

**PREVALENCE AND FACTORS INFLUENCING DENTAL CARIES  
AMONG PATIENTS ATTENDING DENTAL CLINIC OF KAMPALA  
INTERNATIONAL UNIVERSITY TEACHING HOSPITAL,  
BUSHENYI DISTRICT**

**BY**

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INTERNATIONAL UNIVERSITY WESTERN CAMPUS**

**JULY, 2017**

## **DECLARATION AND APPROVAL**

I, Kamwada John declare that this report has not been submitted to any institution for any academic award

Signature..... Date.....

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## **ACRONYMS AND ABBREVIATIONS**

DC: Dental caries

KIU-TH: Kampala International University Teaching hospital

WHO: World health organization

## **OPERATIONAL DEFINITIONS**

### **Dental caries:**

This is the breakdown of the tooth/teeth due the activities of acid forming bacteria and improper dental care

### **Dental cavity:**

This is a hole or structural damage on teeth/tooth as a result of tooth decay

### **Health:**

It is the state of complete physical, mental and social wellbeing of an individual and not the mere absence of a disease or infirmity

### **Hygiene:**

This is a set of practices performed for the preservation of health

### **Community health:**

It is the part of medicine which deals with the health of the whole population and with the prevention of diseases.

### **Minerals:**

This is a naturally occurring solid chemical substance formed through biochemical processes having characteristic chemical compositions.

### **Nutrient:**

This is a component in foods that an organism uses to survive and grow

### **Public health:**

This refers to the science and art of preventing disease, prolonging life and promoting health through organized efforts and informed choices of society, organizations, public and private communities and individual

## **ABSTRACT**

### **Introduction**

Globally, dental carries remains a great public health problem. In Uganda, the exact prevalence and factors influencing dental caries is still not known clearly.

### **Objective**

To determine the prevalence and factors influencing dental caries among patients attending dental clinic of KIU-TH.

### **Methodology**

A cross sectional study was designed to determine the prevalence and factors influencing dental caries among 80 respondents who answered a structural questionnaire. Data which was collected by the principal investigator himself was presented in tables and a pie chart.

### **Results**

The study found out that majority of respondents were females, 45 (56.25%) who were students 31 (38.75%) aged 20-29(41); 51.25%. Those who brushed after every meal were 8(10%) and those who ate sugary food like sweets thrice a week were 13(16.52%).

### **Conclusion**

The study showed that the burden of dental caries still persisted among patients attending dental clinics in Ishaka- Bushenyi. Young adult age of female students was positively associated with burden of dental caries.

### **Recommendations**

There is a great need to inform the public about the importance of a good proper oral hygiene practice in order to reduce dental caries.

Proper planning for health services especially health education and personnel is warranted to counteract the persistent burden of dental caries in all communities.

Further studies are necessary to be carried out over a wide geographical area to identify more factors influencing dental caries



## **CHAPTER ONE: INTRODUCTION**

This chapter consists of the background of study, problem statement, justification, study objectives and research questions.

### **1.1 BACK GROUND OF THE STUDY**

Dental caries is an infection, bacterial in origin that causes demineralization and destruction of the hard tissues (enamel, dentin and cementum), usually by production of acid by bacterial fermentation of food debris accumulated on the tooth surface (Tirwomwe F, Ekoku Y, Baelum V, 2010). If demineralization exceeds saliva and other remineralization factors such as from calcium and fluoridated toothpastes, these hard tissues progressively break down, producing dental caries (cavities, holes in the teeth). The bacteria most responsible for dental cavities are the mutans and streptococci, most prominently streptococcus mutans, streptococcus sobrinus, and lactobacilli. If left untreated, the disease can lead to pain, tooth loss and infection (Weinert, 2005).

The risk of getting dental caries is increased in cases of reduced saliva since its main purpose is to produce a counterbalance of the acidic environment created by certain foods. Hence medical conditions that reduce the amount of saliva produced by the salivary glands particularly the submandibular and parotid glands are likely to cause widespread tooth decay. Example of these conditions include Sjogren's syndrome, diabetes insipidus and Abusers of stimulants tend to have a poor oral hygiene practices hence have an increased risk of developing dental caries. Radiation therapy of the head and neck may also damage the cells in salivary glands, increasing the likely hood of caries formation sarcoidosis (Neville, B.W., Douglas, 2002). The use of tobacco may increase the risk of caries formation. Some brands of smokeless tobacco contain high sugar content, increasing susceptibility to caries (G.H. Wood, H.de Glanville, 2001). The practice of keeping the mouth and teeth clean helps to prevent dental problems, most commonly dental cavities, gingivitis and bad breath. There are also oral pathologic conditions in which good oral hygiene is required for healing and regeneration of oral tissues. These conditions include gingivitis, periodontitis, and dental trauma. Achieving healthy teeth takes a life time of care, so it is crucial to take the right steps every day to care for them and prevent problems. This involves getting the right oral care products, as well as being mindful of the daily habits (Petersen, 2010).

