KNOWLEDGE, ATTITUDE AND PRACTICES TOWARDS ORAL HEALTH CARE AMONG SECONDARY SCHOOL STUDENTS IN NAIROBI.

A COMMUNITY DENTISTRY RESEARCH PROPOSAL SUBMITTED IN PARTIAL FULFILMENT OF THE DEGREE OF DENTAL SURGERY AT THE UNIVERSITY OF NAIROBI.

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LIST OF ABBREVIATIONS

U.O.N - University of Nairobi

WHO - World Health Organization

M.P.H - Masters in Public Health

B.D.S - Bachelor of dental surgery
SUMMARY

The knowledge, attitude and practices towards oral health plays a vital role in the aetiology and prevention of dental diseases. Oral health care practices comprise those activities undertaken to maintain and improve on oral health. They include oral hygiene habits such as tooth brushing, proper diet and regular visits to the dentist. Studies that have been done show that knowledge, attitude and practices towards oral health have a significant impact on the prevention of dental diseases.

This will be a descriptive cross-sectional study aimed at assessing the oral health care knowledge, attitude and behaviour among high school going children in Nairobi. The study population will comprise high school going children. A sample size of 119 obtained by simple random sampling method will be used. The study will be conducted at Our lady of mercy Girls secondary school in the period July to September 2007.

The data will be collected by means of an interview-administered semi-structured questionnaire. The study will be conducted in a period of three months.

The results obtained from this study could be used by policy makers to formulate oral health programmes aimed at improving oral health among high school children and the general population at large.
INTRODUCTION
Oral health care includes those practices undertaken in order to maintain and improve one's oral health. They include proper diet, oral hygiene practices and regular visits to the dentist. Lack of proper oral health care results in various dental diseases. Preventing oral diseases requires an understanding of the attitudes, beliefs and behaviour in relation to oral health.

Dental caries and periodontal diseases have historically been considered important global oral health burdens. The significant role of behavioural and environmental factors in oral diseases and health is evidenced in an extensive number of epidemiological surveys. According to the world health organization [2003], dental caries is still a major oral health problem in most developed countries affecting 60-90% of schoolchildren and the vast majority of adults. It also estimates that 90% of schoolchildren worldwide and most adults have experienced caries with the disease being most prevalent in Asian and Latin American countries and least prevalent in African countries.

The prevalence of periodontal diseases is on the rise in most African countries. A study carried out by Baelum et al, 1988 reported loss of attachment in up to 85% of the study population among Kenyan adults. A similar study carried out by Stephens, 2004 reported a rise in prevalence of periodontal disease at puberty to 70-90%.

The knowledge, attitude and behaviour towards oral health care practices such as oral hygiene, proper diet, seeking dental care and frequent dental check ups affects the prevalence and outcome of these diseases. A study carried out by E. Stokes, A. Ashcroft (2002) to determine adolescent's beliefs and attitude in relation to oral health showed that most participants had good knowledge on the aetiology and prevention of oral diseases. A similar study carried out by Mahmoud Al Omar, 2005 reported that 70% of the study population was aware that gingival bleeding reflects gingivitis while only 13% knew that there was a link between dental plaque and gingivitis.

The aim of this study is to determine the knowledge, attitude and practices towards oral health care among secondary school students and to evaluate the factors that determine these parameters.
LITERATURE REVIEW.

Dental caries and periodontal disease are the two most prevalent oral diseases worldwide especially among school going children. Dental caries can be defined as the disease of calcified dental tissues, which is characterized by demineralization of the calcified tissue and destruction of the organic component. An estimated 90% schoolchildren and most adults have experienced caries. In the United States, dental caries is the most common childhood disease and is the primary pathological cause of tooth loss in children. A number of cases have decreased in some developed countries and this decline is usually attributed to increasingly better oral hygiene practices and preventive measures such as fluoride treatment. According WHO's 2003 report on oral health, developed countries have higher rates of caries experience while developing countries have lower rates. WHO has attributed these differences to the relative availability of simple sugars in diets, to fluoride and dental treatment. The centre of disease control in the United States, 2005 reported a high prevalence of dental caries in children with 27% of pre-school, 42% of school going children and 91% of adults having caries experience.

Periodontal disease can be broadly classified into either gingivitis or periodontitis. Gingivitis refers to inflammation of gingival tissue without loss of connective tissue attachment whereas periodontitis refers to presence of gingival inflammation where there has been apical migration of the junctional epithelium onto the root surface with the concomitant loss of connective tissue and alveolar bone. A scientific meeting held in Botswana [16th-19th October 1991] reported an increase in periodontal disease and Kenya was cited as one of the countries with this worrying trend. This is in accordance with a study reported by Kaimenyi JT, 1993 and Baelum et al, 1988 who reported loss of attachment in up to 85% of study population among Kenyan adults. Gingivitis begins in early childhood. A study by Berit Olson, 1978 reported onset of periodontal disease was early with 60% of children in the 6-7 year old age group having gingivitis. Severe periodontal destruction was however unusual below the age of 30. The study also reported a close relationship between oral hygiene and periodontal status. This is in agreement with a study done by Stephens, 2004 who reported 9-17% of children aged 3-11 years in the U.S suffer from gingivitis. The study also reported a rise in prevalence at puberty to 70-90%.

