

**PREVALENCE AND FACTORS ASSOCIATED WITH DENTAL CARIES/DECAY
AMONG PATIENTS WHO ATTEND DENTAL CLINIC AT LIRA REGIONAL
REFERAL HOSPITAL**

BY

AKUBU BETTY

**A RESEARCH PROPOSAL SUBMITTED TO THE FACULTY OF CLINICAL
MEDICINE AND DENTISTRY IN PARTIAL FULLFILMENT OF THE
REQUIREMENT FOR THE AWARD OF A DEGREE OF BACHELOR OF MEDICINE
AND BACHELOR
OF SURGERY OF KAMPALA INTERNATIONAL UNIVERSITY**

AUGUST 2014

DECLARATION

I Akubu Betty hereby declare that this research report is my original work and has never been submitted to any institution of higher learning in part or in whole as requirement for the award of any academic qualification.

BMS\0237\81\DU

Date:.....Sign:.....

APPROVAL

This is to approve and certify that this research work has been prepared under my direct guidance and supervision and is now ready to be submitted to the faculty of clinical medicine and dentistry in partial fulfillment of the requirement of the award of bachelor of medicine and bachelor of surgery of Kampala International University.

SignDate.....

DEDICATION

This piece of work is dedicated to God the almighty who gave me the strength, wisdom and knowledge to write this research.

ACKNOWLEDGMENT

I would like to recognize various people who contributed to the development of this study and I extend my gratitude to them;

1. My supervisor Prof. Yorani Begumya who received me whole heartedly and gave me courage and guidance throughout my research work.
2. My lecturers especially from the department of dentistry for imparting their knowledge of dentistry to me that made me to carry out a research on dentistry.
3. My sponsor state house Uganda who endeavored to pay my tuition throughout my course at Kampala International University for five and half years.
4. Finally, my family especially my mother Mrs. Helen Ogwang, my brothers namely Peter, James, David, Andrew and my sister Agnes who supported me spiritually and financially.

LIST OF ACRONYMS

DMFT:	Decayed, Missing or Filled Teeth
LRRH	Lira Regional Referral Hospital
MoH:	Ministry of Health
WHO	World Health Organization

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ABSTRACT

This was a descriptive cross sectional quantitative study, carried out at LRRH in Lira municipality, northern Uganda. A total of 100 respondents were sampled and interviewed. The study aimed at assessing the prevalence and factors associated with dental caries/decay among patients attending dental clinic at LRRH.

Results: From the study 100% of the respondents agreed to brushing their teeth, out of which 41% brushed their teeth once a day, 21% after every meal, 34% twice daily and 4% not every day, which indicated therefore that the majority of respondents brush their teeth only once a day. Most of these respondents use fresh-up 48%, followed by ABC Dent 23%, Colgate 17%, Delident, others 3% and 9% respectively. Most of them also change their tooth after every 3 month, 63% followed by after every 6 month, 20% and only when it wears out or breaks 17%, 37% of the respondents were aware that it was carbohydrates that cause dental carries/ decay, followed those who did not know what causes dental carries/ decay 28%, protein, vitamins and minerals had 16%, 12% and 7% respectively. Cassava was the staple food among respondents 66% followed by Posho 20%, sweet potatoes 8% and millet 6%.

39% of the respondents had visited the dentist more than two years ago. 69% visited the dentist for tooth extraction while 11% had gone to the dentist for check-up. 80% of the respondents had not attended any dental clinic seminars while 20% had attended dental seminars.

Majority of the respondents were aged between 16-25 years and were single 54% and most of them were female 64% while male were 36%. Most of the respondents were also female and primary drop outs.

Conclusion: There is still need for research to be carried among patients attending dental clinic at LRRH, a large population of the respondents do not know proper oral hygiene, poor dental seeking behaviors and some still do not know the effect of sugary food or the cause of dental carries/decay on their teeth. The condition is common among those age 16-25 years and single.

CHAPTER ONE: INTRODCUTION

1.0 Introduction

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

1.1 Background of the Study

Dental caries is an infection of the teeth which is bacterial in origin. It causes demineralization and destruction of the hard tissues of the tooth[enamel, dentine and the cementum],usually by production of acid by bacterial fermentation of the food debris accumulated on the tooth surface[Tirwomwe,1987].If demineralization exceeds saliva and other re-mineralization factors such as from calcium and fluoridated toothpastes, these hard tissues progressively breakdown, producing dental caries[cavities, holes in the teeth].The bacteria responsible for formation of dental caries are; streptococci mutans, streptococci sobrinus and lactobacilli. If left untreated, the disease can lead to pain, tooth loss and infection [Wolfgang, 2005].

