

**ASSESSMENT OF KNOWLEDGE, ATTITUDE AND
PRACTICE TOWARDS ORAL HEALTH AMONG
HEALTH AND EDUCATION BUREAU WORKERS
OF OROMIA REGIONAL STATE
ADMINISTRATION OFFICE ADDIS ABABA
ETHIOPIA.**

BY

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(DENTAL INTERN)

**A RESEARCH PAPER TO BE SUBMITTED TO
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JUNE, 2013

JIMMA, ETHIOPIA

JIMMA UNIVERSITY

**COLLEGE OF PUBLIC HEALTH AND MEDICAL
SCIENCES**

SCHOOL OF DENTISTRY

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ABSTRACT

BACKGROUND:- IN DEVELOPING COUNTRIES THE CHANGE FROM A TRADITIONAL LIFE STYLE TO A WESTERN LIFE STYLE HAS LED TO AN INCREASE IN SUGAR CONSUMPTION FROM FOOD AND BEVERAGES. THE PREVALENCE OF DISEASE AFFECTING ORAL CAVITY INCREASES AS SHOWN BY INCREASING PREVALENCE OF DENTAL CARIES FROM PREVIOUS STUDIES WHILE INTAKE OF REFINED SUGAR PRODUCTS TAKING THE LARGE SHARE AMONG THE THREE MAIN FACTORS IN ORAL HEALTH I.E. DIET, MICROORGANISMS AND SUSCEPTIBLE TOOTH.

OBJECTIVE:- THE PURPOSE OF THIS STUDY WAS TO ASSESS KNOWLEDGE, ATTITUDE AND PRACTICE OF OROMIA HEALTH AND EDUCATION BUREAU WORKERS TOWARDS ORAL HEALTH.

METHODOLOGY:- A CROSS SECTIONAL STUDY WAS CONDUCTED IN OROMIA REGIONAL STATE ADMINISTRATION OFFICE. THE STUDY WAS CONDUCTED ON A SAMPLE SIZE OF 206 WORKERS AND THEY WERE SELECTED BY EMPLOYING RANDOM SAMPLING METHOD. INFORMATION WAS COLLECTED BY USING STRUCTURED QUESTIONNAIRE THROUGH A SELF ADMINISTERED QUESTIONNAIRE TO HEALTH AND EDUCATION BUREAU WORKERS. DATA WAS CLEANED, CODED AND ANALYZED BY USING SPSS – II COMPUTER PROGRAM. CHI SQUARE TESTS WERE USED TO ASSESS THE

SIGNIFICANCE OF ASSOCIATION BETWEEN VARIABLES.

RESULT:- ALL WORKERS RESPONDED THE QUESTIONNAIRE COMPLETELY THE RESPONSE RATE WAS 100%. MOST OF THE RESPONDENTS 124 (60.2%) WERE MALES AND THE REST 82 (39.8%) WERE FEMALES. HEALTH BUREAU WORKERS WERE KNOWLEDGEABLE TOWARDS THE RISK AND PREVENTIVE MEASURES OF ORAL DISEASE (76.58% AND 73.87%). ALTOGETHER 32.43% OF HEALTH BUREAU AND 25.26% OF EDUCATION BUREAU WORKERS WERE CLEANING THEIR TEETH AT LEAST TWICE A DAY I.E. THE RECOMMENDED FREQUENCY OF CLEANING TEETH.

CONCLUSSION AND RECOMMENDATION:- THE PRACTICE OF CLEANING TEETH IN THE STUDY STILL FAR BEHIND THE INTERNATIONAL

RECOMMENDATION I.E. AT LEAST TWICE A DAY CLEANING AND THE SERVICES MOST WORKERS RECEIVED DURING THEIR VISIT TO DENTAL CLINIC WAS EXTRACTION OF PAINFUL TOOTH WHICH INDICATES THE SERVICES GIVEN WERE BELOW THE STANDARD SO IT IS RECOMMENDED THAT HEALTH EDUCATION AND INCREASE THE QUALITY OF SERVICES SHOULD BE ENCOURAGE.

I

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**LAST BUT NOT THE LEAST, I WOULD LIKE TO
THANK ALL MY FAMILY SPECIALLY MY
BELOVED FATHER MR. ABDULSEMED AND MY
UNCLE MUKTAR MAMA.**

II

ACRONYMS AND ABBREVIATIONS

A.A.....ADDIS ABABA

DMF.....DECAYED, MISSED AND FILLED

EBW.....EDUCATION BUREAU WORKERS

GIT.....GASTROINTESTINAL

HBWHEALTH BUREAU WORKERS

JU..... JIMMA UNIVERSITY

**KAP.....KNOWLEDGE, ATTITUDE AND
PRACTICE**

**ORSAO..... OROMIA REGIONAL STATE
ADMINISTRATION OFFICE**

SRPSTUDENTS RESEARCH PROGRAM

WHO.....WORLD HEALTH ORGANIZATION

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CHAPTER ONE

1. INTRODUCTION

1.1 Background

Health is a state of complete physical, mental and social well-being and not merely the absence of diseases or illness. (1) On the other hand oral health may be defined as a standard of health of the oral and related tissues which enables individual to eat, speak and socialize without active disease, discomfort or embarrassment and which contribute to general well-being.(1)

The mouth (oral cavity) is the entry point for food i.e. beginning of GIT. The ability to chew and swallow is a critical process required to obtain essential nutrient for the body which are done by the mouth. The mouth has many function regardless of the mastication i.e. phonation, esthetics, shaping of the face . . .etc. The prevalence of dental caries which is resulted from not keeping dental health while taking refined sugar products, periodontal disease and other soft tissue lesions of buccal mucosa, tongue and palate are also increases due to high intake of alcohol drinks and cigarette smoking which are supported by not keeping good oral health.