## **1.2 PROBLEM STATEMENT**

In Uganda, the study done (Miloro M, 2013) revealed that the prevalence of dental caries was low, 35% although the disease was wide spread with most carious teeth untreated. However, there are no up to date caries data on which to base policy formulation and strategic planning. The government has put a lot of investments to promote oral and dental health as an integral part of primary health care, though there still remains a big gap. Today, the prevalence of dental caries remains widely unknown in many parts of Uganda. Much as it is known that dental caries is a common public health problem, very limited information is available to assess the magnitude of this problem. As of today, little is known about the prevalence and factors influencing dental caries among patients attending various dental clinic of Uganda.

## **1.3 JUSTIFICATION OF THE STUDY**

Dental caries is one of the most prevalent chronic diseases in children and adults, males or females and all races, even though it is largely preventable (WHO, 2012). There is therefore need to understand the changes in trends and preventive practices among patients attending to KIU-TH dental clinic. The research is further intended to provide data to other researchers who may pick interest in exploring more factors influencing dental caries.

## **1.4 RESEARCH QUESTIONS.**

1. What is the prevalence of dental caries among patients attending dental clinic of KIU-TH?
2. What are the factors associated with dental caries among patients attending dental clinic of KIU-TH?

## **1.5 OBJECTIVES**

### **1.5.1 General objective**

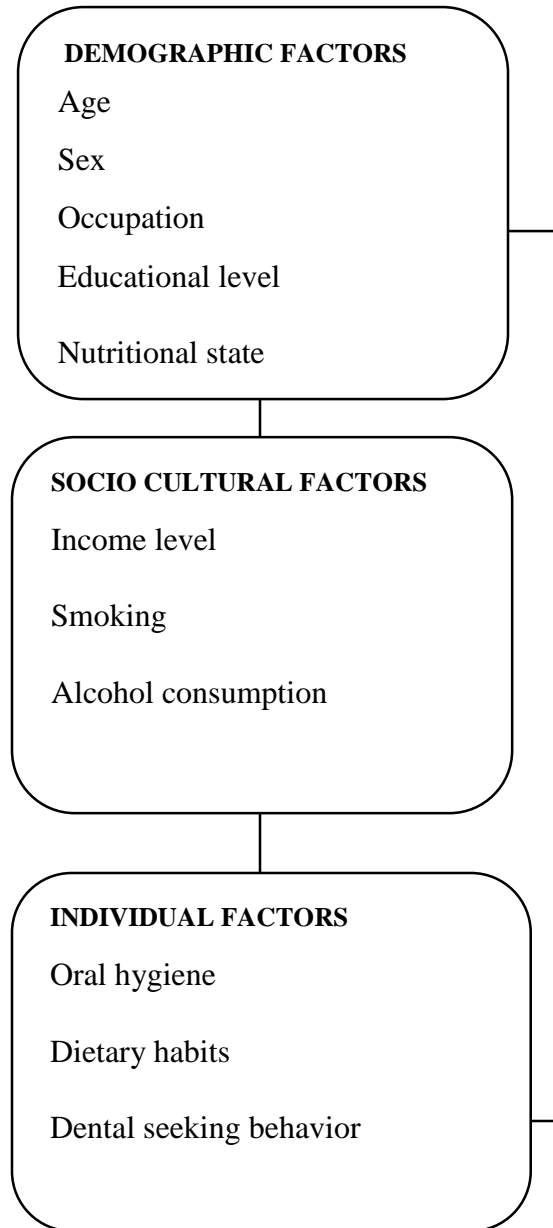
To determine the prevalence and factors influencing dental caries (DC) among patients attending dental clinic of KIU-TH.