Dental decay/caries is part of the overall picture of human life and health. It is necessary for the existence of all living things to be healthy. Tooth decay means that the mineral content in the tooth has been dissolved by the organic acids secreted by bacteria residing in the biofilm or plaque on the tooth surface. These organisms convert carbohydrates to acids that decrease the minerals in the tooth structure (Xu, 2005).Minerals from the earth are very vital for the development of bones in the body including teeth, these minerals are easily accessible from the food we eat and also in milk which we take or even taking them direct as artificial supplements.

All sources of minerals in the community are limited by lack of appropriate collection surface and reservoirs which are expensive for most of the households/communities (Dean, 1999).The human body requires different types of foods for sustaining its survival per day for normal physiological functioning depending on the climate and work load. Human body cannot survive without food but the kinds of food we eat predispose our bodies to much health risk which includes dental decay/caries (Pindborg, 1969).

1.2 Statement of the Problem

Dental decay\caries have become hazardous health concern. Dental decay\caries is a major public health problem worldwide [Edmund, 2009], the problem of dental decay\caries is affecting most people in sub-Saharan region especially Africa. The government of Uganda in conjunction with one of the non-governmental organization [NGO] in 2010 [Daily monitor, 2010] indicated that dental decay\caries is on the rise, unless intervention measures are applied.

Besselièvre [2009] stated that the problem of dental decay\caries has become a major challenge even when communities have access to health education and health services. Dental decay\caries is one of the problems in Lira municipality and mostly affecting persons aged 5 years and above due to consumption of sugary foods .The prevalence of dental caries\decay is still high within Lira municipality and that gives a reason for a research to be carried out on the prevalence of dental caries\decay in Lira municipality .Efforts have been made by the governments to address the problem but it still remains a public health problem [Dean, 2009].

1.3 Justification of the Study

The information got from this research will be useful in public dental health for assessing the prevalence of dental caries\decay among patients attending dental clinic at Lira regional referral hospital. This will improve and reduce the incidence of dental caries\decay that has become rampant in Lira District because the information got from the research will be disseminated to administrative leaders at Lira regional referral hospital (LRRH), local leaders, district health officer and ministry of health. The research will provide information to other researchers to get interested and carry out research on the prevalence and the factors associated with the development of dental caries/decay.

1.4 Purpose of the Study

Despite all the efforts by government to increase accessibility to health education and treatment, there is an observed increase in the rate of dental caries\decay in this area. The study is meant to determine the prevalence of dental caries\decay so that the public can be enlightened through campaigns and health education carried out on the prevalence and factors associated with dental caries\decay. The study also will provide a basis for feasible solution to the problem once the associated factors are identified. The study will also serve as a baseline for future researchers.

1.5 Study Objectives

1.5.1 General Objectives

To assess the prevalence and the factors associated with dental caries\decay among patients attending dental clinic at Lira regional referral hospital (LRRH).

1.5.2 Specific Objectives

The specific objectives of the study are:

1. To assess the prevalence of dental caries\decay among patients attending dental clinic at LRRH.
2. To assess the practice of oral health\hygiene among patients attending dental clinic at LRRH.
3. To determine awareness of the effect of some bias foods on dental health among patients attending dental clinic at LRRH
4. To determine the dental health seeking behavior among patients attending dental clinic at LRRH.

1.6 Research Questions.

The study will answer the following questions:

1. What is the prevalence of dental caries\decay among patients attending dental clinic at LRRH?
2. What is the practice of oral hygiene among patients attending dental clinic at LRRH?
3. What is the awareness of the effect of some bias foods among patients attending dental clinic at LRRH?
4. What is the dental health seeking behavior among patients attending dental clinic at LRRH?

1.7 Scope of the Study

The study will be concerned with the assessment of the prevalence and factors associated with dental caries/decay among patients attending dental clinic at LRRH. It will be conducted at LRRH in Lira municipality, Uganda and the study will be carried out between the months of august to October 2014.

CHAPTER TWO: LITERATURE REVIEW

2.0 Introduction

Food availability, quality, cost, family size, standard of living, cultural habit, income level, climate and means of distribution are factors that majorly contribute to the health hazards like dental caries/decay [Kwat, 2005]

2.1 Effects of sugary foods

Farmers and most residents produce and feed on carbohydrates which are rich in sugar. But most people who live in towns or urban centers feed on refined sugary foods and if they do not maintain personal oral hygiene then they are much predisposed to dental diseases [Wood, 2010]

Increased population, additional beverage industrial wastes and the use of fertilizers and insecticides together with dumping of other contaminants of man have been major contributors to lack of vital minerals needed for the development of the body, minerals like phosphorus, calcium and others that are for bone development including teeth will be insufficient in supply to the body for the development of strong and healthy teeth [McClendon, 2006].