Oral diseases are public health problems worldwide. Their impact on individuals and communities in terms of pain and suffering, functional impairment and reduced quality of life is considerable. And it is the fourth most expensive to treat in most industrialized countries. One of the most common oral diseases is dental caries. It is an affliction, which invades all age groups and the most important cause of tooth loss in children and young people. Dental caries is a disease affecting the hard tissues of the teeth, which might result in progressive decay. Bacteria that accumulate in dense mass, as plaque on the surface of teeth, ferment carbohydrates from foods and drinks and form acids that demineralise the hard tissue underneath.(2)

Adolescents represent a challenging group in terms of oral health because they have vulnerable permanent teeth by the time they are establishing their independence from parental influence. In addition, practices such as frequent consumption of sweets, sugary foods and drinks, which have been identified by several researchers as predisposing factors to dental caries are prominent among adolescents. (2)

In many African countries the prevalence of dental caries is rising rapidly in marked contrast to the down turn in many western developed countries.(3)

In Ethiopia the legendary assumption of "Excellent Ethiopian Teeth" is no more acceptable as considerably high magnitudes of dental patients are found to exist indifferent sectors of the population. Decades have already passed, since dental caries and other diseases of the gum and teeth have been reported among fifteen leading causes of the outpatient morbidity in Ethiopia. (4)

It is the primary concern of oral health educators to impart a positive oral health knowledge and behavior in the society. This knowledge is usually derived from information. There are reports that there is an association between increased knowledge and better oral health. Keeping good oral health will prevent the indicated problems as well as strength the social problem of individual due to bad breath. (5)

Over all the epidemiological aspect of the problem and factors related to the problem were not well assessed in the country, due to inadequacy of the research done on the field. With this problem in this view this study was attempted to study the knowledge, attitude and practice among health and education bureau workers of ORSAO towards oral health.

1.2. Statement of the problem

Dental disease affects all human beings irrespective of development, race and color. In many developing countries the prevalence of dental caries is rising not only because of the change of life style from traditional to modern that led to an increase in sugar consumption and smoking but also manpower, facilities in short supply and rural areas where most of people live which often relatively inaccessible, making it difficult to provide such dental service as available. (6)

Statistics on change in oral health related behaviors across time may provide a valuable tool in planning implementation and evaluation of oral health promotion from an oral health educational point of view, information regarding the socio-economic and regional distribution of oral health behaviors are important. A basic principle in the diffusion of new life styles in the spread from higher to lower socio economic status groups, from lower to higher socio economic status groups, from people exposed to mass media to those who are not or less exposed. (7)

The main factors in oral disease are diet, microorganism and susceptible teeth. Diet has been taking a large size in contributing towards major oral disease i.e. caries process. However the

total consumption of refined sugar as well as frequency of its intake undoubtedly contributes to the onset of caries. On top of that different opinions exist as to whether specific microorganisms are causes of dental caries. There is however substantial evidence to support the key role of mutant streptococci in the process. (8)

Alcohol drinks have also great impact on the periodontal health (i.e. surrounding supporting tissue of the tooth) with a known scientific mechanism i.e. by immune suppression cause especially gingivitis. While oral health problems are rarely life threatening they may cause debilitating pain and infection on patients having valvular heart disease which can develop infective endocarditis. Missing decayed or abnormally positioned teeth that may result in unattractive appearance with associated emotional discomfort, difficulty of chewing and speaking. (9)

In many parts of Africa as in Ethiopia, Kenya, Uganda, DMF teeth per person increased ten folds in the last decades. Dental caries have increased alarmingly in many African countries probably as a result of increased consumption of refined carbohydrate among the affluent urban population. In Ethiopia the annual per capita sugar consumption grew from 1.2kg in 1958 to 4kg in 1982, which suggests about the prospects for the quality of Ethiopian teeth. (10)

The three important preventive measures of dental caries are oral hygiene, optimal use of fluoride, dietary control of sugar. But of all personal hygiene is the single most effective measure of dental caries prevention. In addition the effect of fluoridation (optimal) in water is important measure for prevention of fluorosis and reduction of prevalence of dental caries. (11)

Public health students will acquire some of knowledge of oral disease during their stay in the university. And their knowledge has important role in oral health promotion when they start working in health care system. Medical personnel by providing health education specifically oral health to the population while providing health services can prevent some of the oral disease like dental caries and periodontal disease which affect oral health but can be prevented.

1.3. Significance of the study

This study will help to identify risk factors for oral health problems in the societies there by promote oral health status. It also provides a base line data for further study in Oromia Regional Study Administration Office and Oromia region at large.

