

KIBOGORA POLYTECHNIC

FACULTY OF HEALTH SCIENCES

DEPARTMENT OF GENERAL NURSING & MIDWIFERY

**TOPIC:“ASSESSMENT OF PREVALENCE AND MANAGEMENT OF
ASTHMA AMONG ADULTS ATTENDING KIBOGORA DISTRICT
HOSPITAL”.**

Period: August,2021 to January,2022(six months)and one month of data collection(january)

A Research Paper submitted in partial fulfillment of the requirements for the **Bachelor’s degree** with honor in Nursing Sciences of higher education at the **Kibogora Polytechnic**.

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DECLARATION

Declaration by the Candidates

we **CIMPAYE Jean** and **BIGIRIMANA Mechaque**, hereby declare that this is our own original work and not a duplication of any similar academic work. It has therefore not been submitted to any other institution of higher learning. All materials cited in this paper which are not my 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
SUPERVISOR'S NAME **VEDASTE NGIRINSHUTI ,RN,BSCN,MSCN**

SIGNED..... DATE.....

ABSTRACT

We conducted a study entitled « Prevalence and management of asthma among adults attending kibogora District Hospital».

Our hypothesis was that the prevalence of asthma among people attending kibogora district hospital may be high.

Specifics objectives were:To determine the prevalence of asthma for adults clients attending kibogora District Hospital and To describe management of asthma for adults clients attending kibogora District Hospital.

After our site investigation we found that: **prevalence of asthma in kibogora district hospital was**

$$\text{Prevalence (as \%)} = \frac{70 \times 100}{2688} = 2.60\%$$

It have been showed that the drugs mostly used ,where Salbutamol is used in highly with 100%,the second is Prednisolone with 55.71%,the third Hydrocortisone with 40.0 %,the fourth is Antibiotics with 32.85 %,the fifth is Other medications with 17.14 % means that these respondents has others associated conditions,the sixth is aminophyline with 10.and the last used less than others is adrenaline with 4.28%..the result in table 9 shows that 100% Salbutamol, 55.71% Prednisolone, 40.0% Hydrocortisone, 4.28% Adrenaline, 10.0% Aminophyline, 32.85% Antibiotic, 17.14% Other medications.

it have been showed that all patients have gotten comfortable position as showed by100% ,57.14 % participants have gotten heath education and 18.57 % of participant were received nasal irrigation.

DEDICATION

To:

The Almighty God

Our parents

Our Brothers and Sisters

Our Friends, relatives and classmates

Our Supervisor **Vedaste Ngirinshuti**

All staff of the kibogora polytechnic

Faculty of health sciences

Department nursing and midwifery

ACKNOWLEDGEMENTS

We would like to thank our Lord for his abundant blessing, guidance and protection lifelong.

We thank the Government of Rwanda for education for all.

We thank **Kibogora Polytechnic** authorities and staff especially the Nursing Faculty for their contribution to our academic pathway.

We thank our parents, friends, brothers, sisters and classmates who supported and encouraged us during the whole nursing courses and while preparing this research proposal.

We particular thank our supervisor **Vedaste Ngirinshuti** , for her professional advice, and guidance that made this work successfully.

LIST OF TABLES

Table 1.Distribution of respondents according to their Gender.....	13
Table 2.Distribution of respondents according to their Age	13
Table 3.Distribution of respondents according to their status.....	14
Table 4.Distribution of respondents according to their education level.....	16
Table 5.Distribution of respondents according to their Occupation	16
Table 6.Distribution of respondents according to their Socio economic status	17
Table 7.Occurrences of asthma during the seasons throughout the whole year	19
Table8.The factors associated with the presence of asthma in kibogora district hospital	20
Table 9.Drugs mostly used to manage the clients with asthma and asthma condition	20
Table 10: Nursing interventions done during asthma attack.....	22

LIST OF FIGURES

Figure 1. shows Distribution of respondents according to their Gender	13
Figure 2.:It shows Distribution of respondents according to their Age	14
Figure 3:It shows Distribution of respondents according to their marital status	15
Figure 4:It shows Distribution of respondents according to their educational level	16
Figure 5:It shows Distribution of respondents according to their occupation	17
Figure 6:This figure shows Socio economic status of the respondents	18
Figure 7:It shows the Occurrence of asthma during the seasons throughout the whole year	19
Figure 8:It shows The factors associated with the presence of asthma in kibogora district hospital .	20
Figure 9:This figure Drugs mostly used to manage the clients with asthma and co asthma condition	22
Figure 10:It shows the Nursing interventions done during asthma attack.	23

ACRONYMS/ABREVIATION

ADF: Asthma Drug Facility

ARVs: antiretroviral

AIDS:acquired immunodeficiency syndrome

CI: confidence interval

COPD: chronic obstructive pulmonary disease

CRDs: Chronic Respiratory Diseases

COPD: Chronic Obstructive Pulmonary Disease

FEV: forced expiratory volume

GBD: the Global Burden of Disease.

GAN: Global Asthma Network

HIV: human immunodeficiency

ISAAC: International study of asthma and allergies in childhood

MDI: metered dose inhaler.

Msn: Master of science in nursing

NCDs: Non Communicable Diseases

OTC: over-the-counter

PEF: Peak Expiratory Flow

PMTCT: prevention of mother to child transmit ion.

RSV: respiratory syncytial virus

KP: Kibogora Polytechnic

UK: United Kingdom

VCT: voluntary counselling and testing

WHO: World Health Organization

TABLE OF CONTENTS

Contents

DECLARATION	ii
ABSTRACT.....	iii
DEDICATION	iv
ACKNOWLEDGEMENTS	iv
LIST OF TABLES	vi
LIST OF FIGURES	vii
ACRONYMS/ABREVIATION	vii
ADF: Asthma Drug Facility.....	viii
CHAPTER ONE: GENERAL INTRODUCTION	1
1.0.INTRODUCTION	1
1.1. BACKGROUND	1
1.2. PROBLEM STATEMENT.....	3
1.3. PURPOSE OF STUDY.....	3
1.4. RESEARCH QUESTIONS	3
1.5.OBJECTIVES OF STUDY.....	3
1.6.SIGNIFICANCE OF THE STUDY.....	3
1.7.LIMITATIONS OF THE STUDY.....	4
1.8. SCOPE OF THE STUDY	4
1.8.1. In Time.....	4
1.8.2. In Space.....	5
CHAPTER TWO: LITERACTURE RIVIEW	5
2.0.INTRODUCTION	6
2.1.KEY TERMS	6
2.2. DESCRIPTION OF DISEASE CONDITION.....	6
2.2.0. Introduction.....	6
2.2.1. Definition	7
2.2.2. Literature related to the first objective.....	7
Prevalence.....	7
2.2.3. literature related to the first objective.....	8
Management	8