2.2 Effects of oral hygiene

Dental sealants, which are applied by dentist, cover and protect fissures and grooves in the chewing surfaces of back teeth, preventing food from getting stuck in between teeth, hence halting the process of decay. An elastomer strip has been shown to aid sealants deep inside opposing chewing surfaces and can also force fluoride toothpaste inside chewing surfaces to aid in remineralizing, demineralized teeth[Rwenyonyi,2001].

2.3 Dental health

This gives guidance about symptoms, causes and treatment of various dental problems and diseases, and it also gives solutions for protection of your teeth from these disorders.

Cavities:

The formation of holes on the tooth surfaces as a result of tooth decay is known as cavities. The teeth that decay are incisors, premolars, molars. This decay of tooth may take place either on the crown of the teeth or at the gap between the two teeth. Teeth decay takes place due to improper dental hygiene (Broutos 2005).

Dental Fillings:

These are requirements when one faces dental problems like broken or chipped off dentures, tooth with cavities etc. Dental fillings are done with certain non-reactive and stable metals and inorganic compounds [Edmund, 2004].

Dentures:

Dentures are used for teeth replacement for people without teeth. They are a substitute for teeth and can be removed easily when required. Dentures can be used for single tooth replacement, a few teeth replacements or replacement of a whole set of teeth [Rwenyonyi, 2006].

Dry Mouth:

It is clinically known as xerostomia, this is a condition that occurs when the mouth run out of saliva. Saliva is an important requirement of the mouth to keep the mouth from getting dry. Every person in one occasion in life may suffer from temporary bouts of dry mouth [Pindborg, 1969]

Foods that stains teeth:

A stain is a hard to remove mark that is made on an object, which can be a piece of cloth or as would be discussed in this context, the teeth. There is a number of stain causing substances in and around us [Welbourn, 1956]

2.4 Prevalence of dental caries/decay

The rate of dental caries is variable. Usually, caries progresses slowly as a chronic disease. They are arrested or rematerializing phases that alternate with more active phases, so that a carious

lesion may remain stable for months or even years. Coronal caries is exclusively a disease of children. Its frequency steadily increases until more than 15 or so years of age, and then diminishes in early adulthood. Caries appears to be more common in girls than boys. This may be due to the early dental eruption of permanent teeth in girls [Rwenyonyi, 2001].

Root caries affects particularly the proximal surfaces of cheek teeth. It is primarily a disease of older adults. The pattern of dental caries is similar among members of the same family over several generations. Inheritance of this susceptibility is suspected. Environmental factors such as diet and oral hygiene have a great role. The clearest single factor in caries epidemiology is sugar. Dental caries [Decayed, Missing or Filled Teeth] [DMFT], greater or equal to one was recorded in 40% and 62.5% of children and adults respectively. The overall mean DMFT score was 0.9 for children and 3.4 for adults. Caries was significantly more in females as compared to males in children [$p < 0.05$], whereas in adults, there was no significant gender difference. Kampala had a significantly higher mean DMFT compared to other districts in all age groups [$p > 0.059$] [Edmund, 2004]

2.5 Causes of dental caries

Bacteria are normally found in the mouth of human beings. These bacteria change foods especially sugar and starch into acids. Bacteria, acid, food pieces, and saliva combine in the mouth to form a sticky substance called plaque. Plaque sticks to the teeth and it's most common on the back molars, just above the gum line on all teeth, and at the edges of fillings [Annburges, 1999]. Plaque that is not removed from the teeth turns to substance called tartar. Plaque and tartar irritate the gums, resulting in gingivitis and periodontitis. The acids in plaque damage the enamel covering the teeth, and create holes in the tooth [cavities]. Cavities usually do not hurt, unless they grow very deep and affect the nerves or cause a tooth fracture. Carbohydrates [sugars and starch] increase the risk of tooth decay. Sticky foods are harmful than non-sticky foods because they remain on the teeth. Frequent eating of snacks increases the acids in contact with the tooth surface [Krumholt, 1971].

2.6. Types of Dental Caries/Decay:

Enamel Caries

Effect of cavities on the 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 [McClendon, 2006].

