THUO STEVEN NDEGWA

A RESEARCH ON DENTAL CARIES AND ORAL HYGIENE PRACTICES.

A RESEARCH OF THE ABOVE AMONGST NURSING STUDENTS OF KAMPALA INTERNATIONAL UNIVERSITY WESTERN CAMPUS.

> BMS/0065/72/DF 30-Jul-13

A RESEARCH SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF BACHELORS OF MEDICINE AND SURGERY DEGREE AT KAMPALA INTERNATIONAL UNIVERSITY, WESTERN CAMPUS.

DECLARATION

I Thuo Steven Ndegwa, BMS/0065/72/DF, do hereby claim that this work is of my effort and in case of consultations, references have been quoted. It has not been presented for any award in any college or university.

RESEARCHER

NAME: THUO STEVEN NDEGWA.	
BMS/0065/72/DF	DATE:
SIGNATURE:	
SUPERVISOR: DR NSUBUGA SSEBALU	DATE:
SIGNATURE:	

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APPROVAL

I have read through the manuscript of this report and I am satisfied that a research can be carried out on the topic for the partial fulfillment of the award of a bachelors degree in medicine and bachelors in surgery (MBchB)

Supervisor: DR. Nsubuga Ssebalu.

Signature.....

Date.....

ABSTRACT

The following document is a research that was carried out among the nursing students of KIU, to assess the prevalence of dental caries together with oral hygiene practices. The document sought to ascertain the true prevalence which is recorded therein and the various oral hygiene habits that the nursing students had.

This was justified by the documented prevalence of dental caries and poor oral hygiene in medical institutions (Karo.M.charity 2008).

The other objectives and constituents of this research document include ascertaining various factors like; gender and age and their relationship with dental caries and oral hygiene status.

Other major factors in the causation and increased risk of cariogenicity that were assessed, included the periodicity before change of toothbrush, the implement used during teeth cleanings, the frequency and periodicity of cleaning the teeth.

Of summative importance were the diet the nurses took and their dental service- seeking habits which have been documented and their direct relation in causation of dental caries.

DEDICATION

I dedicate this research to the Almighty God and to Dr. Nsubuga; for his overwhelming assistance, apt guidance; patience and making me, and other medical students, year after year, appreciate dentistry. Thank you.

ACKNOWLEDGEMENT

I would sincerely like to thank God for all his mercies and assistance, my beloved parents, my hardworking teachers and friends who have helped me be where and who I am today.

I would also like to thank all those who through kind hearts helped this all to become possible.

God bless them all.

I would also like to thank Kampala International University, more so, the western campus for training me.

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LIST OF ABBREVAITIONS

- **DMFT** decayed, missing, filled teeth
- **KIU** Kampala International University
- **pH** Measure of Hydrogen ionic concentration

CHAPTER ONE

1.0 INTRODUTION

Teeth are small, calcified, whitish structures found in the jaws of many vertebrates that are used to break down food. However human beings have two sets of teeth mainly the primary and secondary teeth in their life time. The tooth has three morphological parts; the crown, neck and the root.

1.1. Dental caries

Dental caries, also known as tooth decay or a cavity, is a disease where bacterial processes damage the hard tooth structure (enamel, dentin, and cementum). These tissues progressively break down, producing dental caries (cavities, holes in the teeth). Two groups of bacteria are responsible for initiating caries: *Streptococcus mutans* and *Lactobacillus acidophillus*; acid-producing bacteria that cause damage in the presence of fermentable carbohydrates such as sucrose, fructose, and glucose. The mineral content of teeth is sensitive to increases in acidity from the production of lactic acid. Specifically, a tooth (which is primarily mineral in content) is in a constant state of back-and-forth demineralization and remineralization between the tooth and the surrounding saliva. When the pH at the surface of the tooth drops below 5.5, demineralization proceeds faster than remineralization (meaning that there is a net loss of mineral structure on the the tooth's surface)

However Dr. Miller stated in 1887 that "Dental decay is a chemo-parasitic process consisting of two stages, the decalcification of enamel, which results in its total destruction and decalcification of dentin as a preliminary stage followed by dissolution of the softened residue." In his hypothesis, Dr. Miller assigned essential roles to three factors:

- 1. Carbohydrate substrate
- 2. Acid that dissolution of tooth minerals
- 3. Oral micro-organisms that produce acid and also cause proteolysis.

