THE USE OF TOBACCO, ALCOHOL AND KHAT AMONG PATIENTS ADMITTED WITH ORAL AND PHARYNGEAL TUMOURS IN KENYATTA NATIONAL HOSPITAL.

A COMMUNITY DENTISTRY PROJECT SUBMITTED FOR PARTIAL FULFILMENT OF THE BACHELOR OF DENTAL SURGERY DEGREE UON, 1998

BY: MUTUA ALBERT

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DEDICATION.
This project is dedicated to my parents without whom it would not have been a success.
DECLARATION.

I Mutua Albert Mwanzia, hereby declare that this research is my original work and not a copyright of any work done by any other individual or authority.

Signature

Date 12/9/98

This work has been submitted for examination with our approval as supervisors.

1. Signature

Date 16/9/98

Dr. F. G. Macigo

2. Signature

Date

Dr. D.O Awange.
ACKNOWLEDGEMENTS:

1. Dr F.C Madigo, Dr Gathece, Dr Mutara, Dr D.O Awange whose academic support and motivation made the project a success. A special thanks to Mary Magondu for typing my project.

2. The fourth year BDS class, 1998, for their courage and support they gave me during our stay in dental school, UON.

3. The director of Kenyatta National Hospital for allowing me to conduct the study in the hospital.
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A cross-sectional study to describe the social-oral habits practiced by individuals with oral and pharyngeal tumours was conducted among in-patients in Kenyatta. The study was carried out in the ENT ward, 22 patients were interviewed but only 18 were incorporated in the study. The other 4 had questionable diagnosis and were awaiting biopsy results. 11 males and 7 females were examined and 50% of them were over 45 years of age.

7 of the respondents had squamous cell carcinoma, 7 had ameloblastoma, 3 had cancer of the larynx and only one had cancer of the postnasal space.

66.6% of all individuals smoked cigarettes and 50% consumed alcohol; it is therefore recommended that these habits are harmful to ones health, and should not be encouraged.
INTRODUCTION AND BACKGROUND INFORMATIONS:

Tumours are swelling or a mass of abnormal tissue, which resembles the normal tissues in structure but which, fulfills no useful function and which grows at the expense of the body (4). Oral and pharyngeal tumours are more common in individuals who smoke cigarettes and those who consumer alcohol or both. For many years it has been assumed that there is an aetiological relationship between smoking of tobacco and oral carcinoma, individual studies have particulary incriminated heavy smokers, but although there has been a general reduction in incidence of oral carcinoma, (1) epidemiological studies in several countries have demonstrated that the risk of developing oral carcinoma is 10-15 times greater in heavy than in minimal alcohol drinkers (1) but the role of alcohol as a n aetiological factor is difficult to asses since most alcoholic consumers also smoke cigarettes. When cancer of an a particular type appears at unexpectedly high frequency in a well defined population analysis of the destructive features of these population can lead to recognition of a potential carcinogenic agent. There has been controversy in associating oral tumours with chewing of miraa, Awange D.O et al (3) found that there were history of chewing miraa for a long time in a patient who had veruccous carcinoma of the buccal mucosa. However, it must be emphasised this habit can predispose the mucosa (oral) to carcinogens due to frictional laratosis and epithelial atrophy. Cawson R.A (2) reported that oral cancer had no association with excessive alcohol consumption in Britain and cigarette smoking in Britain but was associated with pipe smoking in males.
Objectives of the study.

To describe the smoking of tobacco, alcohol consumption and Khat chewing habits among patients with oral and pharyngeal tumours.

Hypothesis:

Patients with oral and pharyngeal tumours have a positive history of consuming alcohol, smoking tobacco or chewing miraa.

LITERATURE REVIEW:

References have been made to the importance of tobacco in the development of oral cancer. These references are mainly concerned with special habits such as reverse smoking, snuff dipping and betel nut chewing with tobacco. In 1957, Wynder et al showed that only 3% of 543 men with oral cancer never smoked in contrast. To 10 percent smokers as compared with 17 percent of the control (5).

Doll, R, The causes of cancer, 1981, reported the principal impact of tobacco smoking is the incidence of lung cancer but also cancers of the mouth, pharynx, larynx, oesophagus, bladder probably pancreas and perhaps the kidney. (7) She also reported that Alcohol is involved in the production of cancer of the mouth pharynx, larynx and oesophagus were commoner than average in men who where employed in trades that encouraged the consumption of large amounts of alcohol.
Winter R, 1979, reported that the additives used in alcohol have a possibility of caring carcinogenesis but ethanol per se cannot be said to be carcinogen but may act as a co-carcinogen. It acts as an excellent solvent for carcinogen such as polycyclic hydrocarbons and nitrosamines found in tobacco. (8)

**STUDY AREA AND POPULATION:**

The study was carried out in Kenyatta National Hospital. It is a national referral hospital in Kenya situated in the country's capital city, Nairobi. The ENT wards are located on 5th and 6th floor and share patients with the dental department. The study population was defined as those during the study period with oral and pharyngeal tumours.