Secondary Caries

The common location of occurrence of secondary caries is the edges of restorations fracture places on the teeth. This type of caries can result from in appropriate adjustment of a restoration or inadequate restoration extension.

Acute Caries

Acute caries is a rapid process, which affects a large number of teeth. Lesion of acute caries is light brown or gray than the lesions caused by other types of caries. The caseous consistency of acute caries makes it difficult to excavate the affected teeth. The common effects seen in patients of acute caries are pulp exposure and sensitive teeth.

Arrested Caries

Caries that becomes static without showing further tendency to progress 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 breakdown of tooth tissues [Mc, 2006].

Early Childhood Caries

This is also known as baby bottle caries, it occurs in young children. Baby bottle caries occurs when a baby is fed with a milk bottle at bed time and few drops of milk remain in the mouth of the baby for a long time resulting in tooth decay. This type of dental caries causes yellowing of the teeth, inflammation of the gums and excessive pain in the teeth causing eating, speaking and sleeping problems [G.H Wood, 2001].

Tooth decay is the most common global disease. Over 80% of cavities occur inside pits and fissures on chewing surfaces where the tooth brush cannot reach the food particles trapped after

every meal or snack, and saliva or fluoride in toothpaste have no access to neutralize acid and remineralise the demineralized teeth, unlike easy to reach surfaces, where fewer cavities occur[Edmund,2004]

CHAPTER THREE:

STUDY METHODOLOGY

3.0 Introduction

This chapter describes study area, study design, study population, sample size determination, sampling technique, sampling procedure, exclusion and inclusion criteria, data collection, data management, data analysis, ethical consideration and limitation of study.

3.1. Study Area

The study was conducted in Lira regional referral hospital, located in Lira municipality in Lira district, in mid northern Uganda. The district is bordered to the north by Otuke district, to the northeast by Alebtong district, to west by Apac district, to the south by Amolatar district and to the southwest by Dokolo district.

Lira district is located 300km from Kampala city Centre, north of Uganda. It serves as a regional district. The major economic activities in the district includes; agriculture, trade and commerce, transport, fishing and small scale industries. For communication purposes, it has some local FM radio stations namely; radio Waa, radio lira, voice of Lango to mention but a few.

3.3 Study Design

This was a descriptive cross sectional study because it was used to assess the prevalence of dental caries/decay and the factors associated with it and also the results of medical intervention. Cross sectional studies involved special data collection, including questions about the past, but they will often rely on data originally collected for other purposes.

3.4 Study Population

According to population and housing census preliminary results, it indicated that the population estimate of Lira municipality was five hundred thousand [500,000] by year 2012. This was reached at a house to house census, released by the district population officer.

3.5 Sample Size Determination

One hundred [100] respondents were interviewed out of the estimated population of five hundred residents in the municipality.

To obtain the sample size fishers' et al 1990 formula will be used.

$$n = \frac{z^2 PQ}{d^2}$$

$$\text{By substituting in: } n = \frac{2^2 0.5 \times 0.5}{0.10^2}$$

Where:

Where n=Desired sample size

Z=Standard normal deviation taken as 2.0 at a confidence level of 95%

P=Proportion of target population estimated to have similar characteristics.

There was no measurable estimate; therefore 50% was used as a constant or 0.5. Therefore P=0.5

Therefore q is standardized, =1.0-P=0.5

d=Degree of accuracy desired 0.10 or 10%

Therefore: n=100

3.6 Sampling Technique

Systematic sampling was used. Therefore all patients who attended dental clinic at LRRH with dental caries/decay were considered. This ensured that there is no bias.

3.7 Sampling Procedure

The research was carried out through interviewer administered questionnaires to conduct interviews. The questionnaires contained both open and closed ended questions, written in easy to read and understand manner, and interpretation was given in the local language when need arise.

3.8 Inclusion Criteria

All patients that were found at the dental clinic at LRRH with dental caries/decay were considered.

3.9 Exclusion Criteria

Those who did not consent and neonates were not considered.

3.10 Research Instrument

Structured questionnaires were used during the research, this was written in English language and interpretation and explanation was given in the local language where necessary

3.11 Pretesting of the Questionnaire

Questionnaire was pretested at LRRH to confirm reliability and accuracy of the instrument so as to ensure there was no bias in data collection.

3.12 Data Collection

Data was collected using interviewer administered questionnaires, which was personally administered by the researcher herself and one research assistant who was given training instructions by the researcher to ensure accuracy and no bias. Review of available records in LRRH and observations were also used during the research.