CHAPTER TWO

2. Literature Review

The oral cavity contains a number of different tissues like mucous membrane, connective tissue, blood vessels, muscles and bones. Any of this tissue can suffer from infection, trauma and degenerative diseases. (8)

Dental diseases affect all human beings irrespective of location, nationality or race being distributed worldwide. It is caused by bacteria, which are normally present in a concentrated form with the help of a thin slimy layer called dental plaque. When individual takes foods with fermentable carbohydrates/fruits, sugars as well as sucrose and some starches. These germs start to make acid by their action on the carbohydrate in the food and the acid leads to the destruction of the tooth leading to dental caries. (12)

At global, rapid changes in the pattern of oral disease has been noted during the past decade in developing countries. (12) Caries experience and poor gingival conditions have declined dramatically in young age groups. Such changes are observed in parallel with improved socio - economic conditions, change in life style and effective use of preventive oral health programmes including personal self-care practice in terms of tooth brushing and use of interdental remedies. In contrast several studies showed increasing oral health problems in a number of developing countries where community oriented

preventive programmes are not implemented and there is no complimentary dental services and shortage of manpower and resources. (13)

Oral diseases have their own special characteristics, especially concerning the two major oral diseases dental caries and periodontal diseases. These are as follows: -

1. The disease are strongly age related
2. A relatively high percentage of population is affected
3. Dental carries is irreversible and thus information on current status provides data not only on the amount of disease present, but also on previous disease experience.
4. There is a clear pattern of increase in disease severity with increase in prevalence.
5. These common oral diseases exist in all populations, varying only in intensity and prevalence. (8)

There is extensive documentation on variation of profiles of dental caries for population group with different socioeconomic levels and environmental conditions. Advances in dental research have shown that all fermentable carbohydrates including sugar contribute to the development of dental decay. Dentistry was unable to cope with the pace of tooth decay and many experts looked desperately for preventive procedure to improve the situation and until recently scientific based about the problem was few and unreliable and the caries preventive action of fluoride was unknown. Then later it was demonstrated that water fluoridation is an effective and very cheap means of lowering the prevalence of caries. (11)

The use fluoride in drinking water, salt, milk, tooth paste and mouth rinses have played a major role in reducing the number of caries in the teeth of the children and young adult throughout the world, especially in industrialized countries but the problem of cavity is not over. In young people most cavity develop in the pits and groves of chewing surface of back of teeth which deprive the last benefit from fluoride. Fortunately, such damaging decay can be prevented by filling the teeth with a thin plastic coating which will protect them from the acid formed from bacteria and food that caused decay. (11)

One part per million of fluoride in drinking water reduces the occurrence of caries. Retention of teeth and aging of the population led to an increase in root caries and patients having diabetes and patients on cancer therapy may experience severe caries unless topical fluoride prophylaxis is used. Treatment of caries involves removal of the softened and infected hard tissues, sealing of the exposed dentine and the restoration of the lost tooth structure with silver amalgam, composite plastic, gold or porcelain. (11)

Twice a day tooth brushing is the international recommendation and it is an established practice in several industrialized countries. (14)

Among the local factors the form and arrangement of teeth and salivary flow the being mentioned. The general risk factors include age, sex, race, geographic location and social class. In fact the whole socio-cultural and environmental practices of the community in which the individual live will have influence on the development of dental caries. (15)

The WHO at Almaty declaration emphasized to need to attain a level of health that will permit productive life at highest possible level by year 2000. It is an emphasis that is directed to all health management disciplines of which oral health is an essential part. It imposes a challenge of developing culturally acceptable and sensitive program that has the potential to provide knowledge and develop a health attitude in a population concerning oral health or by way of integrating scientific knowledge in to traditional oral health beliefs. (9)

A research done in China revealed 32% of 35 – 44 years olds brushed at least twice a day but only 5% used fluoridated tooth paste and about 60% of subjects paid no attention to signs of caries if there was no pain. Dental caries experience was affected by urbanization, gender, frequency and time spent on and on method of tooth brushing. Knowledge of causes and prevention of dental disease was low with somewhat negative impression or attitude to prevention observed. (16)

In Kuwait a research done on health science students about the KAP of the students towards oral health almost all students know the role of fluorides in caries prevention, the role of sugar in caries etiology, and that extraction is not the only treatment for a painful tooth. One third of the respondents knew about the risk of periodontal disease and that baby teeth need to be brushed after bottle feeding. Single students seemed to have better knowledge than married ones and only the use of fluoride tooth paste seemed to have significant association with the knowledge. Most of the students (60%) had visited a dentist during the previous year, (11%) 1 – 2 years ago and (29%) more than 2 years ago. More than half of the students were seeking the dentist for treatment. Altogether 34% of the students were brushing twice a day or more often, 45% once a day and 20% less than once a day, most of the students (70%) used fluoride tooth paste, 11% did not use it, and 20% did not know whether they were using it or not. (17)

