KNOWLEDGE, ORAL HYGIENE PRACTICES AND PREVALENCE OF PERIODONTAL DISEASES OF ADULTS IN PATIENTS ATTENDING KENYATTA HOSPITAL

A COMMUNITY DENTISTRY PROJECT PROPOSAL SUBMITTED IN PARTIAL FULFILLMENT OF THE BACHELOR OF DENTAL SURGERY DEGREE OF THE UNIVERSITY OF NAIROBI.

INVESTIGATOR: PATRICK MUTHONDU KIHARA

INTERNAL SUPERVISOR

DR. LOICE GATHECE BDS, MPH, NAIROBI
DEPARTMENT OF PERIOD ONTOLOGY, COMMUNITY AND PREVENTIVE DENTISTRY. (UoN)

EXTERNAL SUPERVISOR

DR. E. NGATIA M BDS (UoN), MSc
LECTURER, DEPARTMENT OF PERIOD ONTOLOGY, COMMUNITY AND PREVENTIVE DENTISTRY.

DURATION OF STUDY: JULY TO SEPTEMBER

COST OF STUDY: KSH. 4088

SOURCES OF FUNDS: SELF
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>1</td>
</tr>
<tr>
<td>Literature Review</td>
<td>3</td>
</tr>
<tr>
<td>Statement of the Problem</td>
<td>6</td>
</tr>
<tr>
<td>Justification of Study</td>
<td>6</td>
</tr>
<tr>
<td>Objectives</td>
<td>7</td>
</tr>
<tr>
<td>Hypothesis</td>
<td>7</td>
</tr>
<tr>
<td>Study Variables</td>
<td>7</td>
</tr>
<tr>
<td>Study Methodology</td>
<td>8</td>
</tr>
<tr>
<td>Inclusion Criteria</td>
<td>10</td>
</tr>
<tr>
<td>Exclusion Criteria</td>
<td>10</td>
</tr>
<tr>
<td>Ethical Consideration</td>
<td>11</td>
</tr>
<tr>
<td>Problems Anticipated</td>
<td>11</td>
</tr>
<tr>
<td>Expected Benefits</td>
<td>11</td>
</tr>
<tr>
<td>Budget Speculation</td>
<td>12</td>
</tr>
<tr>
<td>References</td>
<td>13</td>
</tr>
<tr>
<td>Appendix</td>
<td>14</td>
</tr>
</tbody>
</table>
ABBREVIATIONS

BDS – Bachelor of dental surgery
KNH – Kenyatta National Hospital
SPSS – Statistical package for social sciences
KSH – Kenya shillings
KNOWLEDGE, ORAL HYGIENE PRACTICES AND PREVALENCE OF
PERIODONTAL DISEASES OF IN-PATIENTS ATTENDING KNH HOSPITAL

INTRODUCTION

Periodontal disease is a condition affecting the tissues surrounding and supporting the teeth. Studies have reported a major cause of tooth loss in adults. The primary etiological factor is bacteria found in plaque. These substances that irritate the gums. Leading to inflammation. This leads to recession gums may pull away from teeth) pocket formed and fill more bacteria and pus.

In early stages (gingivitis) the disease is still reversible and can usually be eliminated by systemic daily brushing and flossing. Without prior treatment, periodontal disease can lead to undesirable effects such as loss of teeth, mobility of teeth, foul odour that can be debilitating to patient both socially and health wise. Because of these adverse results of periodontal disease, the dental profession cannot afford to ignore the need for the people to know and practice safe dental habits to safeguard their oral health. Some studies have shown a correlation between discharging periodontal abscesses and worsening of heart conditions such as infective endocarditic contributing factors towards the prevalence of periodontal diseases include: poor filling dental restoration, smoking, crowded teeth, improper bite ligament, clenching or grinding teeth, hormonal changes including pregnancy, menstruation, menopause, diet, systemic disease including blood disorders and diabetes, mediation including calcium channel blockers and anticonvulsants.
From the foregoing this study aims to investigate the knowledge, practices and prevalence of patients towards periodontal health because its occurrence is at any-stage-but over half of all people over the age of 18 have some form of the disease. After age 35 over 75% of all people are affected.