3.13 Data Management

Data was processed using Microsoft excel for data cleaning and organization, to check for missing values and other logic errors.

3.14 Data Analysis

The short answer question was edited, categorized and entered in computer Ms Excel. Also a thorough examination of questionnaire responses was done to ensure consistency, accuracy and completeness of the responses. The study also uses frequency tables and graphs with the help of percentages to illustrate the findings of the study.

3.14.1 Validity

The validity of research was ensured by matching the research findings with the objectives of the study. This was done by my research supervisor and other staff in the hospital.

3.14.2 Reliability

Reliability of information from questionnaires was based on the target population of the study. The data was assessed to ensure its importance by using frequencies and percentages.

3.15 Ethical Consideration

Voluntary participation:

Decision to participate in this study was voluntary and it was not influenced by anybody for the respondents to participate. Respondents were requested to fully fill the questionnaire.

Privacy and confidentiality:

Information that was collected from this study was kept confidential and no one else except the researcher will have access to the information.

Anonymity:

Participants in this study had the right to remain anonymous. This was catered for by giving no provision for names on the questionnaire.

Informed consent:

Informed consent was administered before participating in the study. Therefore, each respondent signed the consent form to confirm his/her acceptance to participate voluntarily after receiving adequate explanation about the study.

3.16 Study Limitation

This study was conducted within a short period of time and involved a small number of respondents to accurately determine the prevalence of dental carries and besides, the degree of error in this study was large due to sampling error that were not avoidable. The researcher, therefore believe that it could have affected the conclusive power of the study.

CHAPTER FOUR

RESEARCH FINDINGS

4.1 Introduction

This chapter gives a detailed analysis of data obtained from the study with explanation and graphics illustration of the study findings. A total of 100 respondents were interviewed for the study. The chapter also gives the demographic description of the sample, oral hygiene, effects of sugary foods and dental health seeking behavior.

(1) Demographic characteristics of respondents

4.2.1 Age of the respondents

According to the data collected from the age groups; 5-15yrs contributed to 13%, 16-25yr(54%), 26-35yrs(19%), 36-45yrs(4%) and above 46yrs(10%). This shows that the prevalence of dental caries/decay was high among those aged 16-25yrs (54%) followed by 26-35yrs (19%) respectively.

Table 1: Age of Respondents

Age	Frequency	Percentage
5-15 years	13	13%
16-25 years	54	54%
26-35 years	19	19%
36-45 years	4	4%
46 and above	10	10%
Total	100	100%

Gender of the respondents.

Most of the respondents interviewed were female (64%), while male were 36%. This indicated that dental caries were more prevalent among females attending Dental Clinic at LRRH.

Table 2: Gender of the Respondents

Gender	Frequency	Percentage (%)
Male	36%	36%
Female	64%	64%
Total	100%	100%

Tribe of respondents

Most of the respondents were Langi by tribe, 89% followed by Acholi 6%, followed by Iteso2%, Alur 1% and others 2%.

Table 3: Tribe of Respondents

Tribe	frequency	Percentage
Lango	89	89
Acholi	6	6
Iteso	2	2
Alur	1	1
Others	2	2
Total	100	100

Religion of the respondents:

Majority of the respondents were Catholics with 53%, followed by Protestants 32%, followed by Born again Christians which contributed to 9%, Muslims 5% and other religion were represented by 1%.

Table 4: Religion of Respondents.

Religion	frequency	Percentage (%)
Protestant	32	32
Catholic	53	53
Muslims	5	5
Born again	9	9
Others	1	1
Total	100	100

Level of education of the respondents:

Majority of the respondents had attained primary education with 52%, followed by secondary 31%; tertiary education 9% and 8% had not gone to school.

Table E: level of education of respondents.

Standard	Frequency	Percentage (%)
Primary	52	52
Secondary	31	31
Tertiary	9	9
None	8	8
Total	100	100

Marital status of the respondents:

According to the data collected, most of the respondents were single contributing to 52%, the married contributed to 45%, divorced/ separated 1% and widow/widowerw2%.

Table 5: marital status of the respondents:

Status	Frequency	Percentage (%)
Single	52	52
Married	45	45
Divorced/separated	1	1
Widow/widower	2	2
Total	100	100

Oral Hygiene:

Brushing teeth.

All the respondents interviewed agreed to brushing their teeth, therefore 100% of the respondents do brush their teeth.

Table 6: Brushing Teeth.