Related to oral health practice in India high school students 58.9% of the subjects brush their teeth once a day while 38.5% two or more times a day and 2.6% irregularly. It was also found that 50.9% uses fluoridated tooth paste, 23% use plastic tooth peak, 10.4% use chewing sticks and only 4.6% use dental floss. High proportion of study population reported having hidden sugars every day (soft drink 32.1%, milk 65.9%, from tea 56.1%). From the study participants 58.47% received information regarding oral health mainly from television, only 20.9% considered keeping natural tooth important, 37% of them agreed that tooth decay and gum disease are preventable, and 48.9% (46% male and 52.6% female) knew the reason that eating sweets cause tooth decay. Only 36.3% knew that fluoride prevents tooth decay, 46% were afraid to going to dentist because of pain and 67.8% agreed with regular visits of dentist keeps away dental problem. (17)

Another study done in Tanzanian university student, in east Africa confirm that snacking of sugared food and drinks and dental attendance behavior were highest among females, higher degree students and students from urban origin. Commercialized sugar products are in contrast to those reported from industrialized countries where the highest prevalence of sugar consumption has been observed among males and individuals of lower socio economic status. (18)

In 1999, most students reported total abstinence from tobacco use (84% urban versus 83% rural) and weekly intake of sugared coffee or tea (91% urban versus 90% rural) intermediate proportion reported

going for dental check-up at least once a year (48% urban versus 37% rural). Use of oral hygiene measures i.e. tooth picks weekly (52% urban versus 48% rural) and weekly soft drink consumption (51% urban versus 48% rural), only a minority reported weekly intake of chocolate or candy (12% urban versus 5% rural). (18)

Result of data analysis on adolescent's knowledge in local government area of Oyo state, Nigeria showed that significantly large number of adolescents displayed right knowledge on the variables tasted. Attitude towards dental health among adolescents was positive. Majority of the adolescents irrespective of gender, age, and group saw the care of mouth and teeth as important as care of other parts of the body, had a right attitude towards brushing before eating in the morning and towards going for dental check-up, whether one is having tooth pain or not. They brush twice daily and rinsing with water after each meal. The findings of this study show that female respondents displayed more positive dental health attitude and practice than their male counterpart. (19)

Even though WHO put dental health as one of the components of primary health care (PHC) it does not rank among the more serious disease in Africa. Oral health is problems of growing concern to most African countries. Preliminary studies have done in the past showed that Ethiopian have good teeth with low rate of caries prevalence. Littleton in 1958, 82% persons less than 40 years old were caries free, while a similar study by Olson 20 years later, 50% persons of comparable age had no caries. However caries is on increase because of the replacement of non-cariogenic foods of developing countries by sugar rich western food. (20)

Currently Ethiopia trains dental professionals to act through community based preventive programmes, though it is late to work on it. The 1st dental health service and training center in Ethiopia was established in 1990. It is after century when by Dr. Alfred Tone's On 1890 graduate of New York College of Dentistry develop a technique for scaling and polishing teeth. And also thought his patients to carry out homecare procedures. By 1906 acting under preventive dictum "a clean tooth never decays" and he was sure that oral health of his patients was improved.

CHAPTER THREE

3. Objective

3.1. General objective

To assess the Knowledge attitude and practice towards oral health of workers in Health and Education Bureau of Oromia, in Oromia Regional State Administration Office, Addis Ababa.

3.2. Specific Objective

- To assess the knowledge of health and education bureau workers towards oral health
- To assess attitude of oral health among health and education bureau workers
- To assess practice of oral health among health and education bureau workers
- To evaluate the possible factors associated with dental problems and poor oral hygiene
- To correlate the findings of KAP and socio demographic characteristics of participants.
- To recommend appropriate intervention measures based on study result.

CHAPTER FOUR

4. Method and Material

4.1. Study area

Oromia is one of the 9 regions and 2 city administration found in the Federal Republic of Ethiopia. It is the largest state in the country both in size and population number. The capital of the region is the same to the capital city of the country i.e. Addis Ababa (Finfinne). The regional administration office is found in a place locally known as "Sarbet". The study was conducted in health and education bureau of the region.

4.2. Study period

The study was conducted from March to May 2013.

4.3. Study design

Cross sectional study design was done in Oromia regional state administration office, among workers in bureau of health and education to assess KAP of the workers by using self reported questionnaires.

4.4. Population

4.3.1. Source population: - workers in ORSAO

4.3.2. Study population: - workers in health and education bureau (445)

4.5. Sample size and sampling technique

4.5.1. Sample size determination

Sample size $n = \frac{NZ^2Pq}{d^2(N-1) + Z^2pq}$ where Z= 1.96 precise at 95%

N= total no. workers
P= presumed prevalence at 50% (0.5)
n= sample size
q= 1 – p
d= margin of error

$$n = \frac{445(1.96)^2 \times (0.5) \times (0.5)}{(0.05)^2(445 - 1) + (1.96)^2(0.5)(0.5)}$$

$$n = 206$$

4.5.2. Sampling technique: - workers were selected by systematic random sampling method using workers list as sampling frame.

4.6. Study variables

4.6.1. Independent variables

- Age
- Sex
- Ethnicity
- Religion
- Educational level
- Place of origin

4.6.2. Dependent variables

- Knowledge
- Attitude
- Practice

4.6.3. Operational definition

Knowledge: -the awareness of participants about the etiologies of the main oral diseases and the prevention measures to control dental caries and periodontal diseases.