Kenya, like many other developing countries with a growing population and limited resources may not be able to meet immediate treatment needs of the general population with the high incidence of dental caries and periodontal diseases.
LITERATURE REVIEW

Studies have been carried out around the world to determine the level of knowledge and health practice prudence of various groups towards periodontal health. In adults aged 35 years and over, periodontal disease is universally regarded as the principle cause of tooth loss. Phillips KR and Stevens VJ (United States) 1999 examined the reasons for tooth loss and found. That slightly more than 50% of teeth were extracted due to periodontal disease, 34.4% due to caries, and 9.8% due to a combination of the two, and 3.4% for other reasons. This information definitely impacts the practice of dental hygiene-hygienists must focus primarily on preventing and treating periodontal diseases especially in young adults.

A study by Croxson IJ (England 1993 APR) to determine awareness of periodontal disease looked at knowledge of individuals on the health of their gum and tooth supporting tissues, what it means to them, how they interpret the information, and whether they seek care as a result of the knowledge. Though the way a dentist and a patient interact with or without such knowledge is important, it is contended that knowledge of the periodontal disease processes and of how to treat, manage, control and even prevent must be accompanied by awareness of the same by the patient, the profession and industry. This recognizes that the dentist and the patient are in partnership, especially in management of periodontal disease. Provision of the information for proper attitude and behaviour modification is thus indispensable.
Kalon Ka (England) 1998 also did a study which concludes that although a range of organizations can promote improvement in awareness, unless simultaneous efforts are made to improve knowledge and awareness of the general public to periodontal diseases it is difficult to see how there can be an improvement in the periodontal health of the population.

In Kenya, Dr Mulli TK (2002) did a study in the complaint of patients seeking periodontal treatment. The most common presenting complaint was the patient had been told they had gum disease. The study concludes that patient's motivation to seek periodontal treatment was greatly based on information given to them by a member of dental health team rather than periodontal symptoms. The public should therefore, be sensitized to identify periodontal disease symptoms and be encouraged to seek treatment early to avoid tooth mortality and its associated problems.

In Nigeria, a pilot study was done on periodontal disease awareness amongst Nigeria by Savage KO (1994). It showed that more than of the subjects in the study visited dental clinics for relief of toothache and or extraction. Although a high percentage over 50% claimed not to have gum diseases, various stages of periodontal disease were observed in the group of subjects. He recommends use of mass media such as electronics media to promote periodontal health awareness and knowledge.
A study by Freeman R and Linden G (England 1995) on health directed and health dimensions of oral health behaviour of periodontal referrals suggested that two sets of attitudes existed—health related and health directed—and the dentists was the most salient referent. Analysis showed dual nature of attitude and suggested that family and friends are very influential. This suggested a clash between lay and professional dental perspectives. Clinicians should be aware that the patients arrive in clinics with strongly held attitudes and beliefs, appearing to values the advice of the family as well as that of the dental health profession. Hence information directed towards modification of attitudes and behaviour towards dental health is highly welcome and worthwhile.

Elsewhere, Croxson LJ (England 1984) carried out a study on periodontal awareness. He states that the maintenance of periodontal health requires an informed public and patient. Treatments will fail, and in fact will not even start, if the individual are not aware of the differences between periodontal health and diseases; the significance of these differences and the part can play in prevention and control. Self-awareness begins with self-care and professional assistance completed the picture. It is on a solid knowledge base that self-care and assisted care programmes can be developed chronic inflammatory periodontal diseases are universal but the profession knows it is possible to prevent, manage, and control almost all of these diseases. Awareness and knowledge of the need for the right actions by the public and dental professionals is the key to improving periodontal health. Hence, this study will be carried out to determine the knowledge, oral hygiene practices and behaviour of patients Kenyatta National Hospital their periodontal health.
STATEMENT OF THE PROBLEM

A few studies have been done on knowledge, attitude and behaviour of patients on oral health and specifically on dental cares.

The study will reveal valuable information on the degree of ignorance of these patients towards periodontal health. The study will also show how effective previous dental campaigns have been in reducing bad dental practices.

JUSTIFICATION FOR THE STUDY

Kenya, like many developing countries with a growing population and limited resources, may not be able to meet the immediate treatment needs of the whole population at large. Information on the present knowledge, attitude and behavior will aid in offering goal-directed services. Furthermore, more than half of the Kenyan Population are thus in need of a lot of attention.
OBJECTIVES

Main objectives
To determine knowledge, oral hygiene practices and prevalence towards their periodontal health.

Specific objectives
1. To determine the knowledge of the patients towards their periodontal health.
2. To determine the oral hygiene practice of the patients
3. To determine the behaviour of patients towards their periodontal health
4. To determine the patients plaque control practices.