### **1.5.2 Specific objectives**

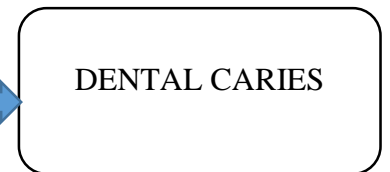
1. To determine the prevalence of dental caries among patients attending dental clinic of KIU-TH
2. To determine the factors associated with dental caries among patients attending dental clinic of KIU-TH

## 1.6 CONCEPTUAL FRAME WORK

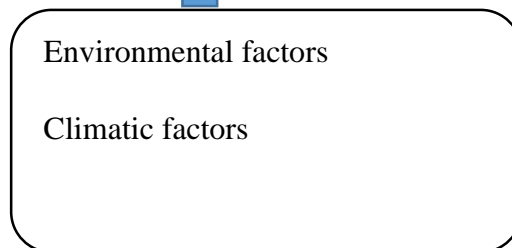
### INDEPENDENT VARIABLES



### DEPENDENT VARIABLE



### INTERVENING VARIABLE



## **CHAPTER TWO: LITERATURE REVIEW**

### **2.0 Introduction**

This chapter consists of prevalence and risk factors of dental caries and theories relevant to the study. It basically discuss Uganda situation as far as dental health is concerned and look more into details the dental health care's delivery dynamics in Uganda and understanding of the concept of tooth decays.

### **2.1 Prevalence of dental caries**

It is estimated that five billion people worldwide have experienced dental caries, according to the findings of the World Oral Health Report, released by the world health organization (WHO).

WHO announced that oral diseases such as dental caries, periodontitis and oral and pharyngeal cancers were a global health problem in both industrialized and increasingly in developing countries, especially amongst poorer communities. The report stated that while there was a perception that dental caries is no longer a problem in the developed world; it affects 60-90% of school children and the vast majority of adults. It added that dental caries is also the most prevalent oral disease in several Asian and Latin American countries. WHO warned that the same problem appeared to be less severe in most African countries, but with changing living conditions, dental caries is expected to increase in many developing countries in Africa, particularly as a result of sugars and inadequate exposure to fluorides. Among 5 to 17 year olds, dental caries is more than 5 times as common as a reported history of asthma and 7 times as common as hay fever. Many studies have shown that a quantitative difference exists in the intensity and duration of the acidity produced by carbohydrates on the teeth of caries-free and caries-active individuals (Stephan, 2009). Dental caries affects persons of both sexes in all races, all socio-economic status and every age group. It usually begins soon after the teeth erupt into the oral cavity.

However according to research carried out in Nairobi showed that there was a general low caries in Nairobi children, with no significant difference in prevalence of caries between males and females in the younger age group. Louis (2005) study on dental diseases in urban and peri urban areas, Arua, Mbale and Kampala revealed that 40% and 62.5% of children and adults respectively had dental caries and there was an increased incidence of dental caries in urban areas than rural areas with no gender differences and gum diseases were more common in children than in adults. The study will therefore be done on adult population.

## **Types of Dental Caries**

### **Enamel Caries**

Effect of cavities on enamel is due to chemical process caused by the acidic environment produced by bacteria. The bacteria consume the sugar content of the food eaten to get energy. While doing so, they also produce lactic acid. This acid results in the demineralization of crystals in the Enamel (Moore, 2006).

### **Acute caries**

It is a rapid process, which affects a large number of teeth. Lesions of acute caries are light brown or grey than the lesions caused by other types of caries. The caseous consistency of the acute caries makes the excavation of the infected teeth difficult. Common effects seen in the patients of acute caries are pulp exposure and sensitive teeth (Moore, 2006).

### **Arrested caries**

Caries that become static without showing any tendency to progress further are called arrested caries. With the improvement of oral hygiene, even advanced lesions may be arrested. One can identify arrested caries by dark pigmentation without any break down of tooth tissues (Moore, 2006).

## **2.2 Risk factors for dental caries**

The risk factors are divided into environmental factors, risk behavior and social cultural risk factors. All these factors work together in the development of dental caries.

### **Environmental factors**

The environmental factors include drinking water, sanitation and nutrition state (Petersen, 2010).

### **Risk behavior**

The risk behaviors include hygiene practices, dietary habits, tobacco use and excessive consumption of alcohol are also implicated in the occurrence of caries (Petersen, 2010).

### **Social cultural factors**

The social cultural risks include the education level, income, lifestyle and the social network support (Petersen, 2010).

### **Mineral content in fluoride toothpaste**

There are more important elements to look for than whitening power and flavors of a toothpaste. No matter which version you choose, make sure it contains fluoride. Example of toothpastes include; Colgate, Deli dent, ABC Dent and Fresh dent (Petersen, 2010).

### **Level of income**

According to a research done in Danish children, the level of income of parents affected the prevalence of dental caries, those with a low family income had an increased prevalence of caries and the children with high rate of sugar intake had a higher incidence of caries (Petersen, 2010).