CHAPTER THREE: RESEARCH DESIGN AND METHODOLOGY	9
3.0.INTRODUCTION	10
3.1. STUDY AREA DESCRIPTION	10
3.2. RESEARCH DESIGN.....	10
3.3. TARGET POPULATION.....	10
3.4.THE SAMPLING PROCEDURES	10
3.5. SAMPLE SIZE	10
3.6. SAMPLING TECHNIQUES	11
3.7. DATA COLLECTION PROCEDURES	11
3.8. ETHICAL CONSIDERATION	11
3.9. DATA ANALYSIS PROCEDURES.....	11
CHAPTER FOUR: DATA PRESENTATION, ANALYSIS, INTERPRETATION AND SUMMARY	12
4.0. INTRODUCTION	12
4.1.PRESENTATION OF FINDINGS AND INTERPRETATIONS	13
4.1.1.Presentation Of Data.....	13
4.1.2. INTERPRETATION.....	24
4.2.SUMMARY OF FINDINGS	25
CHAPTER V: CONCLUSION AND RECOMMENDATIONS.....	27
5.0.INTRODUCTION	27
5.1. CONCLUSION.....	27
5.2. RECOMMENDATIONS	27
5.2.1.To Government Of Rwanda.....	27
5.2.2.To Ministry Of Health	27
5.2.3.To Kibogora District Hospital	27
5.2.4.To The Community Works	28
5.3.SUGGESTIONS	28
5.3.1.To Other Researchers.....	28
VI.REFERENCES	29
VI.1.BOOK'S REFERENCES	29
VI.2.ELECTRONIC'S REFERENCES.....	32
VII. APPENDIX	a
VII.1.RESEARCH CHECKLIST	a
VII.2. PROTOCOL OF ASTHMA IN RWANDA.....	f

CHAPTER ONE: GENERAL INTRODUCTION

1.0. INTRODUCTION

This chapter is based on the background of the study to justify the research selection. It contains “background of study, statement of the problem, Research purpose, research objectives and research questions of the study, and justification and significance of the study, limitation of study and scope of the study.”

1.1. BACKGROUND

In worldwide ,Asthma is a chronic disease of the airways with links to the immune system. Inflammation occurs in the airways that lead to the lungs, known as bronchial tubes, causing blockage and breathing difficulties. However, the understanding of asthma has developed over time and continues to do so.

More than 26 million people in the United States have asthma, and roughly 6 million of these are children. The World Health Organization (WHO) estimates that this number has increased over 60 percent since the 1980s and that the death rate from asthma has doubled in the same time, but this is not a new condition (Virchow, J. C. 2010).

Asthma kills around 1000 people every day and affects as many as 339 million people and prevalence is rising. Low- and middle-income countries disproportionately suffer the most severe cases. We have the tools to counter the devastating personal and economic impact of untreated and poorly managed asthma in the world wide (Global Asthma Report, 2018)

In Africa, The prevalence of asthma in Africa, it is increasing in many countries. In 2014, WHO estimated that 300 million individuals were affected by asthma in all ages and races. (Bousquet J, et al, 2010).

In east Africa, Asthma prevalence in East Africa (include Rwanda) is variable, In 2014, Asthma prevalence in East Africa is variable, with lower **rates** in Ethiopia 3.5% (Misganaw Dr. et al. 2014) and high **rates** in Kenya 12.6 % (Esamai et al. 2002), The prevalence of asthma is higher in urban areas compared with rural areas.

In Rwanda, there is no data on prevalence of asthmatic adults; but there is a small unpublished study conducted to assess the prevalence and severity of asthma among urban schoolchildren which showed prevalence 10.9% (NtigurirwaPlacide 2009). Uncontrolled asthma would lead to a poor quality of life due to emergency department visits, hospitalisations, impairment of daily activities. The burden of asthma in addition to patient morbidity and health care cost also falls on the family who should experience financial, social and work related difficulties due to the adult's illness. WHO reports that some countries experience difficulties in accessing essential drugs (< 50% and Rwanda is among those countries) (Global Initiative for Asthma 2014), (Dr. TUYISENGE Anne Marie, 2016).

In developed country, The research showed that in developed countries there is high *prevalence of asthma than in under developing countries while these five countries* developed countries with the highest *prevalence of clinical asthma* were Australia (21.5%), Sweden (20.2%), UK (18.2%), Netherlands (15.3%), and Brazil (13.0%). whereas in under developing countries; The global prevalence rates of clinical asthma and wheezing in adults were 4.3%, 4.5%, and 8.6% respectively, and varied by as much as 21-fold amongst the 70 countries.

Measures taken to treat it and stopping asthma attacks before they start. Treatment usually involves learning to recognize the triggers, these measures can be used: Medications such as **Long-term asthma control medications (Inhaled corticosteroids:** fluticasone, beclomethasone), **Leukotriene modifiers (montelukast, zafirlukast), Long-acting beta agonists**(salmeterol and formoterol), **Combination inhalers** (such as fluticasone-salmeterol (AdvairDiskus), budesonide-formoterol (Symbicort) and formoterol-mometasone (Dulera), **Theophylline, Short-acting beta agonists** (albuterol and levalbuterol) **Oral and intravenous corticosteroids**(prednisone and met

1.2. PROBLEM STATEMENT

Despite the fact that reforestation, decreasing air pollution, cover the nose and mouth during dusts and mid-fall summer climate these have been shown that decrease the cases of asthma disease 47 % and above, it not certain whether the majority of the urban population observed the numerous cases of asthma . A study was therefore going to be conducted to assess prevalence and management of asthma among adult above 18 years old attending Kibogora District Hospital .The study was taking about six months.

1.3. PURPOSE OF STUDY

To Determine the prevalence and to describe how the management carried out for asthmatic adults clients attending Kibogora District Hospital.

1.4. RESEARCH QUESTIONS

What is a prevalence of asthma among the adult clients attending Kibogora District Hospital ?

What are the managements of asthma at Kibogora District Hospital?

1.5.OBJECTIVES OF STUDY

To determine the prevalence of asthma for adults client at Kibogora District Hospital.

To determine management of asthma for adults client at Kibogora District Hospital.

1.6.SIGNIFICANCE OF THE STUDY

In Nursing Practice,The interest is a complex point. It contains different aspects we developed. The main importance of this subject was to avoid the occurrence, crisis and complications caused by asthma in this study area.

In Education,People will benefit from our study, the recommendations were formulated in order to increase the knowledge level about Risk factors and management of and so to improve their health status. The prevalence of the Risk factor and Management of asthma among adults were motivated by the importance of this study regarding the prevalence of asthma among adults.

It was through the right mechanisms for the prevalence of asthma to achieve good health, and this has a positive impact on the people in who live in area of study itself in particular and society in general.

In Research, Actually any scientific study is still a source of reference for the academy to draw some, others do critics so the results from our research will help the authorities in decision making and planning for the improvement of life for people surrounding KIBOGORA district hospital and Rwanda family welfare in general.

Also the results from our study will serve as reference to the other researchers who will conduct the researches in the same scope. It is in this angle of view that the assessment of prevalence and Management of asthma among adults find its reasons prosperity.

1.7.LIMITATIONS OF THE STUDY

The research will have the following limitations:

Firstly, The study was context based and only focused on assessment of prevalence and management of asthma among adults attending Kibogora District Hospital .

Secondly, the independent variables were also limited to prevalence and management of asthma among adults, while other variables that affect prevalence and management of asthma among adults were not considered.

Thirdly, some respondents targeted were reluctant in giving information as regards to prevalence and management of asthma among adults. This was addressed by assuring the respondents that the purpose of the study was for academic work. The findings were limited by self-reporting, as individuals tend to evaluate themselves favorably. This was addressed by use of secondary data obtained from the patients attending Kibogora District Hospital to check the information provided through the questionnaires.

Again time and language barriers: Since research instruments will be elaborated in English, most respondents do not understand this language there is the need of using local languages

1.8. SCOPE OF THE STUDY

The methodology of the required scientist provides that any scientific work was delimited in time, in space and in the field (domain).

1.8.1. In Time

The research has to be conducted from 1st August, 2021_ to 31st January 2022.