HYPOTHESIS
The study will be based on the hypothesis that more than 50 of patient’s knowledge and attitude towards periodontal health is poor and negative and this affects their behavior towards the same.

STUDY VARIABLES

Independent Variables
1. Age
2. Education
3. Smoking
4. Dental visiting
Dependant variables

1. Knowledge on causes of periodontal disease, management and prevention
2. Attitude towards treatment and prevention of periodontal disease.

STUDY METHODOLOGY

Study Area

The study will be carried out at Kenyatta National Hospital Nairobi. This is a national hospital located west of the city centre, along Ngong road. It is a referral hospital which admits patients from all over the country.

Study population

This is a hospital-based study. The individuals to participate in the study will be adult inpatients in the hospital. Patients will be drawn from wards 5, 6, 7, 8. A total of 138 respondents will participate.

Study design

This will be a descriptive cross-sectional study design.
Sample size

Prevalence of periodontal disease = 85% confidence level 95% hence \( C = 5\% \)

Corresponding Z value for 95% confidence level is 1.96

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

\[ = \frac{1.96^2 \cdot 0.85(1-0.85)}{0.5^2} \]

\[ = 196 \]

Sample procedure

A stratified random sampling will be employed to control bias. A total of 138 patients will be targeted

Data collection

Structured question were employed. The questionnaires contained both closed ended and open-ended questions. At the end of the questionnaire, there is an opportunity given to the respondent to make contributions they dim fit. Some variables to be considered include; age, education, smoking identical visiting among others.

The questionnaires were self administered and were delivered to the patients in their respective wards by the researcher. They were the filled and collected for analysis by the investigator.
Data analysis

The results will be analyzed manually and presented in form of tables and bar charts

Data was collected and analyzed by use of a computer statistical program like SPSS. The measures to be computed included percentages and proportions. The information was presented in form of graphs, tables and pie charts.

Inclusion criteria

All patients who will give informed consent and willing to participate in the study

Exclusion criteria

1. Those patients who will not be willing to participate
2. in patients not within the given wards.

Minimizing of Bias and error

The following were taken to ensure the study provides a true picture of the actual situation and is acceptable.

1. Minimization and reduction of error was achieved by presentation of the respondent’s original responses. They greatly reduced the risk of inaccurate that was encountered during data transfer.
2. Pre-testing the questionnaire
Ethical consideration

This research will be presented to the ethical committee based at Kenyatta National Hospital. Participation by the respondents was voluntary and their confidentiality was guaranteed. It was the desire of the researcher to make sure that all respondents are treated with utmost respect they deserve and avoid any bias of this project will be analyzed in the betterment of the people it targets.

Benefits of the study

1. To provide a basis for the development of programmes to educate the patients on periodontal health.

2. This study form part of the requirements for the ward of degree of Bachelor of Dental Surgery and will be submitted in partial fulfillment of the degree.

3. The results can be used as a baseline for further research.
## BUDGET PROPOSAL

<table>
<thead>
<tr>
<th>ITEM</th>
<th>COST/ UNIT (KSHS)</th>
<th>UNITS</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Typing</td>
<td>10 per page</td>
<td>15</td>
<td>150</td>
</tr>
<tr>
<td>Printing</td>
<td>5 per page</td>
<td>19</td>
<td>95</td>
</tr>
<tr>
<td>Binding</td>
<td>30 per unit</td>
<td>1</td>
<td>30</td>
</tr>
<tr>
<td>Stationery</td>
<td>3 per leaf</td>
<td>50</td>
<td>150</td>
</tr>
<tr>
<td>Internet services</td>
<td>1 per minute</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Photocopying</td>
<td>2 per page</td>
<td>19</td>
<td>38</td>
</tr>
<tr>
<td><strong>TOTAL COST</strong></td>
<td></td>
<td></td>
<td><strong>563</strong></td>
</tr>
</tbody>
</table>

## DATA COLLECTIONS

<table>
<thead>
<tr>
<th>ITEM</th>
<th>COST/ UNIT (KSHS)</th>
<th>UNITS</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transport</td>
<td>30 per trip</td>
<td>30</td>
<td>900</td>
</tr>
<tr>
<td>Photocopying</td>
<td>2 per page</td>
<td>400</td>
<td>800</td>
</tr>
<tr>
<td>Consent forms (photocopy)</td>
<td>2 per page</td>
<td>400</td>
<td>800</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td></td>
<td></td>
<td>500</td>
</tr>
<tr>
<td><strong>TOTAL COST</strong></td>
<td></td>
<td></td>
<td><strong>3000</strong></td>
</tr>
</tbody>
</table>