### **Level of education**

The research carried out in Madagascar, Thailand, Tanzania, China and Saudi Arabia showed that the level of education was a factor in Madagascar, Thailand and Saudi Arabia. Dental caries was common in the less educated population compared to the educated population (WHO, 2012).

### **Dental seeking behaviors**

The dental attitude was a factor in Madagascar and Thailand. The caries attacked most of the families that did not go for routine dental checkup and it was uncommon in families that routinely visited the dental clinic for checkup (WHO, 2012).

### **Alcohol, smoking, poor dental hygiene and intake of sugary substances**

A research carried out in Rakai showed that alcohol intake, smoking, poor dental hygiene and intake of sugary substances were the leading causes of dental caries (Charles, 2009).

## **CHAPTER THREE: METHODOLOGY**

### **3.1 STUDY DESIGN**

The study design was cross sectional study design.

### **3.2 STUDY AREA**

The study was conducted at Kampala International University Teaching Hospital, Ishaka municipality, Bushenyi district. Kampala International University Western Campus is one of the private medical campus in Uganda situated along Mbarara Kasese road. Ishaka town is located 5 kilometers from Bushenyi district. It is bordered by Rubirizi District to the Northwest, Buhweju District to the Northeast, Sheema District to the East and Mitoma District to the South. Ishaka is located 58 kilometers, by road, Northwest of Mbarara. The major economic activities include; semi intensive agriculture, trade and commerce. Bushenyi district mainly comprises of Banyankole, Bakiga, Baganda, and Bankonzo.

### **3.3 STUDY POPULATION**

Patients with dental caries attending KIU-TH dental clinic from Bushenyi district.

### **3.4 INCLUSION AND EXCLUSION CRITERIA**

#### **3.4.1 INCLUSION CRITERIA**

All the adult patients attending dental clinic of KIU-TH with dental caries who consented were considered

#### **3.4.2 EXCLUSION CRITERIA**

Non-residents of Ishaka municipality, Bushenyi district.

Patients with other forms of debilitating diseases were excluded from this study.

### **3.5 SAMPLE SIZE DETERMINATION**

Sample size was determined using Krejcie and Morgan's table, in appendix ii and a sample size of 80 was used, as highlighted in the table.



### **3.6 STUDY VARIABLES**

The dependent study variable was dental caries and the independent study variable included, demographic factors, socio cultural factors and individual factors. The confounding variables were environmental and climatic factors

### **3.7 SAMPLING METHODS**

Consecutive enrollment of participants was used

### **3.8 DATA COLLECTON**

The data was collected using interviewer administer questionnaires, which was personally administered by the researcher. Direct interview schedule, proper history taking, direct observations as well as reviewing of available records to get the dental caries was employed at the dental clinic.

### **3.9 DATA ANALYSIS**

For both objectives one and two, data analysis was done manually by counting, tallying and using a simple electronic calculator.

### **3.10 QUALITY CONTROL.**

The study instruments consisted of pre-tested questionnaires, Interview tool guide and observational tool guide. Research Assistant was employed and trained by the researcher to collect data.

### **3.11 STUDY LIMITATIONS**

Non response rate became too high however, this was catered for in sample size calculation.

### **3.12 ETHICAL CONSIDERATIONS**

Approval to conduct research was sought from office of the administrator, School of Allied Health Sciences, KIU western campus. While in the field, confidentiality was observed and participants consented first before participating in the study.

## CHAPTER FOUR: RESULTS

### 4.1 Socio demographic characteristics of the study population

A total of 80 patients attending dental clinic at Kampala International university Teaching hospital in the month of February 2017 participated in the study. A greater proportion of the patients 41(51.25%) who participated in the study were young adults with the age ranging from 20-29. More females 45(56.25%) participated in the study compared to males 35(43.75%) and among the participants, majority 34(42.50%) were Banyankole. Also a high proportion of the participants 31(38.75%) were students and most of the participants 53(66.25%) were single. Furthermore, Most participants 37(46.25%) were Catholics. Majority of the participants 36(45.00%) had attained education up to primary level while a few 5(6.25%) attended school up to tertiary level.