- A. Satisfactory : - if the participant answer more than 60% of the questionnaire related to knowledge as yes
- B. Unsatisfactory: - if the participants answer less than 60% of the questionnaire related to knowledge as yes.

Attitude: - the opinion of participants about effectiveness of preventive measures of oral health

- A. Positive: - if the participants answer more than 60% of the questionnaire related to attitude as yes.
- B. Negative: - if the participants answer less than 60% of the questionnaire related to attitude as yes.

Practice: -the procedure of oral hygiene used by workers, the habit of sugar intake and the acquisition of some habits like smoking and chat chewing habits.

- A. Good : - if the participant answer more than 60% of the questionnaire related to practice as yes
- B. Average : - if the participant answer 50% - 60% of the questionnaire related to practice as yes
- C. Poor: - if the participant answers less than 50% of the questionnaire related to practice as yes.

Dental plaque: - it is a living well organized co-operating community of micro-organisms and their environment.

Dental caries: - destructive disease of the hard tissue of the teeth proceeding to the formation of a cavity.

Periodontitis: - it is a progressive loss of attachment of the gingival tissue and subsequent loss of alveolar bone.

4.7. Data collection.

4.7.1. Data collection instrument

The data was collected by using self – administered questionnaires, pen, pencil etc.

4.7.2. Data collection method

The data was collected using a data collection format

4.7.3. Data collector

The data was collected by principal investigator .

4.8. Data processing and analysis

The data was categorized and analyzed using SPSS, and using scientific calculator and result was presented using number, ratio, and table.

4.9. Data Quality assurance

The quality and completeness of the data was improved by evaluating the questioners by principal investigator, careful data collection and analysis.

4.10. Ethical consideration

Ethical clearance was received from JUSRP and was given to the concerned officials in ORSAO. The objective of the study was clarified to the responsible officials and the respondents. Filling of the questioners was totally depended on their free will. The information was kept confidential.

4.11. Dissemination of the result

The result of the study will be disseminated to ORSAO and on-line by principal investigator besides submitting the report to Jimma University student research program office and Ethiopian journal of health development for publication.

CHAPTER FIVE

RESULT

A cross-sectional study was done on 206 workers of health and education bureau of oromia to evaluate their knowledge, attitude and practice towards oral health. All workers responded the questionnaires completely i.e. the response rate was 100%. Among a total of 206 workers 111 (53.88%) were health bureau workers while 95 (46.12%) were from education bureau. Majority of the workers were males (60.2%) and women's account about 39.8%. Regarding their age distribution 25.24% of them were above 40 years and 21.82% were between 36 and 40 followed by 31 – 35, 26 – 30 and 20 – 25 yrs which accounted for 18.95%, 17.96% and 16.03% respectively.(table 1)

Regarding the ethnicity almost all of them were Oromo (88.84%), and the rest were Amhara (6.31%), Tigre (2.91%) and other (1.94%). Half of workers are followers of protestant (49.03%) followed by orthodox Christianity (37.38%) and Muslims (13.59%).(table 1)

Concerning their education level 36.89% of workers were 1st degree and 31.08% were 2nd degree holders, followed by 23.78% diploma, 6.31% certificate and 1.94% PhD holders. 36.41% of workers were from rural area followed by semi urban and urban area which accounts 34.46% and 29.13% respectively.(table 1)

Regarding knowledge towards the risk factors and preventive measures of the most prevalent oral diseases 85 (76.58%) and 82 (73.87%) of health bureau workers and 58 (61.05%) and 61 (64.21%) of education bureau workers respectively were knowledgeable.(table 2)

Concerning the use of fluoride for oral care 85 (76.58%) of HBW and 45 (47.37%) of EBW know the use of fluoride for oral care. Almost all of HBW 97 (87.39%) know the effect of sugar on tooth i.e. sugar can cause dental carries while 67 (70.53%) EBW know the effect of sugar on tooth.83 (74.77%) and 43 (45.26%) of HBW and EBW respectively know the frequency of recommended daily cleaning of teeth i.e. at least twice daily cleaning.(table 2)

In general most of the workers had positive attitudes towards oral health. Concerning role of educational level for prevention of oral diseases both HBW and EBW had almost similar attitudes 89 (80.18%) vs 71 (74.74%). And most of the workers had positive attitudes towards self oral health status 72 (64.86%) and 66 (69.47%) for HB and EB workers respectively. Almost all HB workers 106 (95.49%) had positive attitude towards personal oral hygiene for prevention of oral disease as compared with EB workers 83 (87.37%). Regarding the effect of tooth brushing almost all workers had positive attitude i.e. 89.09% for HBW and 85.26% for EBW.(table 3).

Regarding frequency of cleaning their teeth 36 (32.43%) of HBW and 24 (25.26%) of EBW brush their teeth according to universally recommended way i.e. twice a day. But majority of them i.e. 45 (40.54%) of HBW and 32 (33.68%) of EBW brush their tooth once a day. The rest 24 (21.62%) of HBW and 14 (14.73%) brush after each meal. 6 (5.41%) HBW and 25 (26.33%) of EBW brush irregularly.(table 4).