Oral hygiene is a major cause of periodontal disease and dental caries. several studies have correlated poor oral hygiene and gingival disease. For example, Greene et al, 1960 reported an increase in periodontal disease with poor oral hygiene. Periodontal disease can be prevented by oral hygiene practices.
This is in agreement with a study carried out by Halla et al, 2004 who reported a decline in gingival bleeding index from 62.1% to 17% with flossing. A study carried out by Anerd et al 1979 concluded that periodontal disease could be prevented by self-performed plaque control combined with professional prophylaxis. Oral hygiene practices include tooth brushing, flossing, interdentally brushing and use of toothpicks. Halla et al, 2004 evaluated the effect of flossing in the presence of calculus and gingivitis in school going children undertaking supervised oral hygiene. Results showed a decreased gingival bleeding from 62.1% to 17.3% with flossing.

Oral diseases like dental caries and periodontal disease are associated with diet. Malnutrition coupled with a high intake of sugars may exacerbate the risk of developing caries. There is evidence also to suggest that periodontal disease progresses faster in malnourished populations. There is wealth of knowledge to show evidence of the role of dietary sugars in the aetiology of dental caries. Sugars and carbohydrates are undoubtedly the most important dietary factors in the development of caries. The term sugars refer to all monosaccharide and disaccharides. Studies carried out by Steebny correlated dental caries experience of 12 year olds with data supply on sugar supplies of 47 countries and found a significant correlation on the variation in the level of caries explained by the per capita availability of sugar. Miazaki and Morimot (1984) to reported a correlation between sugar availability in Japan and DMFT at age 12 years between 1957 and 1987. Populations that had experienced a reduction in sugar availability showed a decline in caries which subsequently increased when the restricting was lifted. Several studies including V. Pels hom study in Sweden have indicated that caries experience increases markedly when the frequency of sugar intake exceeds four times a day. Fluoride protects against dental caries but does not eliminate the the disease. It reduces caries in children between 20% to 40%.

Oral health seeking behaviour also plays an important role in the prevention of dental diseases. A study carried out by Mahmoud Al Omar, 2005 reported an irregular dental attendance. A high proportion of the study population reported that they did not go to the dentist due to fear of dental treatment, high cost of treatment; lack of toothache and lack of parental advice to visit the dentist.

Knowledge, attitude and beliefs towards oral health care also play a role in the prevention of dental diseases. A study carried out in Liverpool ( E.S takes et al) to determine adolescent's beliefs and attitudes in relation to oral health reported that most participants had a good knowledge of the aetiology and prevention of oral disease and were aware of many different professionally applied dental treatments. A similar study carried out by Mahmoud Al Omar, 2005 reported 70% of the study population was aware that gingival bleeding reflects gingivitis. Only 13% of the study population knew that there was a link between dental plaque and gingivitis.
PROBLEM STATEMENT

Dental caries and periodontal disease are the most prevalent oral diseases. They can be prevented by proper oral health care practices such as, good oral hygiene low sugar diet, use of fluoridated toothpaste, seeking dental treatment in time and frequent dental checkups. Knowledge on these methods of prevention coupled with proper attitude and behaviour towards oral health care practices is vital in the improvement of oral health.

JUSTIFICATION OF STUDY

There is limited information on the knowledge, attitude and practices towards oral health care among secondary school children. The aim of the study is to determine the knowledge, attitude and behaviour towards oral health care practices among secondary school children. The findings from this study will enable policy makers to formulate strategies that will improve oral health among high school children and the general population at large could use the information obtained.

OBJECTIVES

MAIN OBJECTIVES

To determine the knowledge, attitude and practices towards oral health care among high school children.

SPECIFIC OBJECTIVES

1. To determine the knowledge of the students towards oral health care.
2. To determine the attitude of the students towards oral health care practices.
3. To determine the oral health care practices among the students.

HYPOTHESIS

The students have limited knowledge and negative attitude towards oral health care practices and this affects their behaviour towards the same. This negatively affects their oral health leading to development of dental diseases.
VARIABLES

Socio-Demographic
1. Age
2. Gender

Independent
1. Dental visits
2. Diet

Dependent variables
1. Knowledge on aetiology, management and prevention of dental caries and periodontal disease.
STUDY METHODOLOGY

STUDY AREA
The study will be conducted in our lady of Mercy secondary school. This is a provincial girls' secondary school located in Nairobi South B. It draws students from Nairobi and its environs.

STUDY POPULATION
This will be a school-based study. The individuals participating in the study will be students in the school.

STUDY DESIGN
This will be a descriptive cross-sectional study.