**Table A: Socio demographic characteristics of the study population**

Variable	Frequency (percentage)
<b>Age n (%)</b>	
20-29	41(51.25)
30-39	7(8.75)
40-49	29(36.25)
50 and above	3(3.75)
<b>Gender n (%)</b>	
Male	35(43.75)
Female	45(56.25)
<b>Tribe n (%)</b>	
Munyankole	34(42.50)
Mukiga	22(27.50)
Mutoro	8(10.00)
Mukonzo	4(5.00)
Others	12(15.00)

**Religion n (%)**

Catholic	37(46.25)
Protestant	30(37.50)
Muslim	4(5.00)
Other	9(11.25)

**Level of education n (%)**

Primary	36(45.00)
Secondary	32(40.00)
Tertiary	5(6.25)
None	7(8.75)

**Marital status n (%)**

Single	53(66.25)
Married	23(28.75)
Separated	2(2.50)
Divorced	2(2.50)
Widowed	0(0.00)

**Occupation n (%)**

Peasant	30(37.75)
Student	31(38.75)
Business	10(12.50)
Others	9(11.25)

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#### 4.2: Prevalence of dental caries among patients attending dental clinic at KIU-TH

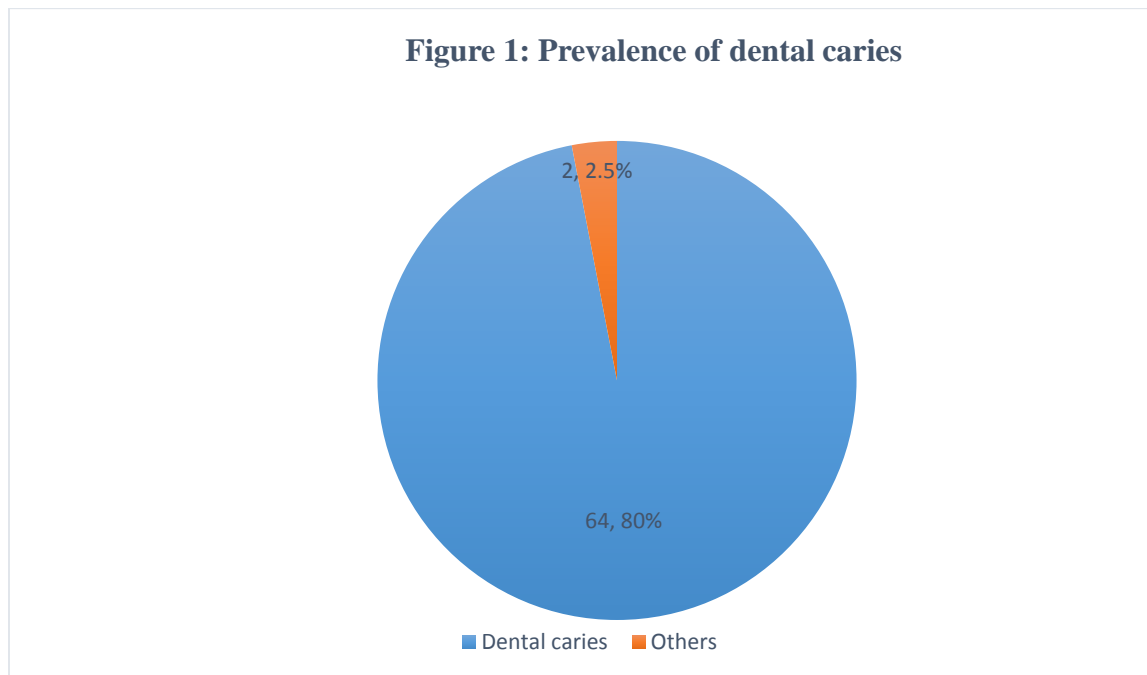


Figure 1 above shows the prevalence of dental caries among patients attending dental clinic at KIU-TH. Out of the 80 participants, 66 (82.5%) respondents had ever extracted their teeth, and 14 (17.5%) had never extracted their teeth. Of those who had extracted their teeth, 64(80%) said it was because of dental decay while 2(2.5%) of the respondents extracted for other reasons

#### 4.3: Factors influencing dental caries among patients attending dental clinic at KIU-TH

The results indicated that a greater proportion of the patients 65(81.25%) brushed their teeth daily, and among the participants, the majority 54(67.50%) changed their tooth brush once in a year. Also a high proportion of the participants 66(82.25%) used tooth paste with fluoride as a cleaning agent and also more patients 41(51.25%) consumed milk daily while those who consumed vegetables occasionally were the majority 40(50%). Furthermore, most participants 54(67.50%) took sugary foods in a week and the results also showed that the majority of participants representing 68(85%) did not smoke. However, few participants 13(16.25%) accepted that they consumed alcohol and also the least number 16(20%) of the patients went for dental visits.