Most trapped food is left between teeth; over 80% of cavities occur inside pits and fissures on chewing surfaces where brushing, fluoride, and saliva cannot reach to remineralize the tooth as they do on easy-to-reach surfaces that develop few cavities.

The risk of getting dental caries is increased in cases of reduced saliva since its main purpose is to produce a counterbalance 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 widespread tooth decay. Examples of these conditions include Sjögren's syndrome, diabetes mellitus, diabetes insipidus, and sarcoidosis.

Medications like antihistamines and antidepressants impair salivary flow and Tetrahydrocannabinol the active chemical substance in cannabis, also causes a nearly complete occlusion of salivation, known in colloquial terms as "cotton mouth". Moreover, sixty-three percent of the most commonly prescribed medications cause a dry mouth as a known side-effect.

Abusers of stimulants tend to have a poor oral hygiene.

Radiation therapy of the head and neck may also damage the cells in salivary glands, increasing the likelihood of caries formation.

The use of tobacco may also increase the risk for caries formation. Some brands of smokeless tobacco con There are 3 necessary requirements for the formation of dental caries are bacteria, sugar, and, of course, teeth. However different individuals will be susceptible to different degree depending on the shape of the teeth, oral hygiene habits, and the buffering capacity of their saliva. Dental caries can occur on any surface of a tooth that is exposed to the oral cavity.

Dental caries is an infectious process, so caries cannot form in the absence of bacteria, regardless of sugar intake. Bacteria adhere to the tooth surface in a biofilm called dental plaque. When carbohydrates are consumed, they are metabolized by bacteria and produce acid as a byproduct. The acid then causes microscopic demineralization of the tooth enamel.

A dynamic and continual process of demineralization and remineralization takes place throughout the day. It takes 20-40 minutes for acids produced during a meal to be neutralized, and only then can the tooth begin to remineralize. Maintaining balance is the goal; however, various factors can tip the balance to one side or the other.

The following factors contribute to demineralization:

- [•] Higher oral bacterial load Results in more acid production
- Frequent feedings Allows less time for remineralization
- Poor oral hygiene Increases plaque and sugar remains longer
- Decreased saliva production

These factors aid in the remineralization process

- Saliva- Acts as a buffer to return the pH above the demineralization level, strengthens tooth enamel, and fluoride source.
- Good oral hygiene-Delivers fluoride and removes bacterial energy sources
- Non cariogenic diet

These preventive measures include good oral hygiene practices; brushing the teeth, tongue, irrigation of the gums and flossing of the teeth. However prevention of caries also involves the food ingested these include:

1 Water cleans the mouth and produces saliva that deposits essential minerals into the teeth. It keeps teeth hydrated and washes away particles from the teeth.

- 1. Green tea contains polyphenol antioxidant plant compounds that reduce plaque and help reduce cavities and gum disease. Tea may help reduce bad breath. Tooth enamel is strengthened because green tea contains fluoride which promotes healthy teeth.
- 2. Milk and yogurt are good for teeth because they contain low acidity, which means that wearing of teeth is less. They are also low in decay-inducing sugar. Milk is a good source of calcium, the main component of teeth and bones.
- 3. tain hig Cheese contains calcium and phosphate, which helps balance pH in the mouth preserves (and rebuilds) tooth enamel, produces saliva, and kills bacteria that cause cavities and disease.
- 4. Fruits such as apples, strawberries and kiwis contain Vitamin C. This vitamin is considered the element that holds cells together. If this vitamin is neglected, gum cells can break down, making gums tender and susceptible to disease.
- 5. Vegetables: Vitamin A, found in pumpkins, carrots, sweet potatoes and broccoli, is necessary for the formation of tooth enamel. Crunchy vegetables may also help clean gums.
- 6. Onions contain antibacterial sulfur compounds. Tests show that onions kill various types of bacteria, especially when eaten raw.
- 7. Celery protects teeth by producing saliva which neutralizes bacteria that cause cavities. It also massages the teeth and gums.
- 8. Sesame seeds reduce plaque and help build tooth enamel. They are also very high in calcium.
- 9. Animal food: beef, chicken, turkey, and eggs contain phosphorus which, with calcium, is one of the two most vital minerals of teeth and bone.

