SOURCE OF ORAL HEALTH MOTIVATION, ATTITUDES AND
PRACTICES IN ADOLESCENTS 12-13 YEARS OLD IN NAIROBI

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ABBREVIATIONS

UON – University of Nairobi
MRES – Masters in research
BDS – Bachelor in Dental Surgery
MPH – Masters in Public Health
SPSS – Statistical Package for Social Sciences
ABSTRACT

Prevention is a resource saving method of dealing with diseases and especially when it comes to oral diseases like dental caries and periodontal diseases. Knowledge at times leads to positive change in behaviour. Determining the right time of intervention in children would be of utmost importance, to increase efficiency of prevention

A descriptive cross sectional study will be done among 12-13 year olds in a primary school in Nairobi, Kenya. The aim of the study will be to determine source of oral health motivation, attitudes and practices. A convenience sampling method will be used to select the respondents. A self administered questionnaire will be used to collect the data, which will be analyzed using SPSS version 12.0, frequencies will be used to draw graphs and bar charts and chi-square will be determined. The study may be used to form a baseline to health promotion interventions in the future. The information acquired may also be used by planners in formulation of prevention strategies.
INTRODUCTION

An adolescent is a child aged 10 to 18 years of age. Diseases affecting adolescents include dental caries, the prevalence of which in a Nairobi primary school was 50% as shown in a study by Nga'ng'a et al in 1992. The other key disease is periodontitis. In a study by Hamasha et al 2006 on Periodontal treatment need of the 6th-grade Jordanian pupils; 27.5% of the adolescents had healthy periodontium, 22.9% showed gingival bleeding on probing but no calculus, and 31.4% had calculus deposits. As most of these diseases are influenced by habits, proper oral health motivation can reduce their incidence.

Attitudes towards oral health have improved over the past ten years, and females have better attitudes than males (Hikiji et al 2005). Attitudes may be influenced by sociobehavioural factors. Early oral health programmes may impart a positive attitude in children. Children from families whose parents have a low level of education show poor attitudes (Astrom et al 2006).

Sources of Motivation that adolescents are exposed to include mass media, dentists and family/friends (Norinah 2002). Information most sought after was on toothbrushing, oral hygiene, toothpaste, toothache, effects of food on teeth, bad breath, dental aesthetics and injuries. In seeking information, the main barriers reported were the 'boring' presentation, 'too technical' and 'irrelevant' information, and busy with school work'. Parents with a low level of education show the least motivation of controlling their children’s diet (Astrom et al 2006).

The aim of the study is to determine the sources of the motivation and information, attitudes and practices in adolescents 12-13 years old in a Nairobi primary school. The study may be used to form a baseline to health promotion interventions in the future. The information acquired may also be used by planners in formulation of prevention strategies.
LITERATURE REVIEW

Studies have been carried out on the source of oral health motivation, attitudes and practices in adolescents throughout the world. Goel P et al 1997 carried out a study in primary schools in Udupi municipality in India to determine the knowledge, attitude and practice towards dental caries and periodontal disease. The results showed that school dental health services must hold demonstrations or lectures on prevention of oral diseases during school feasts and parent teacher meetings, in order to have better oral health promotion of the child.

In a study by Mahmoud K.A et al 2005 in Jordan on oral health attitudes, behavior and knowledge, results revealed that, children of average age 13.5 had positive attitudes toward their dentists; however, they indicated that they feared dental treatment. The results of this study indicate that children’s and parents’ attitudes toward oral health and dental care need to be improved. Comprehensive oral health educational programs for both children and their parents are required to achieve this goal. The children in this study also recognized the importance of oral health to the well-being of the rest of the body. Parents were not proactive in making sure that their children received regular dental care. Parents’ knowledge and attitudes about the importance of oral health care and their fears about dental treatment influenced their children’s dental care.

A national representative study in China by Zhu L et al. 2003 described oral health and illness behaviour, oral health knowledge and attitudes among 12-year-old and 18-year-olds. Nearly half of the participants (47.2%) had never received any oral health care instruction. Significant variations in oral health practices were found according to province and regular dental care habits were more frequent in urban than in rural areas. The risk of dental caries was high in the case of frequent consumption of sweets and dental caries risk was low for participants with use of fluoridated toothpaste. Nearly one third (29%) of 12 year-olds and (40.5%) of 18-year-olds would visit a dentist in case of signs of caries but only when in pain, showing a poor attitude or ignorance towards their oral health.

In spring, Vazquez L et al 2003 did a study in Kansas on adult Hispanic attitudes and access to oral health. Education beyond high school predicted more dental visits, fewer months since the last oral health exam, and greater frequency of oral health care. Office
workers showed more recent and more oral health care visits. Those with greater education perceived their oral health as better; recognized greater oral health needs.