**Table B: Factors influencing dental caries**

Variable	Dental caries	
	Yes	No
<b>Brushing n (%)</b>		
Daily	65(81.25)	15(18.75)
After every meal	8(10.00)	72(90.00)
Never brush	0(0.00)	80(100)
<b>Change of tooth brush n (%)</b>		
Once a year	54(67.50)	26(32.50)
A month	8(10.00)	72(90.00)
Three months	15(18.75)	65(81.25)
<b>Cleaning agent n (%)</b>		
Tooth paste with Fluoride	66(82.5)	14(17.5)
Salty water	8(10.00)	72(90.00)
Ashes	4(5.00)	76(95.00)
<b>Consumption of milk in a week n (%)</b>		
None	4(5.00)	76(95.00)
Once	13(16.25)	67(83.75)
Twice	14(17.50)	66(82.50)
Daily	41(51.25)	39(48.75)
Occasionally	8(10.00)	72(90.00)

**Consumption of vegetables in a week n (%)**

None	15(18.75)	65(81.25)
Once	9(11.25)	71(88.75)
Twice	12(15.00)	68(85.00)
Daily	4(5.00)	76(95.00)
Occasionally	40(50.00)	40(50.00)

**Consumption of sugary foods in a week n (%)**

Once	14(17.50)	66(82.50)
Twice	16(20.00)	64(80.00)
Thrice	13(16.25)	67(83.75)
Don't take sugar	26(32.50)	54(67.50)
Others	11(13.75)	69(86.25)

**Smoking n (%)**

12(15)	68(85)
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**Alcohol consumption n (%)**

13(16.25)	67(83.75)
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**Dental visits n (%)**

16(20.00)	64(80.00)
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## **CHAPTER FIVE: DISCUSSIONS, CONCLUSION AND RECOMMENDATION**

### **5.0 General introduction.**

In this chapter, the reader is introduced to the discussions and arguments behind the research findings. The discussions are basically focused on the study objectives. However some other findings are also highlighted in the discussions.

### **5.1 Discussions**

Participants in the study were mainly patients attending KIU-TH dental clinic. In this study, the number of patients who attended the dental clinic with holes in their teeth was higher compared to those who attended for other reasons. This could be due to individual behaviors like smoking and poor diet, for example eating sugary foods. The young adult age was positively associated with burden of dental caries. This is similar to findings on the study on dental diseases in urban and peri urban areas, Arua, Mbale and Kampala which revealed that 62.5% adults had dental caries (Louis, 2005). However the same study on dental caries showed that there was no gender difference implying that both sexes were affected (Louis, 2005). Another research carried out in Nairobi showed that there was no significant difference in prevalence of caries between males and females in the younger age group. These findings were different from our study findings which showed that prevalence of dental caries was higher in females than males. This could be due to the kind of lifestyle they live as students, where they resort to sugary foods, for example sodas and cakes, as they don't get enough time to prepare a reasonable meal because a lot of time is spent in classes.

Though more students participated in the study, the results showed that the less educated patients were more compared to those who attended school up to tertiary level. These results however, are in agreement with those from the study conducted in Madagascar, Thailand, Tanzania, China and Saudi Arabia which showed that the level of education was a factor in Madagascar, Thailand and Saudi Arabia. Dental caries was common in the less educated population compared to the educated population (WHO, 2012). This could be due to the little knowledge they have about dental decay. The same research revealed that the dental attitude was a factor in Madagascar and Thailand. The caries attacked most of the families that did not go for routine dental checkup and it was uncommon in families that routinely visited the dental clinic for checkup (WHO, 2012). This is in agreement with this study which showed that more patients didn't go for dental checkup and the caries was

more common among them and it was uncommon among the few who went for routine dental checkup at the dental clinic.

Although most participants did not eat sugary foods, did not smoke and did not take alcohol, those who ate sugary foods, smoked and took alcohol had a higher prevalence of dental caries. A similar report carried out in Rakai showed that alcohol intake, smoking, poor dental hygiene and intake of sugary substances were the leading causes of dental caries (Charles, 2009).

## **5.2 Conclusion**

In conclusion, data from this study showed that the burden of dental caries still persisted among patients attending dental clinics in Ishaka- Bushenyi. Young adult age and female students was positively associated with burden of dental caries, this possess a huge health and economic burden to rural communities. Eating sugary foods predisposes communities to dental caries especially those with poor oral hygiene and who don't go for routine dental checkup. People who have had dental caries are mostly likely to have re-occurrence of the disease if they are not well educated.