1.8.2. In Space

This work will have to be done in urban area, Nyamasheke District, Kanjongo Sector, and Nyamasheke Cell in gatabaVillage. It's located just near KibogoraPolytechnic. The present research is consistent with the assessment of prevalence and management of asthma among adult attending Kibogora District Hospital

CHAPTER TWO: LITERATURE REVIEW

2.0. INTRODUCTION

This chapter portrays the review of different authors and researchers in order to achieve the best conceptual objectives of the study. It attempts to define the issues related to the topic under study so that to achieve a real conceptual clarification. It contains the review on the prevalence and management of asthma among adults and supporting points such as key terms, definition.

2.1. KEY TERMS

Assessment: The process of obtaining a health history and performing a physical examination is an intimate experience for both you and the patient (Jarvis C, 2012).

Risk factor is any attribute, characteristic or exposure of an individual that increases the likelihood of developing a disease or injury (WHO, 2019).

Disease: is defined as any deviation or interruption of the normal structure and function of any part of the body. It is manifested by a characteristic set of signs and symptoms and in most instances the etiology, pathology and prognosis is known (Peres J, 2011).

Chronic is usually applied to a condition those last more than three months. The opposite of chronic is acute (Dan McGowan, 2019).

Illness: a disease or period of sickness affecting the body or the mind (Dan McGowan, 2019).

Adult: is fully developed and mature person who has reached the legal age, who accepts responsibility, makes independent decisions and becomes financially independent, generally; they are above 18 years old (Dan McGowan, 2019).

2.2. DESCRIPTION OF DISEASE CONDITION

2.2.0. Introduction

Asthma attacks all age groups but often starts in childhood. It is a disease characterized by recurrent attacks of breathlessness and wheezing, which vary in severity and frequency from person to person. In an individual, they may occur from hour to hour and day to day. This condition is due to inflammation of the air passages in the lungs and affects the sensitivity of the nerve

endings in the airways so they become easily irritated. In an attack, the lining of the passages swell causing the airways to narrow and reducing the flow of air in and out of the lungs (WHO, 2019).

2.2.1. Definition

Asthma is a common lung disorder in which inflammation causes the bronchi to swell and narrow the airways, creating breathing difficulties that may range from mild to life-threatening (William C, 2018)

2.2.2. Literature related to the first objective

Prevalence

The prevalence of asthma in younger adults, aged 18-45 years, was estimated using data from the World Health Survey conducted by the World Health Organization (WHO) about the same time as ISAAC , in 177,496 adults living in 70 countries. The overall prevalence of asthma varied widely in younger adults. Overall, 4.3% of the global population in this age group reported a doctor's diagnosis of asthma, 4.5% reported either a doctor's diagnosis or that they were taking treatment for asthma, and 8.6% reported that they had experienced attacks of wheezing or whistling breath (symptoms of asthma) in the preceding 12 months Australia, Northern and Western Europe, and Brazil had the highest prevalence. The Global Asthma Network (GAN) is continuing the work of ISAAC(WHO, 2002-2003).

Researchers know much less about the prevalence of asthma in middle-aged and older adults including the elderly. This reflects both a paucity of survey data and the greater difficulty of distinguishing asthma from other respiratory conditions, such as chronic obstructive pulmonary disease (COPD), in older age groups. In 2016, the Global Burden of Disease (GBD) study estimated that there were 339.4 million people worldwide affected by asthma (Global asthma report ,2018).

Prevalence data for asthma are lacking for many countries in Africa including Rwanda, but it is estimated that nearly 50 millions of Africans currently have asthma (Khaled *et al.*, 2010).

235 million people worldwide were affected by asthma, and approximately 250,000 people die per year from the disease. In developing countries make up more than 80% of the mortality. Rates vary between countries with prevalence's between 1 and 18%.It is more common **in developed** than **developing countries**. One thus sees lower rates in Asia, Eastern Europe and Africa. Within developed countries it is more common among those who are economically disadvantaged while in contrast in developing countries it is more common amongst the affluent. The reason for these differences may also be due to an increase in airborne pollens, climate changes that trigger a rise in pollen levels, the energy-proofing of indoor home and work spaces, urban air pollution, or the overuse of antibiotics(Piush J. Mandhane, 2009).

2.2.3. literature related to the first objective

Management

Goals of treatment

Achieve and maintain control of asthma symptoms,Maintain normal activity levels, including exercise,Maintain pulmonary function as close to normal as possible, Prevent asthma exacerbations, Avoid adverse effects from asthma medications and Prevent asthma mortality. (Michael J Morris, 2020)

Pharmaceutical

β2-stimulants:*Salbutamol* or *Fenoterol*, MDI, 1–2 mg immediately via larger volume spacer(1–2 mg = 1000–2000 mcg = 10–20 puffs of 100mcg)If patient responds, follow with 200 mcg 4–6 hourly OR *Salbutamol*, nebulized, 2.5–5 mg, administered undiluted and nebulized over 3 minutes or diluted with sodium chloride 0.9% to a total volume of 4–5 MI and nebulize over 20 minutes,Repeat 4–6 hourly,Continue with this inhalation until peak flow returns to 80% of predicted, or of personal best.In very severe cases, and in patients not responding to standard dosages, these dosages may be given more frequently, i.e. every 20minutes for 1 hour or continuously, after which patient should be reassessed clinically, and by peak flow meter and pulse oximeter /oxygen saturation and monitoring of pulse, BP and respiratory rate,Consider admission to an intensive care unit in life-threatening asthma, when there isno response to treatment, as intubation and ventilatory support may be required(MOH,2019)

Corticosteroids:Patients having an acute attack of asthma, unless the attack is very mild and the response to β2- stimulants very rapid:***Prednisone***, oral, 40 mg immediately or in patients who cannot

use oral therapy,**Hydrocortisone**, IV, 100 mg immediately Follow with *prednisone*, oral, 20–40 mg daily for 7–10 Days Monitor response closely by measurement and clinical signs. If there is a good response, prednisone can be discontinued abruptly after 7–14 days. If used for longer, dosage must be tapered and then stopped,(MOH,2019)

Anticholinergics:For the duration of the acute attack, until peak flow returns to 80% of predicted or of personal best,**Ipratropium bromide**, MDI, 40–120 mcg 3–4 times daily via large volume spacer OR,**Ipratropium bromide,nebulised**, 0.5 mg 4 hourly(Travers AA et al. , 2009).

CHAPTER THREE: RESEARCH DESIGN AND METHODOLOGY

3.0. INTRODUCTION

This chapter presents the data collection techniques, the methodological approach and the entire process to be used research in research process. In other words, it shows the methods the researchers were used to collect analyze and present the data. It should be noted that in this research, the researchers were used the common methods of data collection namely questionnaires, documentations, and observations

3.1. STUDY AREA DESCRIPTION

KIBOGORA_District Hospital is located in the WesternProvince,NYAMASHEKE_District,KANJONGO_Sector, cell and in GATABA village.

3.2. RESEARCH DESIGN

The present study was a Retrospective research design on assessment of prevalence and management of asthma among adults attending KIBOGORA district hospital.

3.3. TARGET POPULATION

Our study populations were the adults' patients consulted in internal medicine, non communicable diseases and emergency wards within six months from 1st august,2021 to 31st January,2022; attending KIBOGORA district hospital.

3.4. THE SAMPLING PROCEDURES

In this study, adults' patient's files consulted in KIBOGORA district hospital and will be selected by purposive sampling method.

3.5. SAMPLE SIZE

Data were collected from 70 adults' patients consulted KIBOGORA district hospital in NCDs as study population who met the inclusion criteria of the study within the study period of whole year; from.1st august,2021 to 31st January,2022.