Do you brush your teeth?	frequency	Percentage
Yes	100	100
No	0	0
Total	100	100

Number of time the respondents brush their teeth:

Majority of the respondents brushed their teeth once a day which contributed to 41%, those who brushed after every meal contributed to 21%, those who brushed twice daily contributed to 34%, those who don't brush every day 4% and those who never brushed 0% respectively.

Table 7: Number of the Respondents Brushed their Teeth.

How often do you brush your teeth?	Frequency	Percentage
Daily (once a day)	41	41
After every meal	21	21
Twice daily	34	34
Not every day	4	4
Never brushed	0	0
Total	100	100

Type of tooth paste commonly used

The commonly used tooth paste is fresh up 48%, followed by ABC Dent 23%, followed by Colgate 17%, followed by others 9% including those who used sticks and delident 3%.

Table 8: Type of tooth paste commonly used.

Types of tooth paste	Frequency	Percentage
Colgate	17	17
Delident	3	3
Fresh up	48	48
ABC Dent	23	23
Others	9	9
Total	100	100

Changing tooth brush

How often do you change your brush?	Frequency	Percentage (%)
Once every 3 months	63	63
Once every 6 months	20	20
Only when it breaks up or wears out	17	17
Total	100	100

Majority of the respondents change their tooth brush after every 3 month which contributed to 63%, followed by after every 6 months 20%, then only when it breaks or wears out 17% of the respondents respectively.

Majority of respondents knew that it was carbohydrates foods which caused Dental caries which contributed to 37% of the respondents, followed by those who did not know what causes dental caries 28%, followed by respondents who knew it was protein that cause dental caries which contributed to 16%, followed by those who knew it was vitamins 12% and those who knew it was minerals 7%.

Table 9 :Causes of Dental Caries

Which of the following foods causes dental caries?	frequency	Percentage (%)
Carbohydrates	37	37
Protein	16	16
Vitamins	12	12
Minerals	7	7
I don't know	28	28
Total	100	100

Majority of the respondents feed on cassava as their staple food this is shown in table 10, 66%, followed by Posho 20%, followed by sweet potatoes 8%, followed by millet 6% and others that contributed to 0%.

Table 10: Staple food:

Which of the following is your staple food	Frequency	Percentage (%)
Millet	6	6
Cassava	66	66
Sweet potatoes	8	8
Posho	20	20
Others	0	0
Total	100	100

Dental seeking behaviors:

- a) Most recent visit to the Dentist.

Majority of the respondents had visited the dentist for more than 2 years ago, which contributed to 39%, followed by those who visited in 6 months or less 28%, followed by those who visited for more than 6 months up to 1 year respectively.

Table 11: Most recent visit to the dentist:

Recent visit to the dentist	frequency	Percentage (%)
6 months or less	28	28
More than 6 months up to 1 year	14	14
More than 1 year	19	19
More than 1 year up to 2 years	39	39
Total		

(a) Reasons for going to the dentist.

Majority of the respondents went to the dentist for tooth extraction 69%, followed 13% who went for dental pain, followed 11% for check up 5% went for filling, 0% (non- went for scaling), 1% went for gum bleeding while 1% did not remember why they had gone to the dentist.

Table 12: Reasons for going to the Dentist:

Reasons	frequency	Percentage (%)
Check up	11	11
Extraction	69	69
Filling	5	5
Scaling	0	0
Gum bleeding	1	1
Dental pain	13	13
Do not remember	1	1
Total	100	100

Attending of dental clinic seminar.

Most of the respondents, 80% had not attended any dental clinic seminars while 20% agreed to have attended dental clinic seminars.

Table 13: Attendance of dental clinic seminar:

Have you attended any dental clinic?	frequency	Percentage (%)
Yes	20	20
No	80	80
Total	100	100

Table 14: Common diagnosis at LRRH

Diagnosis	frequency	Percentage (%)
Pulpitis/caries	391	78.2
Retained Root	52	10.2
Dental abscess	33	6.6
Periodontitis	8	1.6
Dry socket	4	0.8
Gingivitis	10	2
Others	4	0.8
Total	500	100

CHAPTER FIVE:

DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

5.0 Discussion of study findings.

Introduction: this chapter discusses the demographic factors influencing the prevalence of dental caries/ decay, oral hygiene practices among the patients, the effects of sugary foods and the awareness of patients about which food causes dental caries, dental seeking behaviors among patients, conclusions and recommendations.

5.1 Demographic factors influencing dental caries/decay.

According to the research findings the researcher noted that dental caries/ decay was more prevalent among the age group of 16-25years old which contributed to 54%, followed by the age group of 26-35 years which contributed to 19%.