Patients admitted with history of trauma or infection and not tumours were excluded from the study. Also excluded were patients who were unconscious or unable to talk or respond to questions.

**MATERIAL AND METHODS.**

**Study design:**

This is a cross-sectional study using hospital-based population.

**Sample size:**

About 30 patients are expected to be admitted during the study period.
Sampling methods:

All patients with oral and pharyngeal tumours admitted in Kenyatta National hospital during the study period were included in the study.

DATA COLLECTION METHODS:

This was done by the investigator. Diagnosis was obtained from the patients file record in the ward. Information on smoking and alcohol consumption and chewing of miraa were obtained from the patient by administration of a semi-structured questionnaire. The information obtained from respondents were recorded in a specially designed questionnaire (appendix 1).

RESULTS:

A total of 18 patients out of the 22 interviewed were incorporated in the project. They were excluded in the study due to improper diagnosis.

Table 1 shows the age and sex distribution of respondents interviewed.

<table>
<thead>
<tr>
<th>AGE (yrs)</th>
<th>SEX</th>
<th>FREQUENCY (F)</th>
<th>PERCENTAGE OF THE TOTAL POPULATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>≤.35</td>
<td>M</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>36 - 41</td>
<td>M</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>≥.45</td>
<td>M</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>Total</td>
<td>M</td>
<td>11</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>7</td>
<td>18</td>
</tr>
</tbody>
</table>
The male to female ratio was approximately 3:2. Majority of the individuals (50%) were above 45 years of age.

**TABLE II**

**Distribution of lesions among respondents by sex.**

<table>
<thead>
<tr>
<th>Lesion</th>
<th>No. of respondents</th>
<th>MALE</th>
<th>FEMALE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Squamous cell</td>
<td>7</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>Ameloblastoma</td>
<td>7</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>CA larynx</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>CA PNS.</td>
<td>1</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>18</strong></td>
<td><strong>11</strong></td>
<td><strong>7</strong></td>
</tr>
</tbody>
</table>

CA- Carcinoma,
PNS – post nasal space.

Majority of the respondents had squamous cell carcinoma and ameloblastoma. Most of the respondents were males. Only one case of cancer of the postnasal space was reported.
### TABLE III

This shows the association between type of lesion and oral habits.

<table>
<thead>
<tr>
<th>LESION</th>
<th>SMOKING</th>
<th>ALCOHOL</th>
<th>KHAT (MIRAA)</th>
<th>NONE OF THE CHEWING HABITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Squamous cell</td>
<td>6</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>carcinoma</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ameloblastoma</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CA Larynx</td>
<td>2</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CA PNS</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>12</td>
<td>9</td>
<td>1</td>
<td>7</td>
</tr>
</tbody>
</table>

CA – Carcinoma

PNS – Post nasal space

The above table shows that the majority of those who had carcinomas smoked and also consumed alcohol. Only one respondent who had cancer of the post-nasal space was found to have been chewing miraa. A total of 7 respondents did not smoke, consume alcohol or chew Khat.
DISCUSSION:

The main aim of the project was to show the association of oral habits with oral and pharyngeal of tumours. It was found that there was still a role played by smoking, alcohol consumption in the aetiology of oral and pharyngeal tumours. A total of 18 individuals with oral and pharyngeal tumours were interviewed. Out of these 18, 61.1% were males and 38.9% were females, giving a male to female ratio of 3:2. This agrees with previous studies that males are more affected than females.

There was a high prevalence of these tumours in individuals over 45 years of age 50%; though the sample size is not representative of a large population The sample size was not adequate because there was a short duration of study and in that most patients with these tumours are only admitted during the period they undergo surgery.

A total of 7 respondents had squamous cell carcinoma and out of these, 6 of them (86%) smoked cigarettes. This is a strong relationship and from previous studies, tobacco smoke is associated with oral cancer in 1957, Wynder et al (5) showed that only 3% of 543 men with oral cancer never smoked, where as 29 per cent were excessive smokers, as compared to 17% who were controls.

Out of the 7 respondents who have ameloblastoma only one individual smoked and consumed alcohol, the rest had no history of miraa. From the study there is little association between oral habits and ameloblastoma.

Of the 3 respondents who had cancer of the larynx, 2 of them smoked and consumed
alcohol. Previous studies in USA, a study showed positive correlation between excessive drinking habits and cancer (Wynder, bros. et al. 1957). Most of these individuals also smoke which produce a synergistic potential for the initiation or promotion of oral cancer.