3.5.1.INCLUSION CRITERIA

Our work was oriented to adults patients consulted in KIBOGORA district hospital in NCD's_from 1st august,2021 to 31st January, 2022.

3.5.2. EXCLUSION CRITERIA

Our work excluded children patients' files below 18 years old, who consulted at KIBOGORA district hospital.

3.6. SAMPLING TECHNIQUES

In this study, adults' patient's files consulted in KIBOGORA district hospital and were selected by purposive sampling technique.

3.7. DATA COLLECTION PROCEDURES

During data collection, the checklists and documentations were used to collect information about prevalence and management of asthmatic adult patients.

3.8. ETHICAL CONSIDERATION

Ethical clearance was obtained from Kibogora Polytechnic, and the researcher's application letter to carry out the research. The permission will be sought from kibogora district hospital administration through the Director of Hospital to carry out the study. The participants were informed about advantages of study and they signed the consent form freely before starting data collection. We were started our research after getting participants' consent form and the information get from this research were remaining confidential.

3.9. DATA ANALYSIS PROCEDURES

For data analysis, we have to use the results from data collection .The data will be have entered in Microsoft word and analyzed by using Microsoft excel. And they will be used for analysis and presentation of the results.

CHAPTER FOUR: DATA PRESENTATION, ANALYSIS, INTERPRETATION AND SUMMARY

4.0. INTRODUCTION

This chapter presents the findings of the research according to research hypothesis as they were set to obtain reality from the participant's files pertaining to the prevalence and management of asthma among adults attending kibogora district hospital".

Our study was about determination about the prevalence and management of asthmatic adult attending **kibogora district hospital**, where we focused in non communicable diseases service (NCDs); where we found that they have 2688 people was identified, of whom 70 were adults aged 18 or older, all these clients were attending at Hospital from first august, 2021 until 31st, january, 2022.

4.1. PRESENTATION OF FINDINGS AND INTERPRETATIONS

4.1.1. Presentation of Data

Table 1. Distribution of respondents according to their Gender

Variable	Frequency (n=70)	Percentage (%)
Male	23	33
Female	47	67
Total	70	100

The table 1,It shows that the most participants are female where is 67 % and the smallest number of participants male is 33%

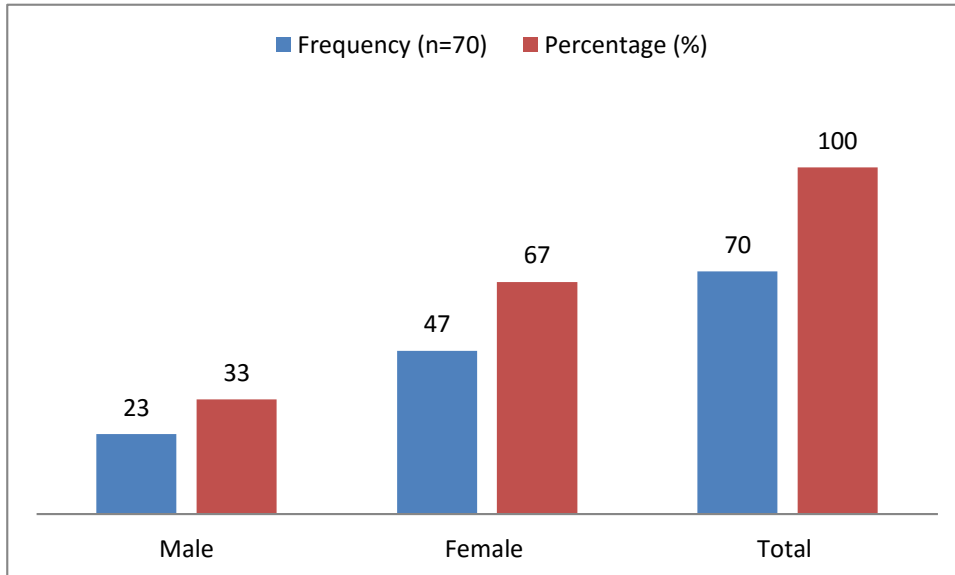


Figure 1. Shows Distribution of respondents according to their Gender

Table 2. Distribution of respondents according to their Age

Variable		Frequency (n=70)	Percentage (%)
Age	18-35 years	19	27.14
	36-50 years	14	20
	51-64 years	13	18.57
	65 years and above(over)	24	34.28
Total		70	100

The table 2.shows that the most respondents are aged of 65 years old and above where is equal to 34.28%, followed by group aged: 18-35 years with 27.14 %,the next group of 36-50 years with 20% and the most less respondents group aged is 51-64 years with 18.57%.

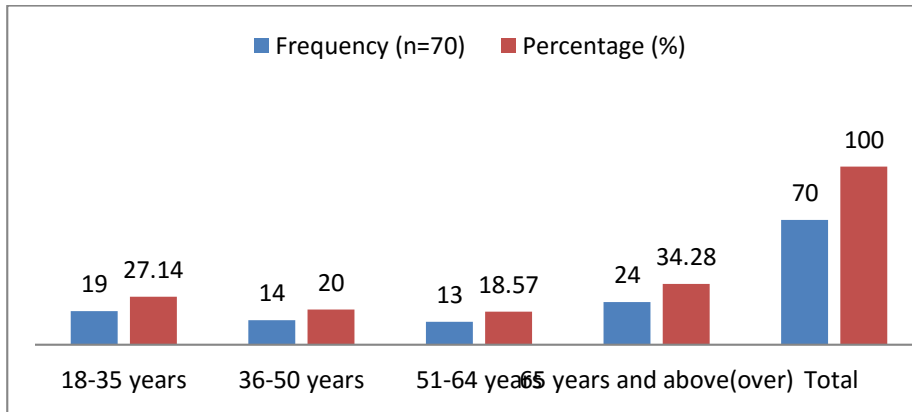


Figure 2: It shows Distribution of respondents according to their Age,

It shows that the most respondents are aged of 65 years old and above where is equal to 34.28%, followed by group aged: 18-35 years with 27.14 %,the next group of 36-50 years with 20% and the most less respondents group aged is 51-64 years with 18.57%.

Table 3. Distribution of respondents according to their marital status

Variable		Frequency(n=70)	Percentage (%)
Martial status	Single	15	21.42
	Married	30	42.85
	Widow	25	35.7
Total		70	100

The table 3: shows that the most respondents are Married where is on 42.85%, and is followed by widow where is 35.7 %,and the smallest respondents is single with 21.42%.

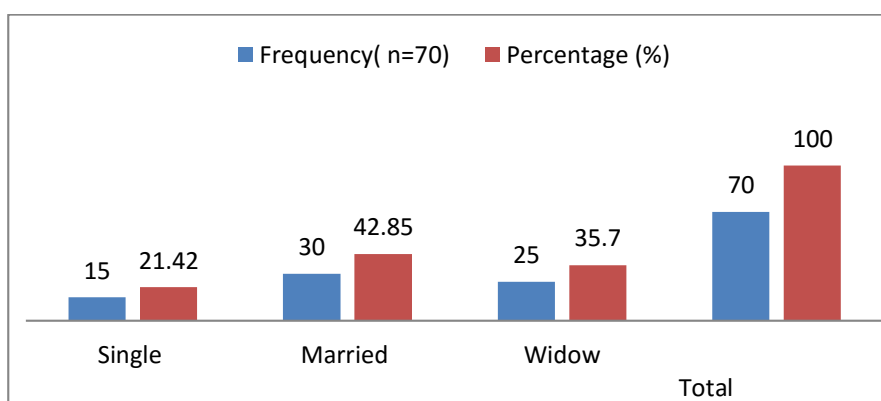


Figure 3:It shows Distribution of respondents according to their marital status

It shows that the most respondents are Married where is on 42.85%, and is followed by widow where is 35.7 %,and the smallest respondents is single with 21.42%.