Concerning frequency of visiting dental clinic, majority of them visit when they were symptomatic i.e. 38 (34.23%) of HBW and 29 (30.57%) of EBW. And 13 (11.71%), 5 (4.50%) of HBW and 9 (9.47%) and 3 (3.15%) of EBW visit once and twice a year respectively. And 23(20.72%) of HBW and 33 (34.70%) of EBW never visit dental clinic.(table 5).

Concerning consumption of coffee and soft drink, HBW consumption of soft drink is higher 41.44% than EBW 34.74%. EBW consumption of coffee is higher 71.57% than HBW 65.77%. In addition, on this substance abuse was seen more in HBW. Use of chat 43 (38.74%) Vs 31 (32.63%) and use of cigarettes 24 (21.62%) Vs. 19(20.00%).(table 6).

Among total of 88 HB workers who visited dental clinic almost half of them 42 (47.72%) of them was for extraction. Other treatments they received were 28 (31.82%) filling, 19 (21.59%) scaling and 36 (40.90%) medication and advice. Among EBW 62 of them visited dental clinic for treatment i.e. 31 (50%) extraction, 23 (37.09%) filling, 13 (20.96%) scaling and 21 (33.87%) for medication and advice.(table 7)

Regarding materials they use for cleaning their tooth almost half of workers use tooth brush with tooth paste i.e.59 (53.15%) HBW and 45 (47.37%) EBW]. The rest use mefakia [30 (27.02%) HBW and 22 (23.15%) EBW] ,rinsing by water [13 (11.71%) HBW and 21 (22.11%) EBW] and tooth pick [9 (8.12%) HBW and 7 (7.37%) EBW]. And from 59 HBW those who use tooth paste 43 (72.88%) use fluoridated and 16 (27.12%) use unknown tooth paste while from 45 EBW 27 (60.00%) use fluoridated and 18 (40.00%) use unknown type of tooth paste.(table 8 and 9).

Concerning the association between independent and dependent variables, educational level and place of work had statistically strong association with level of significance of $p = 0.000$. And also place of origin had association with KAP($p = 0.001$).

Table1. Distribution of study participants by socio demographic characteristics of HBW and EBW in ORSAO Addis Ababa Ethiopia 2013.

General information	Number	Percentage
Age		
20 – 25	33	16.03%
26– 30	37	17.96%
31 – 35	39	18.95%
36 – 40	45	21.82%
>40	52	25.24%
Gender		
Male	124	60.2%
Female	82	39.8%

Ethnicity		
Oromo	183	88.84%
Amhara	13	6.31%
Tigre	6	2.91%
Others	4	1.94%
Religion		
Muslim	28	13.59%
Orthodox	77	37.38%
Protestant	101	49.03%
Catholic	0	0%
Others	0	0%
Bureau		
Health	111	53.88%
Education	95	46.12%
Place of Origin		
Urban	60	29.13%
Rural	75	36.41%
Semi urban	71	34.46%
Education level		
Certificate	13	6.31%
Diploma	49	23.78%
1 st degree	76	36.89%
2 nd degree	64	31.06%
Above	4	1.94%

Table2. Distribution of respondents with their knowledge towards oral health of HBW and EBW in ORSAO Addis Ababa Ethiopia, 2013

Knowledge towards	Bureau			
	Health		Education	
	No.	%	No.	%
Use of fluoride Yes	85	76.58%	45	47.37%
No	26	23.42%	50	52.63%
Causes of oral disease Yes	85	76.58%	58	61.05%
No	26	23.42%	37	38.95%
Preventive measures yes	82	73.87%	61	64.21%
No	29	26.13%	34	35.79%
About the effect of sugar on tooth Yes	97	87.39%	67	70.53%
No	14	12.61%	28	29.47%
Frequency of cleaning teeth Yes	83	74.77%	43	45.26%
No	28	25.23%	52	54.74%

Table3. Distribution of respondents with their attitude towards oral health of HBW and EBW in ORSAO Addis Ababa Ethiopia 2013.

Attitude towards	bureau			
	Health		Education	
	No	%	No	%
Tooth brush +ve	98	89.09%	81	85.26%
-ve	13	11.91%	14	14.74%
Self-oral status +ve	72	64.86%	66	69.47%
-ve	39	35.14%	29	30.53%
Role of educational level towards oral health +ve	89	80.18%	71	74.74%
-ve	22	19.82%	24	25.26%
Personal oral hygiene for prevention of oral disease+ve	106	95.49%	83	87.37%
-ve	5	4.51%	12	12.63%

Table4. Distribution of Frequency of cleaning teeth of respondents of HBW and EBW in ORSAO Addis Ababa Ethiopia 2013.

Frequency of cleaning	HBW		EBW	
	No.	%	No.	%
Twice a day	36	32.43%	24	25.26%
Once a day	45	40.54%	32	33.68%
After each meal	24	21.62%	14	14.73%
irregularly	6	5.41%	25	26.33%

Table5. Distribution of Frequency of visit to dental clinics of respondents of HBW and EBW in ORSAO Addis Ababa Ethiopia 2013.