A cross-sectional dental questionnaire census survey was conducted by Ostberg AL et al 1999 in classrooms of 17,280 students aged 13-18 years in Sweden. The aim was to examine gender differences in knowledge, attitude, behavior and perceived oral health. It was concluded that most adolescents had a positive dental attitude and perceived their own oral health to be good. Oral health was regarded as important by a majority of the students (95%). Poorer knowledge and behaviors concerning oral health were demonstrated. Gender differences existed in most issues. Girls scored more favorably on behavioral measures, showed more interest in oral health, and perceived their own oral health to be good to a higher degree than did boys.

A study done by Chen CJA et al 2001 in Malaysia on 16 year olds on perception of oral health, self-reported oral hygiene practices, reasons for brushing teeth and probable utilisation of services after leaving school. It showed, daily tooth brushing was almost universal (96.8%) and reasons cited were personal hygiene, habit, and the need to look and feel good and the majority (78.3%) felt that the best way to maintain oral health is to have dental treatment. The children had been under a health care programme started in 1985 when the study was carried out in 2001. A sizeable proportion (26.7%) indicated that they would choose to have their teeth extracted if they had decayed or painful teeth, while 10.5% indicated they would take medication instead of seeking treatment.

A study by Freeman R et al 1995 in England on health directed and health related dimensions of oral health behaviours of periodontal referrals suggested that two sets of attitudes existed –health related and health directed- and the dentist 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 patients arrive in clinics with strongly held attitudes and beliefs, appearing to value 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.

Most dental diseases are preventable. Hence, this study aims to determine the source of oral health motivation and the age at which oral health becomes a concern to an
individual, this will help determine the most useful modality for health education and the most opportune time for intervention in Nairobi, Kenya.

RESEARCH PROBLEM

STATEMENT OF THE PROBLEM
Oral health of adolescents is challenging as they are in a stage where they are trying to gain independence from their parents. They need either treatment of their oral diseases or prevention of the same. One of the methods that may aid prevention is knowledge. Kenya and other developing countries having limited resources may not be able to meet the immediate treatment needs of adolescents, hence prevention is key. The number of adolescents who have received oral health information is inadequate. Information given at the right time and in the right manner could be very effective in preventing oral diseases as it may lead to a change in attitude and behaviour. Many of the oral diseases can be reduced by change in behaviour.

JUSTIFICATION FOR THE STUDY
There is scanty information on this topic in Nairobi. Information from the study could be used by policy makers and oral healthcare givers to strengthen prevention measures. By using this information, dental health care givers will be made aware of the right time for intervention. The study's aim is to reveal the sources of oral health motivation, the attitudes and practices of adolescents.
OBJECTIVES OF THE STUDY

• MAIN OBJECTIVE
To determine the sources of oral health motivation, the attitudes and how it relates to the oral health status of adolescents.

• SPECIFIC OBJECTIVES
1. To determine the sources of oral health motivation.
2. To determine the attitudes of children towards their oral health.
3. To determine the practices of the children.

HYPOTHESIS OF THE STUDY
Students who have not been exposed to the main sources of oral health motivation, have a negative attitude towards oral health and have a poor oral health practices.

MATERIALS AND METHODOLOGY

VARIABLES

• Socio-demographic variables
1. Age
2. Gender
3. Year of study

• Independent variables
1. Source of oral health motivation
2. Attitudes towards oral health

• Dependent variables
1. Oral health practices
STUDY METHODOLOGY

STUDY AREA
The study will be carried out in Milimani primary school, a public school in the capital city of Kenya, Nairobi. Its situated in Killimani division, and has around 1,000 pupils. The children hail from the school's environs and from all over the city.

STUDY POPULATION
This is a school based study. The individuals to participate will be pupils in the school of age ranging from 12-13.

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

SAMPLE SIZE
P= prevalence ,the children who have not received any oral health care instructions. P= 47.2%
P= confidence interval
C= 5%

Z = 1.96, value for 95% confidence interval.

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

\( n = 1.96^2 \times 0.472(1-0.472) \times 0.05 \times 0.05 \)

=383

\( nf = \frac{n}{1+ \frac{n}{N}} \)

\( nf = 383/ 1+ 383/150 \)

\( nf = 383/3.5533 \)

\( nf = 108 \)
SAMPLING PROCEDURE
Convinient sampling method will be used. All the students aged 12-13 years will be included in the study.

DATA COLLECTION, INSTRUMENTS AND TECHNIQUES

DATA COLLECTION
A self administered questionnaire will be used to collect information on sources of motivation, attitudes and practices.

