domestic paediatric burns admitted in Murtala Muhammad Specialist Hospital from January 2019 – January 2020 is fire and flame burn injury. the study also revealed that 87 children ranges from 0 – 14 years admitted with cases of domestic burns during the period of the study at Murtala Muhammad Specialist Hospital Kano. **Conclusion:** In the research, it is seen that burns are accidents damage to skin cause by heat, flame, chemical, electricity and radiation. Risk factors of burns include: gender, age, occupation that increase exposure to fire, easy access to chemical e.t.c. therefore, proper health education should be introduced especially to mothers and caregivers who do not have knowledge of the causes and preventive measures.

Keywords:

Prevalence, Paediatrics,
Burns, surgical

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INTRODUCTION

Domestic burn is a type of burn that is mostly found at various homes that include injuries to children. Burns internally, means an injury due to either fire or chemical on the human. Infact Burn injury is a major public health problem and

leading cause of childhood mobility and mortality world Wide. About 60% of all burn patient suffers from burn of intermediate severity corresponding to less than 10% of the body surface these patients can be treated as our parents, Burn in Case of severe burns, patients has to be

admitted for proper management in the hospital to avoid complication like contracture 14 years (Hardwike, 2011).

Domestic burns among children is becoming a major health problems affecting children 0-14 years. This is because of their age, growth and developmental changes it is very common that a growing child is so willing to play with many things among which is tire without knowing its implication and consequences. Wong (2001) stated that, burns are the fourth most common type of trauma worldwide following traffic accidents, falls and interpersonal violence. Childhood burns place enormous Socio-economic burden on individuals, their families, communities and nation. Burns injuries lead to multiple short and long term costs to families' communities and nation. The obvious ones include pain, infection, extensive scarring, wound and scar contractures, amputations and death as well as psychological trauma.

Death by burn injury in low and middle income countries is estimated to be eleven times higher than in high income countries. Obverts Michael, (2013) World Health Organization (WHO) estimated that 43,000 people die of burns in Africa every year with a rate of 6.1 per 100,000. Children account for almost half to the population with severe burn injury and of all childhood burns. Me Farland (2000). In Paediatrics Populations, scalds clearly dominate, accounting for 60% to 75% of all hospitalized burn patients followed by flame and contact burns. Johns Hopkins Hospital, (2011).

Globally, the majority of children burnt are boys with a ratio of around 2:1 to girls and the mortality

rate of males is greater than females. Save kids worldwide (2010). The management of burns includes first aid measures assessment of extent of burns, fluid replacement, metabolic support, care of wound and use of topical antibiotics. Wound closure, prevention of affections and other complications, psychological support, nutritional support and rehabilitation are also major aspects.

The management of burns at home, community and hospital. At home, stop the burning to prevent a more severe burn, take the victim away from burning zone. Rinse burned skin with cool water for 15 to 30 minutes to subside pain. The cool water lowers the skin temperature and stops the burn from becoming more serious; wrap the burn loosely avoid putting pressure on the burned skin stander M, Wallis (2011). In the community, cover the burn with a clean dry cloth to reduce the risk of infection. Do not put ice or butter on the burned area because these measures do not help and can damage the skin tissues Patterson D.R (2010).

In the hospital, perform a rapid initial assessment of respiratory and cardiovascular status, establish the extent and depth of burn injury; determine the need for special procedures. Ruth (2009). The causes of burn include: Electricity, Corrosive chemicals, dry heat, friction, radiation and fire. Meyer (2007). Burns can be predisposed by: occupations that increase, exposure to fire, poverty, overcrowding and lack of proper safety measures and inadequate safety measures for liquefied petroleum gas and electricity. (Marx, John 2010). The environmental factor: too much exposure to the sun puts children at the risk of sunburn. (Mary T. 2008).

METHODOLOGY

Research Design and Instrument

This is retrospective study designed to find out the prevalence of burns in children 0 to 14 years from January 2019 to January 2020 admitted into Paediatric surgical ward of Murtala Muhammad Specialist hospital Kano. check-list was submitted to the research.

Setting

Murtala Muhammad Specialist Hospital is known hospital in the ancient established in the year of 1926, situated in Kano municipal local government and has a boarder with the ancient city gate "Kofar Mata". It was the first hospital to be established in the city by the colonial leaders and was stated with 16 beds and was then called the city hospital. The hospital was later named after one time head of state late Gen. Muhammad Murtala, it was expanded by one time governor of Kano state, a police commissioner late Audu Bako in 1971. It is the busiest hospital in the state and it is a zone on its

own. Presently it has an estimation of 739 beds and 1000 staffs. Muhammad Murtala has a work force that include nurses, midwives, doctors, pharmacist laboratory technicians, and dieticians etc.

Target Population and Sample

The target population are children with age range of 0 to 14 years admitted into Paediatric surgical ward of Murtala Muhammad Specialist Hospital, managed for burns from January 2019 to January 2020. Census sampling technique was used were all the patients with burns were recorded.

Ethical Consideration

A letter of introduction and permission was collected from the department to the Ministry of Health Kano State and approval letter was issued to conduct the project.

Data Analysis

The data collected was analysed using simple frequency and percentage distribution.