Frequency of visit to dental clinic	HBW		EBW	
	No.	%	No.	%
Once a year	13	11.71%	9	9.47%

Twice a year	5	4.50%	3	3.15%
When symptomatic	38	34.23%	29	30.57%
Rarely	32	28.83%	21	22.11%
Never	23	20.72%	33	34.70%

Table6. Distribution of Consumption of sweets and usages of harmful substances of HBW and EBW in ORSAO Addis Ababa Ethiopia 2013.

Consumption of		HBW		EBW	
		No.	%	No.	%
coffee	High	73	65.77%	68	71.57%
	Low	38	34.23%	27	28.43%
Soft drink	High	46	41.44%	33	34.74%
	Low	65	58.56%	62	65.26%
Biscuits	High	49	44.14%	26	27.37%
	Low	62	55.86%	69	72.63%
Chat	Yes	43	38.74%	31	32.63%
	No	68	61.26%	64	67.37%
Smoking	Yes	24	21.62%	19	20.00%
	No	87	78.38%	76	80.00%

Table7. Distribution of Type of procedure participants receive at dental clinics, of HBW and EBW in ORSAO Addis Ababa Ethiopia 2013.

category	extraction		Filling		Scaling		Medication & advice		Other	
	No.	%	No.	%	No.	%	No.	%	No.	%
HBW	42	47.72%	28	31.82%	19	21.59%	36	40.90%	27	30.68%
EBW	31	50%	23	37.09%	13	20.96%	21	33.87%	18	29.03%
Total	73	48.67%	51	34.00%	32	21.33%	57	38.00%	45	30.00%

Table8. Distribution of Type of tooth cleaning material used by participants of HBW and EBW in ORSAO Addis Ababa Ethiopia 2013.

Type of tooth cleaning material	HBW		EBW	
	No.	%	No.	%
Mefakia	30	27.02%	22	23.15%
Tooth brush with paste	59	53.15%	45	47.37%
Rinsing by water	13	11.71%	21	22.11%
Tooth pick	9	8.12%	7	7.37%

Table9. Distribution of Type of tooth paste used by participants of HBW and EBW in ORSAO Addis Ababa Ethiopia 2013.

Type of tooth paste	HBW		EBW	
	No.	%	No.	%
Fluoridated	43	72.88%	27	60.00%
Unknown	16	27.12%	18	40.00%

Table 10. Association table between independent variables and knowledge

	Satisfactory	Unsatisfactory	Level of significance
Age			X ² = 1.57 df = 4 P = 0.814
20 – 25	20	13	
26 - 30	25	12	
31 - 35	21	18	
36 - 40	28	17	
>40	31	21	
Gender			x ² = 1.48 df = 1 p = 0.825
Male	76	48	
Female	49	33	
Bureau			x ² = 17.6 df = 1 p = 0.000
Health	82	29	
Education	43	52	
Origin			

Urban	47	13	x ² = 14.0 df = 2 p = 0.001
Semi urban	43	28	
Rural	35	40	
Education level			x ² = 22.1 df = 4 p = 0.000
Certificate	5	8	
Diploma	19	30	
1 st degree	48	28	
2 nd degree	49	15	
Above	4	0	

Table 11. Association table between independent variables and attitude

	Positive	Negative	Level of significance
Age			X ² = 1.48 df = 4 P = 0.829
20 – 25	27	6	
26 - 30	31	6	
31 - 35	30	9	
36 - 40	37	8	
>40	45	7	
Gender			x ² = 1.63 df = 1 p = 0.802
Male	103	21	
Female	67	15	
Bureau			x ² = 32.1 df = 1
Health	107	4	

Education	63	32	p = 0.000
Origin			x'2 = 0.603 df = 2 p = 0.74
Urban	51	9	
Semi urban	59	12	
Rural	60	15	
Education level			x'2 = 57.4 df = 4 p = 0.000
Certificate	5	8	
Diploma	28	21	
1 st degree	69	7	
2 nd degree	64	0	
Above	4	0	

Table 12. Association table between independent variables and practice

	Good	Average	Poor	Level of significance
Age				X'2 = 3.16 df = 8 P = 0.924
20 – 25	11	14	8	
26 - 30	13	18	6	
31 - 35	17	15	7	
36 - 40	14	22	9	
>40	15	26	11	
Gender				x'2 = 7.58 df = 2 p = 0.623
Male	33	63	28	
Female	37	32	13	
Bureau				x'2 = 20.6 df = 2 p = 0.000
Health	51	48	12	

Education	19	47	29	
Origin				$\chi^2 = 5.48$ df = 4 p = 0.241
Urban	27	22	11	
Semi urban	23	35	13	
Rural	20	38	17	
Education level				$\chi^2 = 28.1$ df = 8 p = 0.000
Certificate	1	5	7	
Diploma	15	20	14	
1 st degree	21	42	13	
2 nd degree	29	28	7	
Above	4	0	0	

CHAPTER SIX

DISCUSSION

Methodological strength of this study includes, the large sample size, the type of the study and the sampling strategies and methods of data collection. And also the diverse nature of the various oral health related behaviors.