1.2 STATEMENT OF THE PROBLEM

Tooth decay is one of the most common of all disorders, second only to the common cold. It usually occurs in children and young adults but can affect any person Worldwide, most children and an estimated ninety percent of adults have experienced caries, with the disease most prevalent in Asian and Latin American countries and least prevalent in African countries. In the United States, dental caries is the most common chronic childhood disease, being at least five times more common than asthma it is the primary pathological cause of tooth loss in children. However caries are not taken as a major problem in Africa, there is an evidence of a rise of 6-9 in the prevalence of dental caries in developing countries. Between twenty-nine and fifty-nine percent of adults over the age of fifty experience caries however studies show that dental caries also lead to more serious conditions like bacterial pneumonia, stroke, heart attack, osteoporosis and diabetic complications.

1.3 OBJECTIVES OF THE STUDY

1.3.1General objective

The aim of the study is to determine the prevalence of dental caries in relationship with oral hygiene practices among nursing students in Kampala international university, Ishaka, Bushenyi district.

1.3.2Specific objectives

In an attempt to assess the oral hygiene practices and behavior among KIU students, the researcher has the following objectives.

- 1. To assess the oral hygiene practices of the kiu nursing students.
- 2. To determine the prevalence of dental carries among nursing students.

1.4 RESEARCH QUESTIONS

1. What are the oral hygiene practices among KIU nursing students?

2. What is the prevalence of dental caries among KIU nursing students?

1.5 SCOPE OF THE STUDY

Content scope; the study is based on the prevalence of dental caries in relationship with oral hygiene practices among KIU medical students who have been through the dental rotation with reference to age, gender, religion and personal practices.

Geographical scope; the study is to be carried out in Kampala international university ,Ishaka Municipality, Bushenyi District, Western Uganda. The area is inhabited by the Ankole tribe and is a very hospitable people. Kampala international university comprises of students from Kenya, Uganda, Tanzania, Rwanda, Congo, Nigeria and Somalia.

Its located 56 Km from Mbarara town, along Mbarara-Kasese highway

Time frame: the study will be carried out between May 2013 and July 2013

1.6 HYPOTHESIS

Dental caries is a condition that can be prevented and has various causative factors that are implicated in its pathogenesis. These factors are socio-cultural, health system and oral health services and environmental factors. However the most affected age groups are young children, elderly (due to poor oral hygiene practices) the young people especially the ladies which has been attributed to the early tooth eruption and those from low socioeconomic status who cannot access dental services and those with low educational levels who are not aware that toothache needs to be attended to by a dental specialist.

The risk behavior for developing dental caries include

- Oral hygiene practices
- Sugar consumption
- Alcohol consumption
- Tobacco smoking
- Poor health seeking behavior



HEALTH SYSTEM AND ORAL HEALTH SERVICES 1. availability of services 2.preventive or curative orientation 3.intergration of primary health care

dental

caries

ENVIRONMENTAL RISK FACTORS 1.tobacco 2.alcohol 3. nutrinational status 4.hygiene 5.drinking water

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1.7 HYPOTHETICAL FRAMEWORK

1. KIU nurses students who have been through the dental rotation have poor oral hygiene practices.

2. There is a high prevalence of dental carries among the nursing students in spite of preliminary knowledge about the subject of dental health.

1.8 JUSTIFICATION

The aim of the study is to provide information on the importance of regular visits to the dentists and also reduce the occurrence of dental carries in the general population.
To provide information on the prevalence of dental carries in the hope of providing awareness of the severity of dental carries in East Africa since there is minimal

information on this topic.

3 To the researcher for the partial fulfillment for the award of a degree of bachelors of medicine and bachelors of surgery (MBChB).

CHAPTER TWO

2.0 LITERATURE REVIEW

Worldwide, most children and an estimated ninety percent of adults have experienced caries, with the disease most prevalent in Asian and Latin American countries and least prevalent in African countries. In the United States, dental caries is the most common chronic childhood disease, being at least five times more common than asthma. It is the primary pathological cause of tooth loss in children. Between twenty-nine and fifty-nine percent of adults over the age of fifty experience caries.

The number of cases has decreased in some developed countries, and this decline is usually attributed to increasingly better oral hygiene practices and preventive measures such as fluoride treatment.

2.1 PREVALENCE OF DENTAL CARIES

Dental caries is the major oral health condition in developing countries, affecting 60-90% of the school children and the vast majority of adults. In India, the prevalence of dental caries is reported to be 50-60%. Most of the Indian studies that have been published focused on school children and only a few studies have been done among adults

Dental caries is the most common chronic disease affecting children in the United States. It is 5 times more common than asthma and 7 times more common than hay fever.