Table 4. Distribution of respondents according to their educational level

Variable		Frequency(n=70)	Percentage (%)
Education level	Primary education	19	27.14
	Secondary education	25	35.71
	University education	4	5.71
	None educated	22	31.42
Total		70	100

The table 5; shows that the most respondents according to their education levels are secondary where is on 35.71% and followed by none educated with 31.42%,next are who have Primary education with 27.14%,and smallest respondents number have university level with 5.71%.

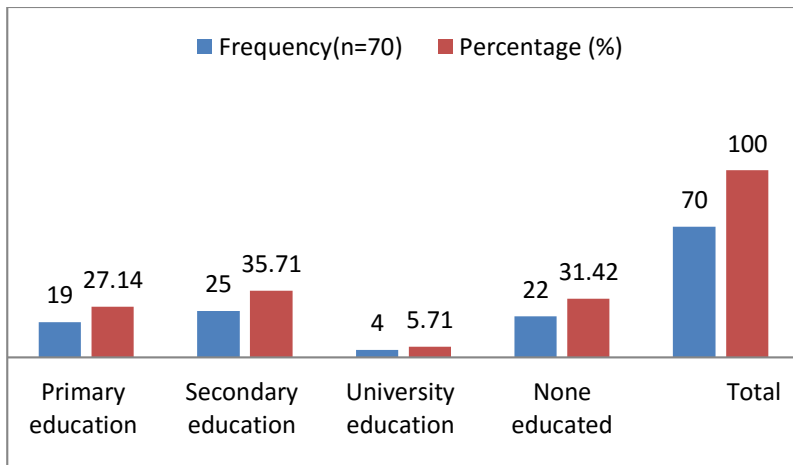


Figure 4: It shows Distribution of respondents according to their educational level

It shows that the most respondents according to their education levels are secondary where is on 35.71% and followed by none educated with 31.42%,next are who have Primary education with 27.14%,and smallest respondents number have university level with 5.71%.

Table 5. Distribution of respondents according to their Occupation

Variable		Frequency (n=70)	Percentage %
Occupation	Cultivators	32	45.71
	Traders	27	38.57
	Students	11	15.71
Total		70	100

The table 5; It shows that the greater respondents number is cultivators where is on 45.71 %, followed by traders with 38.57% and the smallest is students on 15.71%.

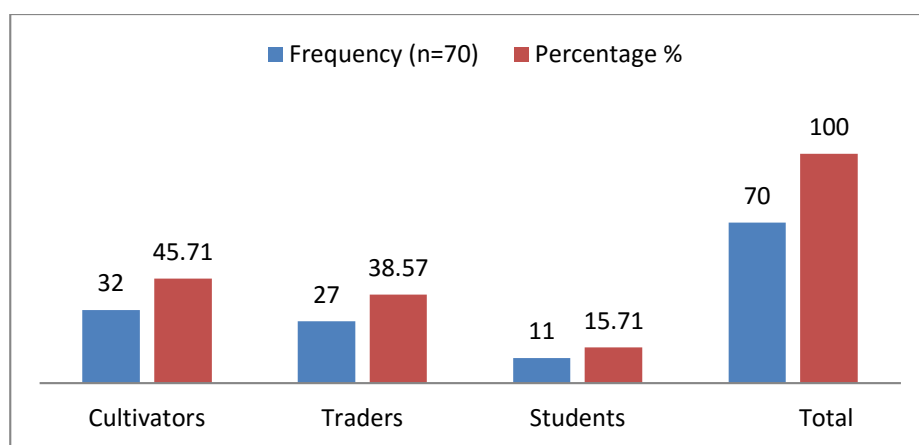


Figure 5: It shows Distribution of respondents according to their occupation

It shows that the greater respondents number is cultivators where is on 45.71 %, followed by traders with 38.57% and the smallest is students on 15.71%.

Table 6. Distribution of respondents according to their Socio economic status

Variable	Frequency(n=70)	Percentage (%)
First level of ubudehe	9	12.85
Second level of ubudehe	16	22.85
Third level of ubudehe	45	64.28
Total	70	100

The table 6 ; It shows that Third level of ubudehe is most status according to the respondents with 64.28 %, followed by second level of ubudehe with 22.85% and smallest respondents is the First level of ubudehe with 12.85%.

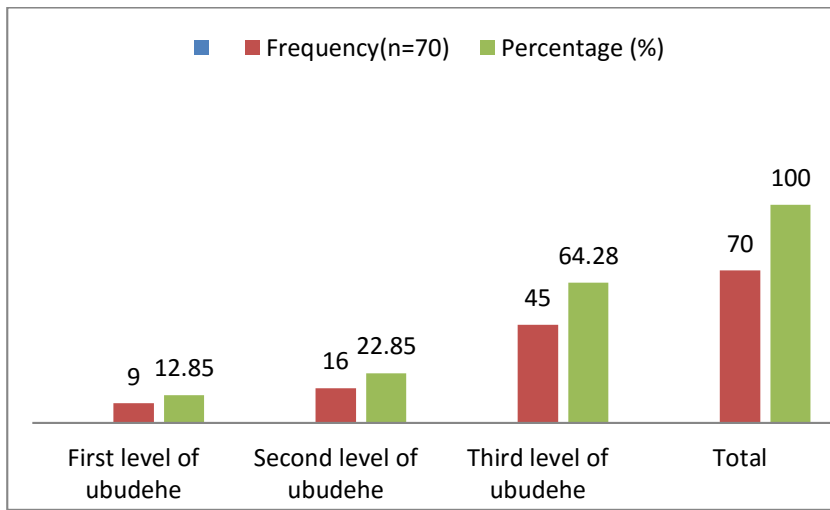


Figure 6: This figure shows Socio economic status of the respondents

It shows that Third level of ubudehe is most status according to the respondents with 64.28 %, followed by second level of ubudehe with 22.85% and smallest respondents is the First level of ubudehe with 12.85%.

Table 7. Occurrences of asthma during the seasons throughout the whole year

Season	Frequency (n=70)	Percentage(%)
august to September	19	27.14
September to November	30	42.85
November to December	8	11.42
December to January	13	18.57
Total	70	100

The table 7; It shows that the most asthma Occurrence during the seasons throughout the whole six months is September to November with 42.85% followed by august to September season with 27.14% ,next is December to January with 18.57 % and the small is November to December with 11.42%.