Dental caries/ decay was also more prevalent in females as it was shown by their gender, 64% of female attended dental clinic at LRRH, while only 36%of the males attended dental clinic at LRRH. This could have been explained by the early eruption of teeth in females compared to males (Rwenyonyi, 2001).

Also level of education of the respondents influenced the prevalence of dental caries/ decay among patients attending dental clinics at LRRH as it was noted by the researcher that most of the respondents had only attended primary education which contributed to 52% of the respondents.

5.2 Oral hygiene

It was noted by the researcher that poor oral hygiene also contributed to the development of dental caries/decay among patients attending dental clinics at LRRH as a majority of the patients 41%brushed their teeth only once a day although they all agreed to brushing their teeth, and using tooth paste for brushing and also changing their tooth brush after every 3 months which contributed to 63% of the respondents.

5.3 Effects of sugary foods.

Most of the respondents knew which food cause dental caries/ decay of which they say it was carbohydrates which cause dental caries this contributed to 37% of the respondents which were the majority followed by those which did not know the cause of dental caries which contributed to 28% of the respondents, followed by those who knew it was protein 16%, followed by those who knew it was vitamins 12%, and those who knew it was minerals 7%. Majority of the respondents also feed on carbohydrate foods with 66% feeding on cassava.

5.4 Dental seeking behaviors.

The researcher noted that most of respondents had poor dental seeking behaviors as most of the respondents interviewed had visited the dentist for more than 2 years ago and they only return when caries had developed already.

The researcher also noted that the most common reason for visit to the dentist was for tooth extraction which contributed to majority of 69%, followed by those who had dental pain 13%, followed by those who went for check up 11%, 5% went for filling and 1% for gum bleeding, 1% did not remember why they had gone to the dentist.

Also majority of the respondents interviewed had not attended dental clinic seminars which contributed to 80%. Those who had attended contributed to the minority number of 20%.

5.2 Conclusion:

In conclusion, the researcher noted that there is high prevalence of dental caries among those respondents aged 16-25years old, which contributed to 54%, this population of the age group are mostly secondary school students from secondary schools around the Municipality in Lira. She also noted that more females 64% attended dental clinic at LRRH compared to males 36% who attended dental clinic at LRRH.

About the oral hygiene practice among respondents, the researcher noted that there is poor oral hygiene practice among the respondents, although 100% agreed to brush their teeth, up to 41% brushed their teeth once daily compared to those respondents who brush their teeth after every meal 21%.

On the awareness of the effects of some bias foods that cause dental caries/decay, the researcher noted that most of the respondents 37% were aware that it was carbohydrates that cause dental caries/decay and most of the respondents agreed to cassava as their staple food (69%)

In finding out about dental health seeking behaviors among the patients attending dental clinic at LRRH, the researcher noted that a majority of the respondents had visited the dentist more than 2years ago and they had only returned to the dental clinic for tooth extraction. This indicated that there is poor dental health seeking behavior among the respondents at LRRH. This percentage contributed to 39% followed by those who visited in less than 6 months 28%, and these visits were for tooth extraction which contributed to 69% of the respondents compared to those who had come for check up 11%.

Also the researcher noted that there was poor attendance of Dental health seminars as a majority of the respondents , 80% agreed to have not attended any dental clinic seminars compared 20% who had attended dental clinic seminars.

5.3 Recommendations.

The researcher came up with the following recommendations:-

1. Ministry of health, Uganda and the district health office should enforce compulsory Dental Health education in primary, secondary schools, since the majority of the attendances in LRRH Dental clinic are mostly, primary and secondary school pupils/ students.
2. LRRH should strengthen its outreach programmes on Dental health, where they should be able to carry out Dental health education on local FM radio stations and communities around municipality.
3. Since the respondents were aware of the effects of sugary foods like carbohydrates, they should therefore be educated about the following;
4. Importance of eating a balanced diet like fruits, vegetables, proteins, since these foods contribute to the development of strong teeth.
5. Should also be taught about the importance of changing their tooth brush after every 3 month. Importance of good dental health seeking behavior that is to visit the dentist at least twice or thrice in one year for dental checkup other than to come only when there is a problem

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Appendices

Appendix I: Questionnaire Sheet

RESEARCH TOPIC: THE PREVALANCE OF DENTAL CARRIES IN LIRA REGIONAL REFERAL HOSPITAL

SELF ADMINISTERED QUESTIONNAIRE

Date:.....Place.....
.. Of Interview.....