• Research indicates that the prevalence rate of caries increases steadily across the human life span. The frequency of caries in children is

- 18% in children aged 2 to 4 years
- 52% in children aged 6 to 8 years
- 67% in children aged 12 to 17 years

Prevalence rates vary by ethnicity as well as socioeconomic status. African American and Hispanic children have higher rates of caries at all ages, compared with white non-Hispanic children. Data indicate that American Indian/Alaska Native children have among the highest rates of caries. There is inadequate data on children with special health care needs, but as a group they are at increased risk for coexisting morbidities such as caries

However according to a research carried out in Nairobi showed that there was a general low caries prevalence in Nairobi children, with no significant difference in prevalence of caries between males and females in the younger age group;54 per cent of 6 to 8 years old and 50 per cent of the 13 to 15 years old were caries free.

According to a research carried out in 2005 by Louis M Muwazi at el on dental diseases in urban and peri-urban areas (Arua,Mbale,Mbarara and Kampala) revealed that 40% and 62.5% of children and adults respectively had dental carries and there was an increased incidence of dental carries in urban areas than rural areas with no gender differences, and gum diseases were more common in children than adults.

2.2.1 ORAL HYGIENE PRACTICES.

Oral hygiene is the practice of keeping the mouth clean and healthy by brushing and flossing to prevent tooth decay and gum disease. The main purpose of oral hygiene practices is to prevent the buildup of plaque. The preventive measures of dental caries include brushing, flossing, use of antiseptic mouthwashes, use of fluoride containing toothpaste and regular visit to the dentist. The preventive services offered by the dentist include fluoride treatments, sealant application and scaling.

2.2.2 DMFT STUDY CORRELATE

A research on poor dental status and oral hygiene practices in institutionalized older people in Brazil by Luciene Ribeiro Gaiao to identify factors associated with poor dental status, the number of decayed, missing, and filled teeth (DMFT) was assessed in the residents of the nursing home (n = 167; mean age = 76.6 years). The mean DMFT value was 29.7; the mean number of missing teeth was 28.4. Ninety-three (58.1%) were edentulous. Almost 90% practiced oral hygiene, but only about half used a toothbrush. Only 8% had visited the dentist in the preceding three months. Most of the variables regarding oral hygiene habits (such as use of toothbrush, frequency of oral hygiene per day, regular tooth brushing after meals) did not show any significant association with the DMFT.

Kim A. Boggess, MD at el, carried out a research on oral hygiene practices and dental service utilization among pregnant women and the results showed that, 83% brushed their teeth, 24% flossed their teeth daily, 74% did not receive routine dental care during pregnancy. However the conclusion of the research showed that racial, ethnic and economic disparities related to oral hygiene practices and dental service utilization during pregnancy existed.

A survey on oral hygiene practices among Malaysian adults carried out by <u>Esa R</u>, <u>Razak IA</u>, <u>Jallaudin</u> <u>RL</u>, <u>Jaafar N</u>., showed that 89.7% brushed their teeth,68% used toothpaste containing fluoride and only 8.4% flossed their teeth and the younger group had a better oral hygiene habits and the higher socioeconomic status adults had better tooth cleaning practices and the awareness of flossing was low regardless of the social status. The conclusion was that there was need to improve the dental health practices.

CHAPTER THREE

3.0 METHODOLOGY

3.1 STUDY DESIGN

This was a cross- sectional descriptive study.

3.2 SETTING OF THE STUDY

The study was carried out at Kampala International University-western campus located in Ishaka-Bushenyi municipality in Bushenyi District, Western Uganda.

3.3 STUDY POPULATION

The study targeted nursing students in KIU -western campus. The western campus has a population of 3710 which was last assessed in 2011.

3.4 STUDY VARIABLES

3.4.1 DEPENDENT VARIABLES

- 1. Health seeking habits
- 2. Diet
- 3. Oral hygiene practices.

3.4.2 INDEPENDENT STUDY VARIABLES

- 1. Sex
- 2. School of study

3.5 STUDY CRITERIA 3.5.1 INCLUSION CRITERIA

The study involved continuing nursing students in KIU who enrolled from the year 2012 to date. All age groups

3.5.2 EXCLUSION CRITERIA

All other students Non students Weekend students and those not doing science courses

3.6 ETHICAL CONSIDERATION

The study was carried out after obtaining permission from the Ethics and Research Committee of KIU(ERC) and the KIU leadership.