## **5.3 Recommendations.**

There is a great need to inform the public about the importance of a good proper oral hygiene practice in order to reduce dental caries.

Proper planning for health services especially health education and personnel is warranted to counteract the persistent burden of dental caries in all communities.

There is need to enlighten the communities in rural areas on other cheaper methods of keeping oral hygiene other than using tooth brush and toothpaste, which some people could not afford.

Further studies are necessary to be carried out over a wide geographical area to identify more factors influencing dental caries



## APPENDIX I: REFERENCES

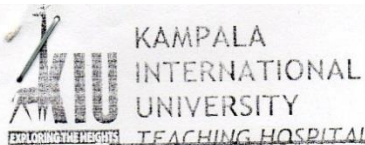
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## APPENDIX II: KREJCE AND MORGAN'S TABLE

<i>N</i>	<i>S</i>	<i>N</i>	<i>S</i>	<i>N</i>	<i>S</i>
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	100000	384

Note.—*N* is population size.  
*S* is sample size.

### APPENDIX III: LETTER FOR DATA COLLECTION



School of Allied Health Sciences (SAHS) Ishaka,  
P.O. BOX 71 Bushenyi,  
Tel: 0703786082/0773786082  
Email: christinekyobuhair@gmail.com

#### OFFICE OF THE ADMINISTRATOR - SAHS

*IN CHARGE - DENTAL*  
*Please allow the student to administer*  
*his questionnaire*

6<sup>th</sup> April 2017

The Executive Director KIUTH

Dear Professor,

#### SUBJECT: DATA COLLECTION

Academic research project is an Academic requirement of every student pursuing a 3 year Diploma in Clinical Medicine & Community Health (DCM) of Kampala International University- Western Campus (KIU-WC). DCM program is housed in the School of Allied Health Sciences (SAHS).

The students have so far obtained skills in Proposal writing especially chapter one, Three & Questionnaire design. The student's topic has been approved by SAHS Research Unit and is therefore permitted to go for data collection alongside full proposal & dissertation writing. As you may discover the student is in the process of full proposal development. However, the student MUST present to you his questionnaire and his research specific objectives that he wishes to address. We as academic staff of Allied Health Sciences are extremely grateful for your support in training the young generation of Health Professionals. I therefore humbly request you to receive and allow the student KAMWADA JOHN Reg.No. DCM/0097/143/DU in your hospital to carry out his research. His topic is hereby attached. Again we are very grateful for your matchless support and cooperation.

Topic: **PREVALENCE AND FACTORS INFLUENCING DENTAL CARIES AMONG PATIENTS ATTENDING DENTAL CLINIC OF KAMPALA INTERNATIONAL UNIVERSITY TEACHING HOSPITAL.**

Sincerely yours,

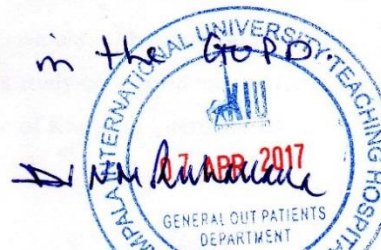
Christine Kyobuhair, Administrator- SAHS

CC: Dean  
CC: Associate Dean SAHS  
CC: Coordinator, Research Unit- SAHS  
CC: H.O.D Dept. Public Health  
CC: H.O.D Laboratory Sciences  
CC: Coordinators; TLC & DEC

*7/4/2017*

*Mr. Kamwada John DCM3.2*  
*has been allowed to do*

*Research in the*



"Exploring the Heights"

## **APPENDIX IV: CONSENT FORM**

### **Invitation to Participate in Research Project**

I am Kamwada John from KIU; I am undertaking an academic Research entitled, “Prevalence and factors influencing dental caries among patients attending dental clinic of Kampala International university teaching hospital, Bushenyi district” Participation is voluntary.

### **Purposes, Procedures, and Duration of the Study**

The purpose of the study is academic, to earn a university Diploma in Clinical medicine and community health. The findings from this study will, in addition, provide information regarding preventive measures for factors influencing dental caries. So the information you provide will be very important.

The procedure of data collection will be, non-invasive, by use of questionnaire. The time spent for this research (data collection) will be one month

### **Possible Benefits and Risks of Participation**

The information you do provide will not help you directly but will assist the people that are single parents; and these are your relatives, brothers and sisters.

### **You're Options Regarding Participation and Continuation**

Members who are above 20 years will participate in this study and there is no crime if you decline to participate. In case you change your mind about participation in the study, there will be no penalty.

### **Confidentiality and Disclosure of Responses**

Data will be captured using codes instead of names and will be kept and inaccessible to everyone apart from the researcher.