DATA ANALYSIS
The results will be analysed using SPSS 12.0, frequencies will be used to draw graphs and bar charts and chi-square will be determined.

INCLUSION CRITERIA
All pupils whose parents will give informed consent for their children to participate in the study, and those children who give assent to participate.

EXCLUSION CRITERIA
Those pupils whose parents will not give consent for them to participate, those children who do give assent.

ETHICAL CONSIDERATIONS
Ethical clearance will be obtained from the Kenyatta National Hospital ethical and research committee in Kenya. Written permission to conduct the study will be obtained from the Ministries of Health in Kenya, local administration authorities, and the school authorities. Written informed consent will obtained from the guardians and assent from the children. Information acquired will be used for the benefit of the community and will be used with absolute confidentiality.
PROBLEMS ANTICIPATED
1. Some students may not be willing to co-operate
2. The day of the study may coincide with other school events
3. Limited time of study: The study will be conducted in a busy academic schedule.

EXPECTED BENEFITS
1. Information acquired can be used by planners to formulate prevention strategies.
2. The information can form a baseline for health promotion interventions in the future.
3. The report will be submitted of partial fulfillment of the requirements of Bachelor of Dental Surgery UON.
<table>
<thead>
<tr>
<th>Item</th>
<th>Unit cost</th>
<th>Quantity</th>
<th>Kshs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Printing</td>
<td>10/-</td>
<td>200</td>
<td>2,000/-</td>
</tr>
<tr>
<td>photocopying</td>
<td>2/-</td>
<td>1,000</td>
<td>2,000/-</td>
</tr>
<tr>
<td>Transport</td>
<td></td>
<td></td>
<td>500/-</td>
</tr>
<tr>
<td>Internet</td>
<td></td>
<td></td>
<td>500/-</td>
</tr>
<tr>
<td>Stationery</td>
<td></td>
<td></td>
<td>1,000/-</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td></td>
<td></td>
<td>700/-</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td></td>
<td><strong>6700</strong></td>
</tr>
</tbody>
</table>
REFERENCES:


SOURCE OF ORAL HEALTH MOTIVATION, ATTITUDES AND PRACTICES IN ADOLESCENTS 12-13 YEARS OLD IN NAIROBI.

PLEASE READ THE QUESTIONS CAREFULLY. THEN ENTER THE APPROPRIATE RESPONSE IN THE BOX PROVIDED. FEEL FREE TO ASK WHEN IN DOUBT.

Please enter or tick your answers.

1. Age Gender Class

2. Where do you live? 

3. How would you describe the health of your teeth and gums?

<table>
<thead>
<tr>
<th>Teeth</th>
<th>Gums</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excellent</td>
<td>□ 1</td>
</tr>
<tr>
<td>Very good</td>
<td>□ 2</td>
</tr>
<tr>
<td>Good</td>
<td>□ 3</td>
</tr>
<tr>
<td>Average</td>
<td>□ 4</td>
</tr>
<tr>
<td>Poor</td>
<td>□ 5</td>
</tr>
<tr>
<td>Very poor</td>
<td>□ 6</td>
</tr>
<tr>
<td>Don't know</td>
<td>□ 9</td>
</tr>
</tbody>
</table>

4. How often do you clean your teeth?
   (Tick one alternative only)

<table>
<thead>
<tr>
<th>Teeth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
</tr>
<tr>
<td>Several times a month (2-3 times)</td>
</tr>
<tr>
<td>Once a week</td>
</tr>
<tr>
<td>Several times a week (2-6 times)</td>
</tr>
<tr>
<td>Once a day</td>
</tr>
<tr>
<td>2 or more times a day</td>
</tr>
</tbody>
</table>

If you do not clean your teeth go to question 6.

5. At what age did you start cleaning your teeth.
6. **How often during the past 12 months did you have toothache or feel discomfort on account of your teeth?**

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Often</td>
<td>1</td>
</tr>
<tr>
<td>Occasionally</td>
<td>2</td>
</tr>
<tr>
<td>Rarely</td>
<td>3</td>
</tr>
<tr>
<td>Never</td>
<td>4</td>
</tr>
<tr>
<td>Don't know</td>
<td>9</td>
</tr>
</tbody>
</table>

7. **How often did you go to the dentist during the last 12 months?**  
(Including orthodontist) (Tick one alternative only)

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Once</td>
<td>1</td>
</tr>
<tr>
<td>Twice</td>
<td>2</td>
</tr>
<tr>
<td>Three times</td>
<td>3</td>
</tr>
<tr>
<td>Four times</td>
<td>4</td>
</tr>
<tr>
<td>More than four times</td>
<td>5</td>
</tr>
<tr>
<td>I had no visit to dentist</td>
<td>6</td>
</tr>
<tr>
<td>I have never received</td>
<td>7</td>
</tr>
<tr>
<td>I don't know/don't remember</td>
<td>9</td>
</tr>
</tbody>
</table>