The information obtained from the respondents was kept as confidential.

3.7 SAMPLE SELECTION METHOD AND SIZE 3.7.1 SAMPLE SIZE SELECTION

The sample size of the study was determined with the guidance of Kish and Leslie formula.

3.7.2 SAMPLE SELECTION FORMULA

 $(N = Z^2 PQ)/E^2$ (survey sampling 1965) N=sample size Z=standard normal deviation at 95% Confidence Interval = 1.96 P= the assumed prevalence of dental caries among KIU students estimated at 50% = 0.5 Q = 100%-P; =P (1-P) E= the required precision of 45% (the maximum error allowed between the true prevalence of dental caries in the campus and the estimated prevalence from sample size) $N = (1.96)*(1.96)*(0.45)*(0.45)/(0.5)^2 = 50.122$ N= 50 (Rounded up to the nearest whole number) The sample size was rounded to 50 people

3.8 DATA COLLECTION INSTRUMENTS

The study used one research instrument; a questionnaire for qualitative data collection. The questionnaire will be administered to the sampled respondents.

CHAPTER 4

4.1 REPRESENTATION OF COLLECTED AND ANALYZED DATA

The data collected was grouped and coded according to variables assessed using the 16.0 version of SPSS software for windows. The following is a graphical representation of the assessed parameters by various means.

1. The age distribution of the respondents.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-22	28	56.0	56.0	56.0
	23-27	20	40.0	40.0	96.0
	28-32	2	4.0	4.0	100.0
	Total	50	100.0	100.0	

Age of respondents. Fig 1



The largest of the assessed respondents lay within the 18-24 age group followed by the 23-27 then by 28-32.

2. Gender of the respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	19	38.0	38.0	38.0
	Female	31	62.0	62.0	100.0
	Total	50	100.0	100.0	

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sexofrespondent



The majority of the respondents were female at a 60% compared to 40% male counterparts.

3. Religious affiliations of the respondents

					Cumulative
		Frequency	Percent	Valid Percent	Percent
Valid	Catholic	14	28.0	28.0	28.0
	protestant	20	40.0	40.0	68.0
	Muslim	8	16.0	16.0	84.0
	Others	8	16.0	16.0	100.0
	Total	50	100.0	100.0	

Religious affiliations. Fig 3



As shown the largest of the respondents were affiliated to the protestant denomination of Christianity closely followed in by their catholic counterparts then the Islamic and the others such as the 7th day Adventists shared equal distribution.

4. Reported cases of dental caries or tooth ache whilst in KIU

	_	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	13	26.0	26.0	26.0
	no	37	74.0	74.0	100.0
	Total	50	100.0	100.0	

Case of dental caries or tooth ache in kiu. Fig 4





As shown the majority of the respondents claimed to have never experienced an episode of toothache or dental caries during their purported stay in the university.

📕 yes 🔲 no **5.** Those who said yes in the above statement how many occasions have been experienced.

-	-	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	None	37	74.0	74.0	74.0
	Once	9	18.0	18.0	92.0
	Twice	2	4.0	4.0	96.0
	Others	2	4.0	4.0	100.0
	Total	50	100.0	100.0	

If yes how many times. Fig 5



Majority of respondents who had experienced a case of dental caries had experienced it once.

6.	At	what	time	do	you	brush	your	teeth	in a	day?	1

					Cumulative				
		Frequency	Percent	Valid Percent	Percent				
Valid	Once	11	22.0	22.0	22.0				
	Twice	27	54.0	54.0	76.0				
	Thrice	9	18.0	18.0	94.0				
	Others	3	6.0	6.0	100.0				
	Total	50	100.0	100.0					

Brushing teeth in a day. Fig 6

brushingteethinaday



The majority of the respondents brushed their teeth twice, followed by once then thrice then others which included more than thrice or none.

7. At what time do you brush your teeth in a day?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Morning	13	26.0	26.0	26.0
	Evening	17	34.0	34.0	60.0
	after evey meal	1	2.0	2.0	62.0
	Others	19	38.0	38.0	100.0
	Total	50	100.0	100.0	

Time of brushing teeth. Fig 7

timeofbrushingteeth



The majority of the respondents brushed their teeth in the others category, which included twice a day or more than the stipulated time or none, followed by those who brush their teeth in the evening then morning then the least after every meal.