One interesting finding was a man who resided in Garissa, a town North Eastern of Kenya where miraa chewing is highly practiced. He had history of smoking cigarettes and miraa chewing for more than 10 years and also consumed alcohol; literature review however shows that CA PNS is associated with epstein burr virus (6). Meaning that alcohol, smoking and chewing miraa may not have played any role and this allowance may just be due to chance.

Table II showed a distribution of lesions among the respondents, in all tumours that were seen, there were more males affected than females. Possible explanation according to the project is that in Kenya more males smoke, consume alcohol and chew Khat than females.

**CONCLUSIONS AND RECOMMENDATIONS:**

From the study it is seen that there is association between and especially smoking and Alcohol consumption with oral and pharyngeal tumours, it is recommended that the Government through the ministry of health, adopt a campaign geared to reducing these habits. Smoking should be banned from public places and no minor should be allowed to smoke or consume alcohol.

A detailed study should be carried out in areas where high incidence of miraa chewing is practiced to provide more data on the evidence associating miraa chewing and oral
2. A detailed study should be carried out in areas where high incidence of miraa chewing is practiced to provide more data on the evidence associating miraa chewing and oral cancer.

3. A higher sample size should be used to give a more representative value for a similar research. Also such a project should be carried out over a longer duration.
REFERENCES:


Pindborg J.J. oral cancer and pre cancer John Wright and sons, Bristol, 1980.


INTERVIEWER'S NAME.................................................................

DATE OF INTERVIEW........................................................../19.............

Please fill the following for the Respondent.

PERSONAL DETAILS (Tick where appropriate).

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Name..........................................................</td>
<td>Registration No..................</td>
</tr>
<tr>
<td>2. Age(Yrs)........................................................</td>
<td></td>
</tr>
<tr>
<td>3. Sex</td>
<td></td>
</tr>
<tr>
<td></td>
<td>M</td>
</tr>
<tr>
<td>4. Level of education</td>
<td></td>
</tr>
<tr>
<td>(i) Primary school level</td>
<td></td>
</tr>
<tr>
<td>(ii) Secondary school level</td>
<td></td>
</tr>
<tr>
<td>(iii) College level</td>
<td></td>
</tr>
<tr>
<td>(iv) University level</td>
<td></td>
</tr>
<tr>
<td>(v) Others</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Specify...............................</td>
</tr>
</tbody>
</table>

5. Occupation..............................................................

6. Residence...............................................................

7. Marital status    |   |
| Single   |   |
| Separated   |   |
| Widowed   |   |
| Married   |   |
| Others   |   |
| Specify............................... |

8. Do you brush your teeth. Yes [ ] No [ ]

If no, go to 9.
If yes, (a) How many times do you brush?

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(i) Once a day</td>
<td></td>
</tr>
<tr>
<td>(ii) Twice a day</td>
<td></td>
</tr>
<tr>
<td>(iii) Three times a day</td>
<td></td>
</tr>
<tr>
<td>(iv) Others</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Specify...............................</td>
</tr>
</tbody>
</table>
(b) What do you use to brush your teeth?

(i) Conventional toothbrush
(ii) Traditional toothbrush
(iii) Electrical toothbrush
(iv) Others

Specify

(c) Do you use a toothpaste?

Yes

No

Type

What do you use?

(i) Warm water
(ii) Salt
(iii) Magadi soda
(iv) Others

Specify

9. If you do not brush your teeth, what are the reasons?

(i) Lack of time
(ii) Lack of toothpaste
(iii) Lack of toothbrush
(iv) Causes bleeding gums
(v) Injures teeth
(vi) Not necessary
(vii) Any other reason

Specify

10. Do you smoke cigarettes?

No

Yes

If yes,

(a) How many cigarettes do you smoke in a day?
(b) For how long have you been smoking?

11. Do you consume alcohol?  No □  Yes □

If yes, what type of alcohol do you take?

(i) Conventional beer □
(ii) Wines and spirits □
(iii) Other types □ Specify

(b) How often do you drink?

(i) Everyday □
(ii) Once a week □
(iii) Weekends □
(iv) Month ends □
(v) Others □

(c) For how long have you been consuming alcohol

12. Do you chew khat?  No □  Yes □

If yes,

(a) How often do you chew khat?

(i) Daily □
(ii) Weekends □
(iii) Month ends □
(iv) Others □ Specify

(b) How much khat do you chew?

(i) 1/4 bundle □
(ii) 1/2 bundle □
(iii) 1 bundle □
(iv) Others □ Specify
13. What do you chew with?

(i) Chewing gum.  
(ii) Sweets  
(iii) Soft drinks soda  
(iv) Coffee/tea with sugar  
(v) Cloves  
(vi) Do not chew with additives  
(vii) Others

Specify..................
APPENDIX II

ABBREVIATIONS

1. BDS - Bachelor of dental surgery
2. Dr - Doctor
3. UON - University of Nairobi