*If you did not visit the dentist during the last 12 months, go on to question 9*

8. **What was the reason of your last visit to the dentist?**  
(Tick one alternative only)

<table>
<thead>
<tr>
<th>Reason</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Something was wrong/pain or troubles with teeth or gums</td>
<td>1</td>
</tr>
<tr>
<td>It was part of follow-up treatment</td>
<td>2</td>
</tr>
<tr>
<td>It was part of follow-up treatment</td>
<td>2</td>
</tr>
<tr>
<td>I don’t know/don’t remember</td>
<td>9</td>
</tr>
</tbody>
</table>
9. Do you use any of the following to clean your teeth or gums? (State each item)

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toothbrush</td>
<td>☐</td>
</tr>
<tr>
<td>Wooden toothpicks</td>
<td>☐</td>
</tr>
<tr>
<td>Plastic toothpicks</td>
<td>☐</td>
</tr>
<tr>
<td>Thread (dental floss)</td>
<td>☐</td>
</tr>
<tr>
<td>Charcoal</td>
<td>☐</td>
</tr>
<tr>
<td>Chewstick/miswak</td>
<td>☐</td>
</tr>
<tr>
<td>Other</td>
<td>☐</td>
</tr>
</tbody>
</table>

10. Do you use toothpaste containing fluoride?

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
<th>Don't use toothpaste</th>
<th>Don't know</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

11. Because of the state of your teeth, have you experienced any of the following problems during the past year?

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
<th>Don't know</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>☐</td>
<td>☐</td>
<td>☐</td>
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<td>☐</td>
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<tr>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
12. How often do you eat or drink any of the following foods, even in small quantities?
(Read each item)

<table>
<thead>
<tr>
<th></th>
<th>Several times a day</th>
<th>Every day</th>
<th>Several times a week</th>
<th>Once a week</th>
<th>Several times a month</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fresh fruit</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Biscuits, cakes, cream cakes, sweet pies, buns etc.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lemonade, Coca Cola or other soft drinks</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jam/honey</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chewing gum containing sugar</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sweets/candy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Milk with sugar</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tea with sugar</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

13. How often do you use any of the following types of tobacco?
(Read each item)

<table>
<thead>
<tr>
<th></th>
<th>Every day</th>
<th>Several times a week</th>
<th>Once a week</th>
<th>Several times a month</th>
<th>Seldom</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>I smoke cigarettes, pipe or cigars</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I use chewing tobacco or snuff</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
14. What level of education has your father (stepfather, guardian or other male adult living with you)?

- (Unfinished) primary school ........................................... [□ 1
- Unfinished secondary school ........................................... [□ 2
- Secondary school ....................................................... [□ 3
- Unfinished secondary special ........................................ [□ 4
- Secondary special ..................................................... [□ 5
- Unfinished college/University ....................................... [□ 6
- College/University .................................................... [□ 7
- No male adult in household .......................................... [□ 8
- Don't know ................................................................... [□ 9
16. It is important to retain your teeth throughout life.
   a) I strongly agree
   b) I agree
   c) I am indifferent
   d) I disagree
   e) I strongly disagree

17. Where / from who did you first learn that you should clean your teeth?
   a) My parents
   b) My teacher
   c) My friends
   d) Television or Radio
   e) other, please specify

18. Why do you clean your teeth.
   a) Because we brush at home
   b) To have a good smile
   c) To feel good
   d) Because my friends also do it
   e) Because I see it on Television or
   f) Other. please specify

That completes our questionnaire

Thank you very much for your cooperation!
Appendix 2:

PARENT CONSENT FORM

Im Kyale David Sumbi, a level III Bachelor of Dental Surgery student in the University of Nairobi. I am currently carrying out a research project to ascertain the source of oral health motivation, attitudes and practices in adolescents 12-13 years old in Nairobi. The study will be important since prevention is better than cure and costs less than treatment. The study will shed light on the best sources of oral health information and the right time to deliver them, it will strengthen the arm of preventive care in Kenya.

I understand that I have entered my child in this study voluntarily and that I can terminate my participation in the study without any consequences. The participation in the study doesn't entail financial benefit. No risk is anticipated for the study. Permission to obtain research information, through a questionnaire, will be sought from the pupil. The information given to the researcher will be kept in strict confidence. No information, by which your identity can be revealed, will be released or published.

I the undersigned............................................. do hereby willfully give consent to my child............................................. to participate in this study.

Sign.......................................................... Date.................................

Please tick one
I am the father/ mother/ guardian of this child