### **Agreement to Participate (or Not)**

Having read this consent form, and after asking any questions that I have about the procedures, benefits, and/or risks of this study, I hereby agree to participate in this study of “Prevalence and factors influencing dental caries among patients attending dental clinic of Kampala International university teaching hospital, Bushenyi district” I also understand that I may withdraw from

participation at any time without penalty. My signature also indicates that I have received a copy of this form.

_____	_____	_____
Signature	Date	Print name here

Having read this consent form, and after asking any questions that I have about the procedures, benefits, and/or risks of this study, I have decided to decline to participate at this time. However, if I later decide to participate, I understand that I may contact “KIU Research Coordinator” to see if this study or a related study is in progress. My signature also indicates that I have received a copy of this form.

_____ 、	_____	_____
Signature	Date	Print name here

## **APPENDIX V: QUESTIONNAIRE**

### **Introduction**

My name is Kamwada John, reg. no DCM/0097/143/DU, a student of Kampala international university western campus, doing a diploma in clinical medicine and community health. I am carrying out a research to determine the prevalence and factors influencing dental caries among patients attending dental clinic of KIU-TH.

Please read through the questionnaire and tick where appropriate, be sincere and explain where necessary. All the information given by you shall be kept confidential and not be known to anybody whatsoever without your consent.

### **SECTION A: SOCIAL DEMOGRAPHIC CHARACTERISTIC**

1) Age of respondent .....

2) Sex of the respondent

a) Male ( )

b) Female ( )

3) Tribe of the respondent

a) Munyankole ( )

b) Mukiga ( )

c) Mutoro ( )

d) Mukonzo ( )

e) Others ( )

4) Religion of the respondent

a) Catholic ( )

b) Protestant ( )

c) Muslim ( )

d) Others specify .....

5) Level of education

- a) Primary ( )
- b) Secondary ( )
- c) Tertiary ( )
- d) None ( )

6) Marital status

- a) Single ( )
- b) Married ( )
- c) Separated ( )
- d) Divorced ( )
- e) Widow ( )

7) Occupation of the respondent

- a) Peasant ( )
- b) Student ( )
- c) Business ( )
- d) Others.....

**SECTION B: ORAL HYGIENE**

8) Have you ever experienced tooth removal?

- a) Yes ( )
- b) No ( )

9) If yes, what was the reason?

- a) Because of dental caries ( )
- b) Others specify.....

10) How often do you brush your tooth?

- a) Daily ( )
- b) After every meal ( )
- c) Never brush ( )
- d) Others .....

11) How long do you change your tooth brush?

- a) One year ( )
- b) A month ( )

c) Three months (    )                      d) others .....

12) What do you use while cleaning your tooth?

a) Tooth paste with fluoride (    )              b) Ashes (    )

c) Salty water (    )                      d) others.....

13) How many times do you take milk products a week?

a) None (    )    b) Once (    )              c) Occasionally (    )

d) Twice (    )    e) Daily (    )

14) How many times do you take vegetables a week?

a) None (    )    b) Once (    )    c) Occasionally (    )

d) Twice (    )    e) Daily (    )

15) Have you ever gone for a dental checkup?

a) Yes (    )                      b) No (    )

16) If yes how many times per day do you visit a dental specialist?

a) Once (    )                      b) Twice (    )

c) Thrice (    )                      d) Others specify.....

17) What was the purpose of the visit?

a) Routine dental checkup (    )

b) To remove a tooth (    )

c) To clean the tooth (    )                      d) others.....

18) Do you drink alcohol?

/a) Yes (    )                      b) No (    )

19) If yes, how many times in a week do you take alcohol?

a) Once (    )    b) Twice (    )              c) Daily (    )



d) Occasionally (     )                      e) Others specify.....

20) Do you smoke cigarettes?

a) Yes (     )                      b) No (     )

21) How many times do you take sweets, cakes, ice cream, and soda in a week?

a) Once (     )    b) Twice (     )            c) I don't take sweets (     )

d) Thrice (     )    e) Others specify.....

**THANK YOU FOR YOUR ANSWERS**

## APPENDIX VI: MAP OF BUSHENYI



[illegible]

### APPENDIX VIII: WORK PLAN

MONTH ACTIVITY	DECEMBER	JANUARY	FEBUARY	MARCH	APRIL	MAY	JUNE	JULY
Research proposal writing								
Data collection, data clearing and organization								
Data analysis and interpretation								
Preparation of report draft								
Final report writing and submission								