SAMPLE SIZE

Confidence level 95%
Hence C=5%
Prevalence = 13%

Corresponding Z value for 95% confidence level is 1.96

Sample size (n) = \( \frac{Z^2 \cdot p \cdot (1-p)}{C^2} \)

\( n = \frac{1.96^2 \times (0.13) \times (1-0.13)}{0.5 \times 0.5} \)

n= 172
n is less than 10000 therefore:

\( N_f = \frac{n}{1 + n} \)

\( N_f = \frac{380}{1 + 172} \)

Student population= 380(N)

\( N_f = \frac{172}{1 + 172} \)

\( N_f = 119 \)
**SAMPLING PROCEDURE**
Simple random sampling method will be used.

**DATA COLLECTION**
An interview administered semi-structured questionnaire will be used to collect the data.

**DATA ANALYSIS**
The data will be analysed using SPSS for Windows. Data will be presented in form of tables, graphs and pie charts.

**MINIMIZATION OF ERRORS**
The questionnaires will be pretested

**INCLUSION CRITERIA**
All students giving consent to participate in the study

**EXCLUSION CRITERIA**
All students not giving consent to participate in the study.

**ETHICAL CONSIDERATIONS**
1. Authorization from KNH ethics and research committee.
2. Permission will be sought from the school authority to carry out the study.
3. Informed consent will be sought from the subjects.
4. All the information obtained will be treated with absolute confidentiality.

**PERCEIVED PROBLEMS**
1. Financial constraints
2. Logistical problems

**PERCEIVED BENEFITS**
1. The information obtained from this study could be used by policy makers to formulate strategies to improve oral health among secondary schoolchildren.
2. The report will be submitted in partial fulfilment of the requirements of Bachelor of Dental Surgery degree at the University of Nairobi.
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**Report development**

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APPENDIX I

KNOWLEDGE, ATTITUDE AND PRACTICES TOWARDS ORAL HEALTH CARE AMONG SECONDARY SCHOOL STUDENTS IN NAIROBI

PART ONE: PERSONAL DETAILS

Name: Form/Class: 
Age: 

PART TWO (Questionnaire)

Tick the appropriate

1. Are teeth important to you?
   Yes  
   No  

2. Plaque is
   - the name of a tooth
   - soft deposit on tooth surface
   - a name of a disease
   - bacterial/germ deposits on tooth surfaces
   - I don’t know

3. Plaque can be best removed by
   - going to the dentist regularly
   - cleaning one’s teeth daily
   - rinsing the mouth with water
   - rinsing with mouth wash
   - I don’t know

4. Calculus/tartar is
   - a part of the jaw bone
   - a hard deposit on the tooth surface
   - All of the above
   - I don’t know
5. Dental caries/tooth decay is
• a disease which causes holes on the Tooth surface. □
• deposit on the tooth surface □
• I don’t know □

6. Tooth decay is caused by
• Microorganisms destroying the tooth surface □
• eating too much spicy food □
• Fermentation of sugars at the tooth surface □
• I don’t know □

7. Tooth decay can be prevented by
• limiting amount of sugar consumption □
• use of fluoride toothpaste □
• carrying out proper oral hygiene □

8. What is gum disease?
• It is a bacterial disease caused by deposits on teeth □
• It is a viral infection □
• It is a condition which has no particular cause □
• I don’t know □

9. Can gum disease be prevented? Yes □ No □

10. Bleeding of gums is caused by
• eating hard food □
• plaque present on the tooth surface □
• I don’t know □

11. A hole in the tooth can be treat by
• extraction □
• filling □
• other(specify) □
• I don’t know □
12. Does eating sweets frequently harm the teeth?
   • yes
   • no
   • I don’t know

13. Healthy gums appear
   • red and shiny
   • pink and firm
   • I don’t know

14. Do you clean your teeth?
   • yes
   • no

16. What do you use for cleaning your teeth?
   • commercial toothbrush
   • Dental floss
   • water
   • Tooth pick
   • other (specify) ...........

17. When do you brush your teeth?
   • Morning
   • Noon (after lunch)
   • Before bed
   • Other (specify)...........

18. How often should you clean your teeth?
   • Once a day
   • Twice a day
   • After every meal
19. Do you eat foods which contain sugars such as sweets
Chocolate, biscuits, ice cream and cakes?
• yes
• no

20. How often do you eat these sweet foods?
• Sometimes
• once a day
• two to three times a day
• more than six times a day

21. How often do you visit your dentist?
• regularly 6-12 months
• Occasionally
• When I have dental pain
• I have never visited a dentist

22. Last time I visited a dentist was
• 6 months ago
• 6-12 months ago
• 1-2 years ago
• 2-5 years ago
• More than 5 years ago

23. The reason for my last visit was
• Dental pain
• Family and friend advice
• A dentist advised me
• Other( specify)...

24. If you don’t visit the dentist or are afraid of him or her,
The reason(s) is/ are
• I am afraid of the drill
• I am afraid of the dental needle
• There is no time
• Other (specify)...

25. Dental check ups are
• Pleasant
• Unpleasant
• Very unpleasant
• Tolerable

26. How would you describe the state of your teeth and gums?
• Excellent
• very good
• good
• average
• poor
• very poor

27. What are the signs of unhealthy gums?
• Bleeding
• pain
• swelling
• red gums
• all the above
• I don’t know