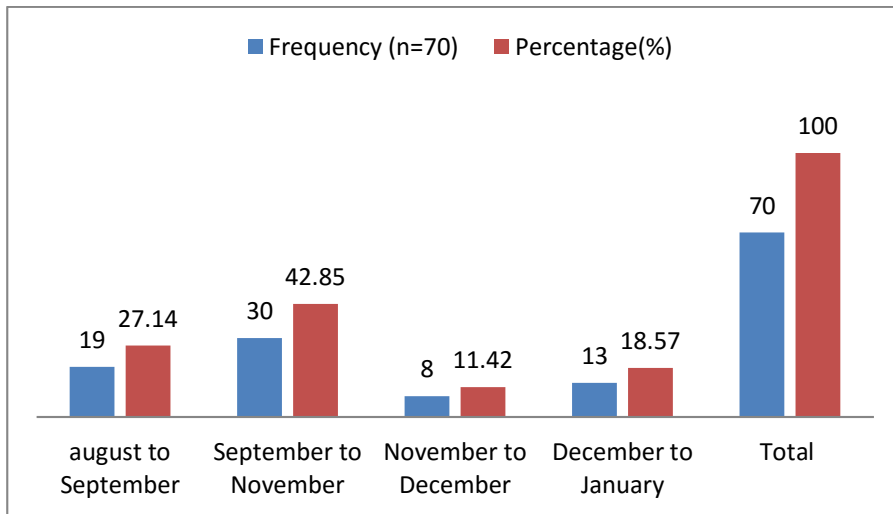


Figure 7: It shows the Occurrence of asthma during the seasons throughout the whole six months

It shows that the most asthma Occurrence during the seasons throughout the whole six months is September to November with 42.85% followed by august to September season with 27.14% ,next is December to January with 18.57 % and the small is November to December with 11.42%.

Table 8. The factors associated with the presence of asthma in kibogora district hospital

Causes	S	Frequency (n=70)	Percentage (%)
Family atopy	Yes	43	61.41
	No	27	38.57
Cat	Yes	23	32.85
	No	47	67.85
Dog	Yes	21	30.0
	No	49	70.0
Smoking	Yes	27	38.57
	No	43	61.42

Table 8. It shows that 61.41% of respondents is related to the family atopy whereas 38.57% is not related to the family atopy means that asthma is highly related to genetic inheritance. For domestic animals; asthmatic clients of 32.85% were living with cat whereas 67.85% were not living with cat. Asthmatic clients of 30.0% were living with dog related to asthma whereas 70.0% were not living with dog. Asthmatic clients of 38.57% were active smokers whereas 61.42% were not smoking.

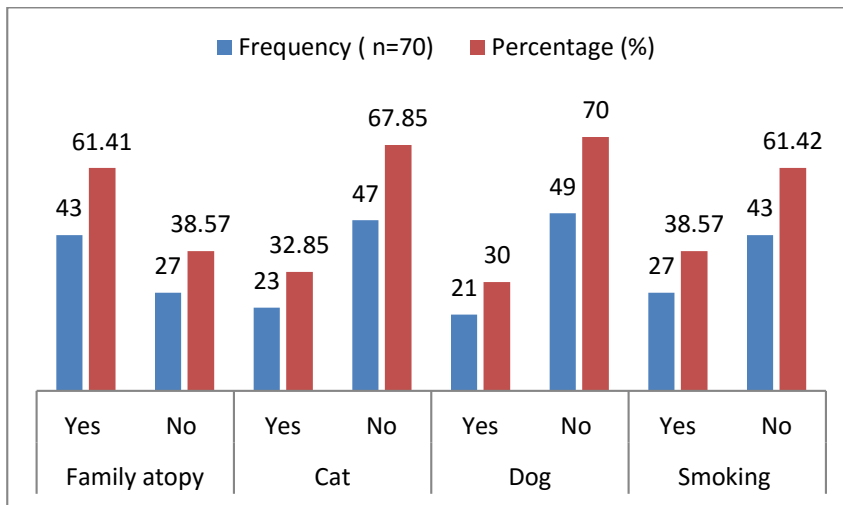


Figure 8: It shows The factors associated with the presence of asthma in kibogora district hospital

It shows that 61.41% of respondents is related to the family atopy whereas 38.57% is not related to the family atopy means that asthma is highly related to genetic inheritance. For domestic animals; asthmatic clients of 32.85% were living with cat whereas 67.85% were not living with cat . Asthmatic clients of 30.0% were living with dog related to asthma whereas 70.0 % were not living with dog. Asthmatic clients of 38.57% were active smokers whereas 61.42% were not smoking .

Table 9. Drugs mostly used to manage the clients with asthma and asthma condition during previous 6 months

Drugs	Frequency (n=70)	Percentage (%)
Salbutamol	70	100
Prednisolone	39	55.71
Hydrocortisone	28	40.0
Adrenaline	3	4.28
Aminophylline	7	10.0
Antibiotic	23	32.85
Other medications	12	17.14

Table 9; It shows the drugs mostly used where Salbutamol is used in highly with 100%, the second is Prednisolone with 55.71%, the third Hydrocortisone with 40.0 %, the fourth is Antibiotics with 32.85 %, the fifth is Other medications with 17.14 % means that these respondents has others associated conditions, the sixth is aminophylline with 10. and the last used less than others is adrenaline with 4.28%.

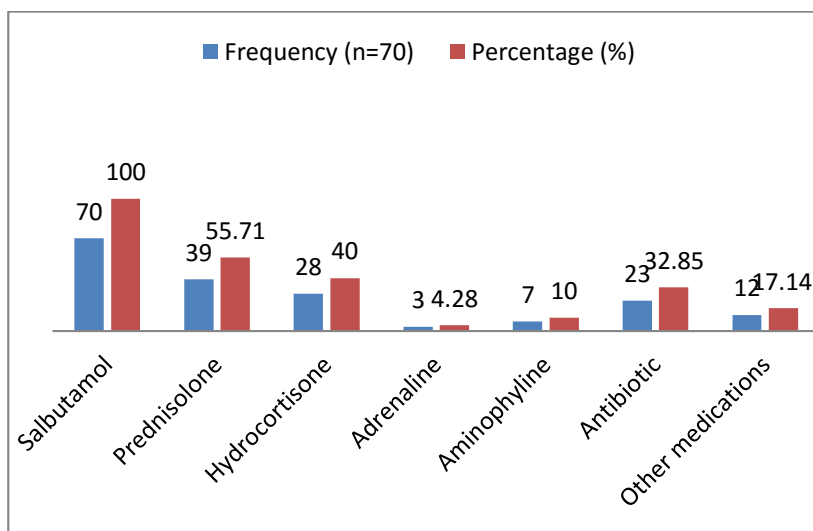


Figure 9: This figure Drugs mostly used to manage the clients with asthma and co asthma condition

It shows the drugs mostly used where Salbutamol is used in highly with 100%, the second is Prednisolone with 55.71%, the third Hydrocortisone with 40.0 %, the fourth is Antibiotics with 32.85 %, the fifth is Other medications with 17.14 % means that these respondents has others associated conditions, the sixth is aminophylline with 10. and the last used less than others is adrenaline with 4.28%.

Table 10: Nursing interventions done during asthma attack.

Variables	Frequencies	Percentage %
Comfortable position	70	100
nasal irrigation	13	18.57
health educations	45	64.28
Others	51	72.85

Table 10.It shows that all patients have gotten comfortable position as showed by 100% in above table, 64.28 % of participant have gotten health education and 18.57 % of part....were for nasal irrigation,72.85% for others interventions.