8. How often do you change your toothbrush?

-		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	once a year	6	12.0	12.0	12.0
	every month	17	34.0	34.0	46.0
	after three months	23	46.0	46.0	92.0
	Others	4	8.0	8.0	100.0
	Total	50	100.0	100.0	

Duration	before	changing	toothbrush.	Fia 8
Daration	201010	•		

durationbeforechangingtoothbrush



The majority of respondents changed their toothbrushes every 3 months, then followed by once every month, followed by once a year then earlier followed by others which entailed greater or shorter than the period given or when the tube of toothpaste gets finished.

9. What do you use to clean your teeth?

					Cumulative
		Frequency	Percent	Valid Percent	Percent
Valid	toothpaste	48	96.0	96.0	96.0
	Ash	1	2.0	2.0	98.0
	Others	1	2.0	2.0	100.0
	Total	50	100.0	100.0	

Substance used to clean teeth. Fig 9

substanceusedtocleanteeth



An overwhelming majority of the respondents used toothpaste of various kinds to clean their teeth save for those who used ash or salty water or a combination of the two.

10. Does the toothpaste you use contain fluoride?

	-	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	47	94.0	94.0	94.0
	no	3	6.0	6.0	100.0
	Total	50	100.0	100.0	

Toothpaste that has fluoride. Fig 10.

toothpastethathasflouride



Similarly an overwhelming majority of respondents claimed to use toothpaste that contained fluoride but a very small majority did not.

Cumulative Frequency Percent Valid Percent Percent Valid 24.0 24.0 none 12 24.0 14.0 38.0 once 7 14.0 26.0 twice 13 26.0 64.0 36.0 daily 18 36.0 100.0 Total 50 100.0 100.0

11. How many times do you consume milk and its products in a week? Consuming milk products in a week. Fig 11

consumingmilkproductsinaweek



consumingmilkproductsinaweek

The majority of the respondents consumed milk and its products daily then followed by twice a week, then followed by none then once a week respectively.

	Vegetable consumption in a week. Fig 12				
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	None	4	8.0	8.0	8.0
	Once	6	12.0	12.0	20.0
	Twice	24	48.0	48.0	68.0
	occasionally	16	32.0	32.0	100.0
	Total	50	100.0	100.0	

12. How many times do you consume vegetables in a week?





The majority of respondents, consumed vegetables twice in a week, followed by occasional consumers of vegetables then followed by once then none.

13. Have you ever gone for a dental checkup?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	20	40.0	40.0	40.0
	no	30	60.0	60.0	100.0
	Total	50	100.0	100.0	

Ever gone for a dental check up. Fig 13

evergoneforadentalcheckup



60% of the respondents had never gone for a dental check up, compared to 40% of the other respondents that did.

14. How many times in a year do you visit a dentist?

					Cumulative
		Frequency	Percent	Valid Percent	Percent
Valid	None	33	66.0	66.0	66.0
	Twice	4	8.0	8.0	74.0
	Once	9	18.0	18.0	92.0
	more than two	4	8.0	8.0	100.0
	Total	50	100.0	100.0	

Dental visits in a year. Fig 14

th

dentalvisitsinayear



The majority of respondents did not visit a dentist in a year. Then once, equal twice and more.

15. What was the purpose of the dental visit?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	routine dental check up	11	22.0	22.4	22.4
	to remove a tooth	7	14.0	14.3	36.7
	to clean the teeth	3	6.0	6.1	42.9
	Others	28	56.0	57.1	100.0
	Total	49	98.0	100.0	
Missing	System	1	2.0		
Total		50	100.0		

Purpose of the dental visit. Fig 15

purposeofthedentalvisit



purposeofthedentalvisit

4.2 DISCUSSION OF RESULTS

The results from the collection data were as follows:

- 1. In regards to the age of the respondents 56% of them lay in the 18-24 age groups whereas 40% of them were in the 23-27 age groups and only 4% of them were in the 28-32 age groups. This shows that the majority of the nursing students lie within younger ages and thus may be greater protected from dental caries as they are apt in oral hygiene.
- 2. In reference to the gender of the respondents, 62% of them were female and 38% of them were male. This is a true reflection as most nursing in the university are males and as such the majority of those who suffered dental caries, were indeed female.
- 3. The religious affiliations of the respondents were as follows, 40% of them were Protestants, 28% were catholic and Muslims and other religions were at 16% each. This shows a larger percentage of those who may have suffered dental caries were of such a religion.
- 4. Of the respondents 74% them had never suffered dental caries while at their stay at the university, 26% of them had never suffered from dental caries. This shows that dental caries is not as prevalent as assumed. Maybe the information of teeth cleaning as a nurse helped them avert the disease.
- 5. Of the respondents that had suffered an occasion of dental caries, only 18% of them had suffered once, 4% of them twice and 4% of them more than that hence 'others'. This shows a decline in prevalence of dental caries as the hypothetical framework had suggested.
- 6. In regards to oral hygiene habits, the majority of the respondents cleaned their teeth twice a day, in the morning and in the evening as evidenced by the 54% on the data, 22% of the respondents cleaned their teeth twice a day, 18% of the respondents cleaned their teeth thrice and a total of 6% of them cleaned their teeth in other ways such as more or less. This shows the majority of the respondents had good oral hygiene practices hence reflecting the low prevalence of dental caries amongst nursing students.
- 7. Of the nursing respondents, only 2% of them cleaned their teeth after every meal, and a 38% of them cleaned their teeth in the others designation which included every morning and evening. But 26% of these only cleaned their teeth in the morning. This may in part contribute to the low prevalence of their caries.
- 8. In regards to periodicity before changing of toothbrushes, 46% of the population, changed toothbrushes every three months, 34% of them changed their toothbrushes every month but a 12% majority of the respondents change their toothbrushes once in a year that may in part contribute to the prevalence of dental caries.

- 9. A 96% majority of the respondents used toothpaste to clean their teeth and of these, 94% of them claimed to use toothpaste that contained fluoride. Only 2% each of the used ash or salty water or a combination of the two. Only 6% of the respondents used toothpastes that did not contain fluoride, probably herbal toothpastes and such reflecting the low prevalence of dental caries.
- 10. In regards to dietary habits in relation to dental caries, 36% of the respondents consumed milk and milk products daily, 26% of them consumed milk products twice a week, 14% consumed once and a large majority of 24% did not take milk products at all. This is indicative that a significant majority of the respondents did not get the conferred benefits of daily consumption of calcium.
- 11. The consumption of vegetables in this regard was even more perplexing where a 32% of the respondents only took vegetables occasionally, 48% of the respondents took vegetables twice a week, and 12% once and 8% of them did not take vegetables at all. This lack of consumption poses an increased risk of dental caries.
- 12. In regard to dental services seeking habits, 60% of the respondents had never sought dental services compared to 40% of the respondents who had, of the 40% of those who sought dental services; only 8% of them sought them twice in a year or more, where only 18% sought dental services once in a year. Thereby of the 40% of the respondents who had sought dental services, 22% had gone for a routine dental check up, 6% had gone for tooth extraction. This shows a sharp negligence in seeking of dental services, that may be attributed to absence of said services, or high costs that may deter prospective seekers in this case students.

CHAPTER 5 CONCLUSIONS AND RECOMMEDATIONS 5.1 CONCLUSIONS.

After exhaustive data analysis, the following conclusions were made:

- 1. The majority of willing respondents were female and hence the findings after this research greatly reflect the prevalence and oral hygiene practices especially among female nurses.
- 2 The majority of the participants were between the ages 18-24 hence adequately showing the prevalence and oral hygiene practices amongst nurses, regardless of gender.
- 3 The largest religious subscription was with the Protestants and the least was with the Muslims hence the subsequent prevalence or lack thereof of dental caries and oral hygiene practices may be influenced by religious practices.
- 4. The larger majority alleged that they had never suffered dental caries while at KIU, implying that occupational information about avoidance of dental caries is in effect or shame of admitting once has suffered dental caries impedes them from a truthful response.
- 5. Of the respondents who had suffered an occasion of dental caries, the largest of them had suffered only once, a query could be lobbied to ascertain when exactly they suffered dental caries.
- 6. The majority of the respondents claimed to brush their teeth twice a day, of these, morning and evening took the highest percentages, hence this shows that most have a way of preventing the dental caries by avoiding sleeping with unbrushed teeth.
- 7. Pertaining oral hygiene practices, the majority of the respondents changed their toothbrushes after 3 months and a significant percentage changed every month which may contribute to dental caries due to wear due to hard bristles. A staggering majority used toothpaste, that had fluoride but a small fraction used salty water and or ash and those who did use toothpaste that did not have fluoride were almost negligible.
- 8. Dietary habits in relation to prevalence of dental caries, inasmuch as majority of the respondents took milk and or milk products daily, a large majority only per took only twice and still a large group did not take milk in a week. Vegetable consumption also followed suit with majority of the respondents taking vegetables only twice a week and occasionally hence diminishing its protective role.
- 9. A large majority of the respondents had never gone for a dental check up and those of whom had gone, had only gone once and of those who had gone once had gone had only a specific reason to get a tooth removed. This shows the extent of the disease process as it goes unrecognized until it is time for tooth extraction.