RESULTS

Table 1
Age and Gender

Age of children	Frequency	Percentage (%)
2yrs	26	29.9
2 – 5yrs	32	36.8
6 – 10yrs	20	23.0
11 – 14yrs	9	10.3
Total	87	100
Gender		
Male	51	58.6
Female	36	41.4
Total	87	100%

Table 1: shows the ages of children affected with burns in Murtala Muhammad Specialist Hospital Kano. In which children aged 2 – 5 years

recorded the highest 32 (36.8%). According to the findings of the study, table 1 shows that; 51 males were admitted with pediatric domestic

burns out of the 87 admission of pediatric domestic burns cases from Jan 2019 – Jan 2020 in Murtala Muhammad Specialist Hospital accounting to about 58.6% of total number of burn cases admitted. According to the findings of the study, table 4 shows that; 51 males were

admitted with pediatric domestic burns out of the 87 admission of pediatric domestic burns cases from Jan 2019 – Jan 2020 in Murtala Muhammad Specialist Hospital accounting to about 58.6% of total number of burn cases admitted.

Table 2: causes of paediatric burns between Jan 2019-Jan 2020

Causes of paediatric burns	Total number of children affected	Percentage
Fire and flame injury	27	31.0
Children playing with ignition device	18	20.7
Hot surface or hot liquids	22	25.3
Electrical burn injuries	12	13.8
Chemical burns injuries	8	9.2
Total	87	100

Above table shows the causes of domestic burns in pediatrics admitted into Murtala Muhammad Specialist Hospital Kano. According to the findings of the study the most common cause of

pediatric burns is fire and flame which affects 27 children accounting for about 31.0% of children burns.

Table 3: The rate of children burnt from Jan 2019 – Jan 2020

Month	Male	Female	Frequency	Percentage
Jan 2019	8	5	13	14.9
Feb 2019	4	3	7	8.0
March 2019	2	1	3	3.4
April 2019	4	2	6	6.9
May 2019	5	5	10	11.5
June 2019	2	4	6	6.9
July 2019	1	3	4	4.6
August 2019	1	1	2	2.3
September 2019	3	3	6	6.9
October 2019	4	1	5	5.7
November 2019	4	2	6	6.9
December 2019	8	3	11	12.6
January 2020	5	3	8	9.2
Total	51	36	87	100

Table 3: According to the findings of the research table 1 indicates that the total number of children

affected with burns within the period of the study is 87 with highest occurrence in the month of Jan

2019 of 14.9% and lowest occurrence in the month of August 2019 of 2.3%.

DISCUSSION

Looking at the findings of the result, it indicates that the age group with the highest rate of occurrence of burns, the study shows that children aged 2 – 5 years have the highest occurrence of burns about 32(36.8%) of the 87 cases of paediatric burns, this findings corresponds with the World Health Organization (2017) which stated that the highest occurrence of paediatric burns ranges among the toddlers and also corresponds to another study conducted in Zaria (North west Nigeria) that out of 47 children that sustain burn injury to the hand the mean age of paediatric burns was less than 2years (55.32%) and 18 (38.30%) were of 2 to less than 4years of age.

Males have the highest prevalence within these months with about 58.6% compared to females. Which is in accordance with the study conducted by DutoitNowell, moore and Van As (2018) reports have emphasized the vulnerability of especially infants and toddlers with the highest incidence among very young black boys. Which also corresponds to a study conducted in Zaria (North West Nigeria) that out of 47 children that sustain burn injury to the hand 26 (55.32%) were male and male to female ratio was 1:2. Which is also in contrast with another study conducted at department of surgery Obafemi Awolowo University in Nigeria which states that the higher incidence of childhood burn injury was noted in females from Ibadan (South Western Nigeria). The most common cause of domestic paediatric burns admitted in Murtala Muhammad Specialist Hospital from January 2019 – January 2020 is

fire and flame burn injury, with the highest number of 27 (31.0%) and chemical burn injury being the lowest having the number of 8 (9.2%).

This findings is in accordance with World Health Organization (2018) which state that fire and flame injuries were of the highest causes of domestic paediatric burns. And also in contact with another study which states that chemical burn injury are frequent in comparison to flame burn Enugu (South Western Nigeria) and Ibadan (South Western Nigeria). Oladele A.O and Olabanji J.K 2010. 13 months study from January 2019 – January 2020 recorded 87 children ranges from 0 – 14 years admitted with cases of domestic burns during the period of the study at Murtala Muhammad Specialist Hospital Kano. Which corresponds to a study conducted by (WHO) In India, over 1000,000 people are moderately or severely burnt every year. Nearly 173,000 Bangladeshi children are moderately or severely burnt every year. 2016. And also correspond to another study which state that burn injury continue to be a major source of mortality and morbidity in low and middle income countries of the world, of which Nigeria is a part. Burn injuries account for 4.8% of Trauma death in Nigeria and 6.7% of surgically related deaths. Solagbaru B.A (2002).

CONCLUSION

In the research, it is seen that burns are accidents damage to skin cause by heat, flame, chemical, electricity and radiation. Risk factors of burns include: gender, age, occupation that increase exposure to fire, easy access to chemical e.t.c. therefore, proper health education should be introduced especially to mothers and

caregivers who do not have knowledge of the causes and preventive measures.

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