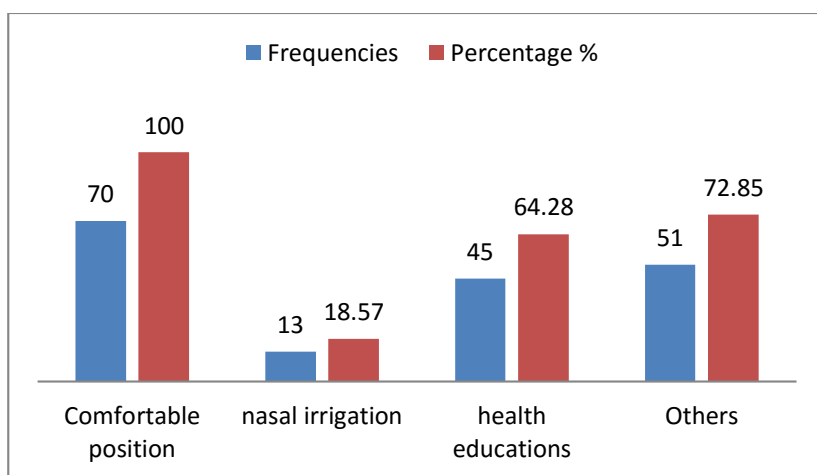


Figure 10:It shows the Nursing interventions done during asthma attack.

It shows that all patients have gotten comfortable position as showed by 100% in above table, 64.28 % of participants have gotten health education and 18.57 % of participants were gotten nasal irrigation,72.85% for others interventions.

Prevalence Of Asthma In Kibogora District Hospital

The prevalence of these forms of asthma is calculated by measuring the presence of asthma in a sample of the population, identified then dividing the number of people measured. Prevalence is often expressed as a percentage.

$$\text{Prevalence (as \%)} = \frac{70 \times 100}{2688} = 2.60\%$$

4.1.2. INTERPRETATION

The results in table 1 shows that most of identified people are female 67% where 33% were Males, 34.28% of them were in age 65 years old and above where 18.57% were age of 51-64, 20% are aged 36-50 years old, 27.14% are aged to 18 to 35 years old (see in table 2). The table 3: shows that the most respondents are Married where is on 42.85%, and is followed by widow where is 35.7 %,and the smallest respondents is single with 21.42%.

According to the education, the most respondents according to their education levels are secondary where is on 35.71% and followed by none educated with 31.42%,next are who have Primary education with 27.14%,and smallest respondents number have university level with 5.71%(see table 5). According to their occupation the results shows that the greater number 45.71% are Cultivators as appeared (in table 5) and the small number of them are students 15.71%, and the traders are on 38.57%. The results from table 6 shows that the most of interviewed people 64.28% are in Third level of ubudehe, while 12.85% First level of ubudehe, and 22.85% of them are in Second level of ubudehe. The table 7; It shows that the most asthma Occurrence during the seasons throughout the whole year is September to November with 42.85% followed by august to september season with 27.14% ,next is December to January with 18.57 % and the small is november to December with 11.42% Table 9; It shows the drugs mostly used where Salbutamol is used in highly with 100%,the second is Prednisolone with 55.71%,the third Hydrocortisone with 40.0 %,the fourth is Antibiotics with 32.85 %,the fifth is Other medications with 17.14 % means that these respondents has others associated conditions,the sixth is aminophyline with 10.and the last used less than others is adrenaline with 4.28%..the result in table 9 shows that 100% Salbutamol, 55.71% Prednisolone, 40.0% Hydrocortisone, 4.28% Adrenaline, 10.0% Aminophyline, 32.85% Antibiotic, 17.14% Other medications. table 10.it shows that all patients have gotten comfortable position as showed by100% in above table, 57.14 %od participant have gotten heath education and 18.57 % of part....were for nasal irrigation.

4.1.3.DISCUSSION OF FINDINGS

This community based on this research by using a validated checklist, that aimed to determined the prevalence and management of asthma in adults aged 18 years and orders living in the area of kibogora district hospital. We used reports and documentations during the past six months (6),for the clients who reported these symptoms at least two of them: wheezing, coughing, shortness of breath,difficult of breathing and chest tightness.

In current research we have found that 2.6 % of kibogora district hospital (in NCDs) are suffering from asthma and this study is similar to the study conducted in Rutongo hospital population affected by asthma which was 5% (Dr,Dan Jackson,2014).

This study has similarity also to the study conducted in Uganda population **where by** they found that the **asthmatics** was 6.8%(Robert kalyesubula, et al, 2017) and this study is similar to the study conducted in Kinshasa population where they found that the population of asthma was 6.9%(KabengeleBO,et all,2019).

About gender, **In current research** we have found that 67% was female affected by asthma this study was similar to the study done in south Africa, where female was 81%(zelta Antoinette, 2005), and also our study is smillar to the study conducted in Kinshasa population, where they found that the population of asthma was 74% for female (Benoit Obel Kabengele, et al, 2019).

About risk fact ,family atopy, in **current research** we found that61.41%who have had asthma had family history of atopy and this result is similar to the study conducted in Kinshasa population where they found that the patients of asthma 56% had family history of atopy(Benoit Obel Kabengele, et al, 2019).

Other risk fact about active smoking, we found that in this research 38.57% of asthma population were current smokers while this study is contrary to the study conducted in Uganda ,where they found that in population affected by asthma 13% was current smokers(William chekley et al,2017). About management we found that hydrocortisone 40%, Aminophyline 10 %and adrenaline 4.28 % was less used for the clients attending kibogora district hospital and nursing interventions mostly done are comfortable position 100%,health education was 64.28%, nasal irrigation 18.57% and others interventions was 72.85%.

We saw that the low education and socio-economic levels and poverty challenging the asthma control and management in many parts, due to lack of health facilities and unable to get asthma medications. Poverty could also enhance the exposure to environmental triggers, Such as biomass derived from the use of woods and fuel for cooking in rural areas.

The environmental exposure was similar in both urban and rural area in this research, consisting mainly of the presence of trees and flowers in the compound, hairs of animals,proximity of industries or factories such as machine of maize and others grains (Auckland et al, 2018).

4.3.SUMMARY OF FINDINGS

After our site investigation we found that: **prevalence of asthma in kibogora district hospital was**

$$\text{Prevalence (as \%)} = \frac{70 \times 100}{2688} = 2.60\%$$

It have been showed that the drugs mostly used ,where Salbutamol is used in highly with 100%,the second is Prednisolone with 55.71%,the third Hydrocortisone with 40.0 %,the fourth is Antibiotics with 32.85 %,the fifth is Other medications with 17.14 % means that these respondents has others associated conditions,the sixth is aminophyline with 10.and the last used less than others is adrenaline with 4.28%..the result in table 9 shows that 100% Salbutamol, 55.71% Prednisolone, 40.0% Hydrocortisone, 4.28% Adrenaline, 10.0% Aminophyline, 32.85% Antibiotic, 17.14% Other medications.

it have been showed that all patients have gotten comfortable position as showed by100% ,57.14 % participants have gotten heath education and 18.57 % of participant were received nasal irrigation.

CHAPTER V: CONCLUSION AND RECOMMENDATIONS

5.0. INTRODUCTION

In this chapter, the researcher takes conclusion about the topic and the recommendation toward the different stakeholder and the suggestions for further research.

5.1. CONCLUSION

Asthma prevalence is relative frequently in adults in the kibogora district hospital, during our research we have seen that there is high prevalence in season of long dry season (august 2021 to end of January 2022). family atopy, smoking, air pollution and the presence of a cat in the house appear to be major risk determinants, this retrospective study at kibogora district hospital should be considered to have better adapt interventions to our specific environment to reduce mortality and morbidity, for having wealthy people for future generation.

prevalence of asthma in kibogora district hospital

The prevalence of these forms of asthma is calculated by measuring the presence of asthma in a sample of the population, identified then dividing the number of people measured. Prevalence is often expressed as a percentage.

$$\text{Prevalence (as \%)} = \frac{70 \times 100}{2688} = 2.60\%$$

5.2. RECOMMENDATIONS

5.2.1. To Government Of Rwanda

To find out everything which increases the pollution of atmosphere such as industries gases, wastes, in order to take the measures for preventing the occurrence of asthma?