5.2 RECOMMENDATIONS

After the collection and analysis of the above data, obvious trends and practices have been noted and the following recommendations made:

1. The subject of dentistry as a whole should be taught to the nursing students of KIUTH

- 2. Practical campaigns on dental awareness should be made more common.
- 3. Services that carter to those with dental caries should be made more available and affordable to nursing students.
- 4. The importance of brushing teeth after every meal or in the morning and at night should be emphasized.
- 5. The appropriate a toothbrush should be used and should be changed at the appropriate time i.e. 3 months.
- 6. The importance of using fluoride containing toothpastes should be advocated.
- 7. Dietary habits, nursing students should be encouraged to eat vegetables and drink milk products more often in a week as then will they be conferred their protective constituents.
- 8. Nursing students should be advised to make regular their visits to the dentist, at least every 6 months. This will enable them to prevent largely the prevalence of dental caries.

APPENDIX 1

WORK PLAN

Duration	Activity	Personnel
May	Topic selection	Thuo Steven
May-June	Writing the proposal	Thuo Steven
July	Data collection	Thuo Steven
July	Data Analysis	Thuo Steven
July	Submission of the Research	Thuo Steven

Proposed budget

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Item	Qty	Unit Cost	Total amount
Pens	3	1,000/=	3,000/=
Questionnaires	52	100/=	5,000/=
	copies		
Internet services	Thrice	2000/=	6,000/=
Transport fare	10	500/=	5,000/=
	trips		
Electricity bill	10 kW	500/=	5,000/=
Printing out	130	300/=	40,000/=
	pages		
TOTAL COST			64,000/= UGX

Appendix 2

Questionnaire

Kampala International University Western campus school of health sciences (KIU-WC);

I am a medical student at the above mentioned institution carrying out a research on the prevalence of dental caries in relationship with oral hygiene practices in Kampala International University, Bushenyi District, western Uganda.

Please read through the Questionnaire and tick where appropriate, be sincere and explain where necessary.

All information given by you shall be kept confidential and not divulged to anybody whatsoever without your consent.

a. Socio demographic data

1. Age 18-22 () 23-27 () 28-32 () 33-37 () 38-42 () 2. Sex a) Male () b) Female () 3 .Course of study..... **4** Religions a) Catholic b) Protestant () ()c) Muslim () d) Others () 5. Have you had dental caries/ toothache in your stay in Kiu? b) No () a) Yes () 6. If Yes how many times a) None () b) Once () c) Twice (d) Others ())

7. How many times do you brush your teeth in a day?

a) Once () b) Twice ()

c) Thrice ()	d) Others ()
8. At what time do you brush your teeth?	
a) Morning ()	b) After every meal ()
c) Evening ()	d) Others ()
9. How long do you take to change your to	oth brush?
a) one year ()	b) a month ()
c) three months ()	d) Others ()
10. What do you use while cleaning your to	eeth?
a) Tooth paste ()	b) Ashes ()
c) Salty water ()	d) others ()
11. If you use toothpaste does it contain flu	ioride?
a) Yes ()	b) No ()
12. How many times do you take milk prod	lucts in a week?
a) None () c) Twice ()	b) Once () d) Daily()
13. How many times do you take vegetable	es in a week?
a) None ()	b) Once()
c) Twice ()	d) occasionally ()
14 Have you ever gone for a dental check u	ıp?
a) Yes ()	b) No ()
15. If yes how many times per year do you	visit a dental specialist?
a) None ()	b) Twice()
c) Once ()	d) More than two ()
16. What was the purpose of the visit?	
a) Routine dental check up ()	b) To remove a tooth ()

()

APPENDIX 3

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