## REPORT WRITING

<table>
<thead>
<tr>
<th>ITEM</th>
<th>COST/ UNIT (KSHS)</th>
<th>UNITS</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stationery</td>
<td>250 per ream</td>
<td>1</td>
<td>250</td>
</tr>
<tr>
<td>Typing</td>
<td>10 per page</td>
<td>20</td>
<td>200</td>
</tr>
<tr>
<td>Browsing</td>
<td>1 per minute</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Printing</td>
<td>5 per page</td>
<td>30</td>
<td>150</td>
</tr>
<tr>
<td><strong>TOTAL COST</strong></td>
<td></td>
<td></td>
<td><strong>550</strong></td>
</tr>
<tr>
<td><strong>SUM TOTAL</strong></td>
<td></td>
<td></td>
<td><strong>4088</strong></td>
</tr>
</tbody>
</table>
REFERENCES


2 Croxson LJ; Practical periodontics. Awareness of periodontal disease-the patient. Int.
Dental J (England) Jim 1998 48 (3 supp 1) p256-60

3 Eaton KA; Awareness of periodontal diseases the professional and the civil servant.


6 Freeman R; linden G health directed and health related dimensions of oral health behaviour of periodontal referrals. Community Dent Health (England) mar 1995 12 (1) p48-51

CONSENT TO PARTICIPATE IN A RESEARCH STUDY

Purpose of the study

I am a third year dental student at the University of Nairobi, conducting a research on “KNOWLEDGE, ORAL HYGIENE PRACTICES AND PREVALENCE OF PERIODONTAL DISEASES AMONG ADULT IN PATIENTS ATTENDING KENYATTA NATIONAL HOSPITAL”. This part of a requirement of a bachelor degree in dental surgery. The study will be conducted through a questionnaire. The contents will be kept confidential. There will be no discomforts or risks involved in the study.

Participation, risk and confidentiality

Participation in the study is voluntary. The participant has the right to ask Questions and can terminate his/ her participation without any consequences. No risk is anticipated for participating in the study. The information collected will be treated with utmost confidentiality.

I the undersigned………………………..having had been informed about the study, had time to ask questions and received answers concerning issues. I did not understand, do willingly give consent to participate in the study. My signature below indicates that I have read the information above and that I agree to participate in this study.

.......................................................... ..............................
Signature of participant                       Date

.......................................................... ..............................
Investigators Signature                        Date

Principal Investigator: PATRICK M KIHARA
APPENDIX

QUESTIONNAIRE

KNOWLEDGE, ORAL HEALTH PRACTICES AND PREVALENCE OF PERIODONTAL DISEASES OF IN-PATIENTS ATTENDING KNH HOSPITAL

Part 1: Personal details

Name...........................................

Age............................................. Ethnicity.................................

Part II (questionnaire) tick where appropriate

1. What is gum disease?
   - It’s a bacterial disease caused by deposits on teeth
   - It’s a viral disease/ could be viral
   - It’s a condition which has no particular cause
   - I don’t know
   - Others(specify).................................................................

2. What causes gum disease?
   - Sugary foods
   - Poor cleaning of teeth
   - Smoking
   - It’s a normal phenomena of ageing
   - Others ( specify).....................................................................
3. Have you noticed or experience;
   - Gum swelling
   - Gum bleeding spontaneously or on brushing
   - Mobile teeth
   - Pain or sensitivity of teeth

4. If yes any of (3) above what do you do;
   - Stop brushing
   - Continue brushing
   - Consult a dentist
   - Wait for the problem to disappear
   - I don’t care
   - Others (specify) .................................................................

5. What can help prevent gum disease?
   - Visit the dentist regularly
   - Avoid brushing regularly
   - Take fibrous and low sugary foods
   - Doesn’t matter because it’s a self limiting disease

6. Do you think it’s important to seek a dentist’s advice when you have gum disease?
   - Yes ☐ No ☐

7. Do you brush your teeth? Yes ☐ No ☐
8. If yes above how often in a day?......................

9. How frequent do you change your toothbrush?......................

10. Do you smoke cigarettes?
    Yes □ No □

11. Do you know that smoking affects your oral health?
    Yes □ No □

12. Do you consult a dentist regularly for control of dental diseases?
    Yes □ No □

   a) If no above give reasons
   b) If yes how often?