5.2.2. To Ministry Of Health

To train the health care providers in order to improve their knowledge about management of asthma,

To motivate the health care providers in conducting the research to asthma.

5.2.3. To Kibogora District Hospital

To treat the clients according the types of asthma.

To prepare the campaign to explain the population about asthma

5.2.4.To The Community Works

To explain the people the cause and risks factors of asthma in order to prevent its occurrence.

To report who live in the family ;where are at high risk of asthma such as those one ,who live with dogs ,cats and who live to someone who smoke or live with who smoke.

5.3.SUGGESTIONS

5.3.1.To Other Researchers

To conduct deep research to other groups age about asthma.

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VII. APPENDIX

VII.1. RESEARCH CHECKLIST

DATA COLLECTION TOOL (QUESTIONNAIRE)

SECTION A: DEMOGRAPHIC

1. Date:/...../..... Respondent No.:

2. sex

- a. Male
- b. female

1. Age ?

- a. 18-35 years
- b. 36-50 years
- c. 51-64 years
- d. 65 and Above

3. Address:

- a. Province
- b. District:
- c. Sector:
- d. Cell:
- e. Village:

4. Habitation site ?

- a. Urban
- b. rural
- c. camp

5. Education level?

- a. Primary level.
- b. Secondary level
- c. University level
- d. NONE

6. Occupation: ;

7. Religion:

8. Marital Status.....

SECTION B: QUESTIONS ABOUT PREVALENCE

1. Being troubled by the episodes of shortness of breath

- a. Not at all
- b. Mildly
- c. Moderately
- d. Severely

2. Being restricted in doing light activities because of asthma for example walking down the street an level ground or doing light housework.

- a. Not at all
- b. Mildly
- c. Moderately
- d. Severely

1. Being felt tired or a general lack of energy

- a. Not at all
- b. Mildly
- c. Moderately
- d. Severely

4. Being unable to sleep at night.

- a. Not at
- b. Mildly
- c. Moderately
- d. Severely

5. being felt that asthma is controlling my life

- a. Not at all
- b. Mildly
- c. Moderately
- d. Severely

6. Presence of asthma in the family members?

- a. Yes
- b. No

7.A) Being hospitalized for asthma?

- a. Yes
- b. No

B) If yes how long ago?

- a. Within last two months
- b. within last four months
- c. Within last six months
- d. within last twelve months

8. The season have been attacked by asthma.

- a. February to June
- b. June to September
- c. September to December
- d. December to February

9. Presented symptoms or signs to the client.

- a. Shortness of breath
- b. coughing
- c. chest tightness
- d. Wheezing
- e. Difficulty breathing

10. The presence of domestic animals in living place?

- a. Cat
- b. Dog

11. being currently live with someone who smoke?

- a. Yes
- b. no

12. a)being current smoker?

- a. Yes
- b. no

b)If yes, how many cigarettes is being smoked per days?

- a. 1-2
- b. 3-5
- c. 6 and above
- d. none

SECTION C: ABOUT MANAGEMENT OF ASTHMA

1. Medications have been taken by asthmatic client.

- a. Salbutamol
- b. adrenaline
- c. aminophyline
- d.

- d. hydrocortisone
- e. antibiotics
- f. prednisolone
- g. others

2. Being suffered by respiratory infection other than cold or flu.

- a. Pneumonia
- b. bronchitis
- c. COPD
- d. Tuberculosis
- e. Others

3. Being felt dependent on asthma spray.

- a. Not at all
- b. Mildly
- c. Moderately
- d. Severely

4. Nursing interventions done during asthma attack.

- a. Comfortable position
- b. nasal irrigation
- c. health educations

Reference:

ZELDA Antoinette Williams ,December 2005,from south Africa

Tel:+27219389207/E-mail:cjvt@sun.ac.za

VII.2. PROTOCOL OF ASTHMA IN RWANDA

SEVERITY	VERY SEVERE	SEVERE	MILD
Clinical signs	<ul style="list-style-type: none"> ✓ Wheeze ✓ AVPU = A ✓ Cyanosis ✓ (in infant) inability to drink/ breast feed ✓ (in children) inability to complete full sentence ✓ Oxygen sats < 90% 	<ul style="list-style-type: none"> ✓ Wheeze ✓ Lower chest wall indrawings 	<ul style="list-style-type: none"> ✓ Wheeze ✓ Fast breathing: Respiratory Rate: ≥ 50/min If age 2-11 months Respiratory Rate ≥ 40/min If age ≥ 12 months
Immediate Management	<ul style="list-style-type: none"> • Measure Oxygen saturation • Nebulise 2.5mg salbutamol or 4-6 puffs by inhaler + spacer + mask (every 20 mins for 3 doses if needed) • Start oral prednisolone 3 mg/kg (i.v steroids if cannot drink) • Can add ipratropium 0.35mg (250 microgram) to salbutamol if poor response 	<ul style="list-style-type: none"> • Measure Oxygen saturation • Nebulise 2.5mg salbutamol or 2-4 puffs by inhaler + spacer + mask (every 20 mins for 3 doses if needed) • Start oral prednisolone 	<ul style="list-style-type: none"> • Salbutamol by inhaler + spacer + mask • Reassess/repeat up to 3 times in first hour, then 2-4 puffs 3-4 hourly • ?? Oral antibiotics • Aim for discharge in 24 hours

Reassess after the first hour of emergency asthma management

If mild symptoms or asymptomatic – send home on salbutamol 2 puffs every 6 hours until asthma symptoms cease and follow up in clinic.

If severe/very severe asthma symptoms – ADMIT, and give:

- a. Oxygen to maintain O_2 sat. above 94% or until drinking / speaking and all danger signs resolved
- b. Salbutamol 4 puffs hourly or nebulise hourly until moderate – severe symptoms subside, then give 2 puffs or/ nebulise 4 – 6 hourly.
- c. Antibiotics dependent on severity (or senior review)
- d. Continue steroids daily for 3 to 5 days, stopping when symptoms subside



VII.3. LETTER OF ACCEPTANCE OF RESEARCH



KIBOGORA POLYTECHNIC



Granted Accreditation and Legal Personality by the Ministerial Order N^o 7/2015 Official Gazette N^o 03 of 19/01/2015

P.O.Box: 31 Rusizi-Rwanda Tel:(+250)280100759 E-mail:info@kp.ac.rw Website: www.kp.ac.rw

RESEARCH LETTER

January 28th2022

To whom it may concern:



We write this letter to humbly request you to allow Mr **BIGIRIMANA MECHAQUE** And Mr **CIMPAYE JEAN (2000977&2000980)** to conduct research in your organization/institution/territory entity. The above mentioned are students of kibogora polytechnic pursuing Bachelor's degree in General Nursing Department.

These candidates are currently conducting a research Topic "**ASSESSMENT OF PEVALENCE AND MANAGEMENT OF ASTHMA AMONG ADULT ATTENDING AT KIBOGORA DISTRICT HOSPITAL**" In NCD's Service.

We are convinced that your organization/institution/territorial entity will constitute a valuable source of information pertaining to their research .The purpose of this letter is to humbly request you to avail them with the pertinent information they may need. We pledge to ensure that all provided information will be used in the strict academic purpose.

Any assistance rendered to the candidates will be highly appreciated.

Yours,

 **Dr Eleazar NDABARORA,Phd**

Dean of health sciences

Kibogora polytechnic