Introduction

Name of Researcher: BETTY AKUBU

Purpose of the questionnaire: This questionnaire is developed as a data collection tool to be filed in by selected respondents. The data obtained from which shall be used only for research purposes in partial fulfillment of the award of Bachelor of Medicine and Bachelor of Surgery of Kampala International University Teaching Hospital. The investigator requests your participation in the capacity of a resource person basing on your qualification, job description and experience in the subject of study.

This data will be treated with the utmost confidentiality it deserves and will not be released to anyone/organization except for an academic purpose.

Section A: Bio data

- 1. Age
- a) 5-15
- b) 16-25
- c) 26-35
- d) 36-45
- e) 46 and above

2. Gender of respondent

- a) Male
- b) Female

3. Tribe of Respondent

- a) Lango
- b) Acholi
- c) Iteso
- d) Alur
- e) Others

4. Religion of respondent

- a) Protestant
- b) Catholic
- c) Muslim
- d) Born Again
- e) Others

5. Level of Education

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

6. Marital Status of Respondent

- a) Single
- b) Married
- c) Divorced/separated
- d) Widowed/Widower

Section B: Oral Hygiene Practice

1. Do you brush your teeth?

- a) Yes
- b) No

2. How often do you brush your teeth?

- a) daily(once daily)
- b) After every meal
- c) Twice daily

- d) Not every day
- e) Never brushed

3. What type of tooth paste do you commonly use?

- a) colgate
- b) Delident
- c) Fresh up
- d) ABC dent
- e) Others

4. How often do you change your tooth brush?

- a) once every three months
- b) Once every six months
- c) Only when it breaks or wears out

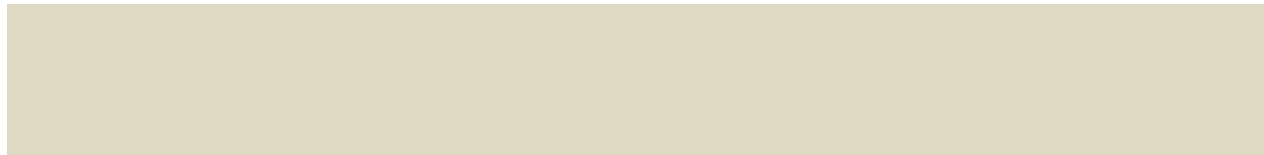
Section C: Effects of sugary foods

1. Which of the following foods causes dental cavities?

- a) Carbohydrates
- b) Proteins e.g. eggs
- c) Vitamins e.g. mangoes
- d) Minerals e.g. water
- e) I do not know

2. Which of the following is your staple food?

- a) millet
- b) Cassava
- c) Sweet potatoes
- d) Posho
- e) Others



Section D: Dental Health seeking behavior

1. when was your most recent visit to a dentist

- a) 6 months or less
- b) More than 6 months up to 1 year
- c) More than 1 year up to 2 years
- d) More than 2 years

2. Why did you go to the dentist?

- a) Check up
- b) Extraction
- c) Filling
- d) Scaling
- e) Gum bleeding
- f) Dental pain
- g) Do not remember

5. Have you ever attended any dental clinic seminar?

- c) Yes
- d) No

Thanks for your time and participation

Appendix II: Informed consent form

I am Akubu Betty, a final year medical student doing a research on the prevalence and factors associated with the development of dental caries/decay among patients attending LRRH dental clinic

I wish to request you to participate in this study. Your participation in this study is voluntary and you have the right to opt out of the study at any time. You can also refuse to consent or give any information you feel uncomfortable with. The information given in this questionnaire will be treated as confidential.

Thanks

Signature.....DATE.....
.....

Appendix III Work Plan

Time → Activity ↓	June 2014	June 2014	July 2014	August 2014	Sept 2014	October 2014
Proposal Writing	X	X				
Approval		X	X			
Data Collection				X	X	
Analysis and Discussion					X	X
1 st Draft Report						X
Correction of first draft						X
Submission of Final Report						X
Approval of final report						X

Appendix IV: Budget

Item	Quantity needed	Cost per unit	Total cost in UGX
Flash disks	1	25,000	25,000
Airtime	2 people	5,000	10,000
Meals for research assistant	2 people for 5 days	5000	50,000
Photocopying report	3 copies	100	18,000
Typing and printings	60 pages	1000	60,000
Binding	3 copies	1500	4500
Refreshment /day	3 people	3000	15,000
Inconveniences for participants	50,000 per group	50,000	50,000
Indemnity	-	50,000	50,000
Miscellaneous	10%	-	56,400
Total			288,500/=

Appendix V: Map of Lira District