Oral health knowledge, attitudes and practice were expected to be higher among health bureau workers in this study because it was important content in their professional education. These workers seemed to be well aware about the most important aspect of oral health care as compared with Education bureau workers. They were knowledgeable regarding the use of fluoride (76.58%HBW Vs 47.37% EBW), effect of sugar on tooth (87.39%HBW Vs 70.53%EBW), the risk and preventive measures of oral diseases (76.58% and 73.87% for HBW and 61.05%

and 64.21% for EBW respectively). A research done in Indian high school students, only 36.3% knew that fluoride prevents tooth decay and 48.9% of them know the cause of tooth decay(17). That may be they were just high school students, when their education level increases the result would be high. And concerning knowledge of the recommended daily cleaning of teeth (74.77%HBW Vs 45.26%EBW) were knowledgeable and statically significant ($p < 0.05$).

Regarding attitude about the use of different methods of oral hygiene 89.09%HBW and 85.26%EBW believed that mefakia is as effective as tooth brush. Almost their attitude regarding mefakia was the same as the result found on the research made by Olsson that indicated mefakia is equally as effective as the tooth brush in cleaning the teeth and most of Ethiopian simply clean the outer surfaces of the teeth, which are more accessible and neglect the remaining surfaces with the consequent accumulation of dental plaque and calculus. The HBW need as a professional not only the knowledge but also a good attitude of oral health to be able to educate patients and communities against deleterious oral practices like bottle feeding which can increase the prevalence and morbidity of oral diseases.

Altogether 32.43% of HBW and 25.26% of EBW were cleaning their teeth at least twice a day i.e. the internationally recommended frequency of tooth cleaning. And 21.62% of HBW and 14.73% of EBW clean their teeth after each meal. However, the number of workers who maintain an acceptable standard of oral hygiene is still low. Olsson noted that the most effective results using mefakia were found when it was used under daily supervision. This result though was better as compared to similar research done in China which revealed 32% of people between age 35 – 44yrs brushed their tooth at least twice a day and this may be explained by the use of mefakia, which is very familiar, cheap and easily accessible.

Consumption of coffee was high among the workers (65.77%HBW and 71.57%EBW). Workers used to take stimulants for concentration in their work and for working during the night in their home can explain this as well. Today soft drinks, biscuits, sweets and refined sugar are available everywhere and the use of sugar as a sweetener in tea and coffee is now universal in rural and urban Ethiopia. HBWs more abuses chat and cigarettes as compared to EBW, i.e. 38.74% HB and 32.63% EB and 21.62% HB and 20% EB workers for chat chewing and smoking of cigarettes respectively. The use of chat seems to be more frequent than the use of cigarettes among the workers. The use of chat and other substances during the process of chewing like sugar and soft drinks is widespread in all over Ethiopia with the consequent increase of diet relating oral diseases like caries and periodontal diseases.

A study done in Tanzanian university students, in East Africa confirm that snacking of sugared food and drinks and dental attendance behavior were highest among females, higher degree students and students from urban origin(18). And also study held in Oyo state of Nigeria showed that female respondents displayed more positive dental health attitude and practice

than their male counter parts. But on this research the statistical values indicated that gender has no association with KAP of workers towards oral health because p value is >0.05 . Regarding occupation there is strong association between occupation and KAP i.e. $p < 0$ (0.00). This is because HBW had acquired dental courses on their stay in universities. Concerning place of origin the p value is < 0.05 on knowledge towards oral health but on attitude and practice p value is > 0.05 . Workers from urban and semi urban areas had more satisfactory knowledge than workers from rural areas. This is may be due to the access of more information regarding oral health by means of mass media during advertisement of dental services. Regarding education level the level of significance is 0.00, this indicates that education level is strongly related to KAP of workers towards oral health. This study shows that as the education level of the workers increase their KAP on oral health was also increasing i.e. 2nd degree and PHD holders had more KAP than those of certificate and diploma holders.

Concerning the type of tooth paste used, the fluoridated tooth paste was higher among HBW (72.88% Vs 60.00%) and the workers who used unknown tooth paste i.e. those who do not whether it is fluoridated or not was 27.12% Vs 40.00% for HBW and EBW respectively. This explain that 72.88% of HBW use tooth paste by checking whether it is fluoridated or not i.e. they use the tooth paste by knowing its content and its benefit compared to EBW.

Majority of workers 34.25% HBW and 30.57% EBW were visited dental clinics when they were symptomatic. This indicates that the habit of visiting dental clinics was still far from internationally recommended one i.e. every 6 months. And also 20.72% of HBW and 34.70% of EBW still never visited dental clinics. A research done in Tanzanian University student showed that 85% of them went for dental check up at least once a year(18). And also a research done in Kuwait on health science students showed that most of the students (60%) had visited a dentist during the previous year, (11%) 1 – 2 years ago and (29%) more than 2 years ago i.e at least every student visited dental clinic once in their life time(17). This shows that they had much more habit of visiting dental clinic than workers (20.72% of HBW and 34.70% of EBW still never visited dental clinic). This was may be due to lack of oral health care services or lack of attention. In 2000 the total number of dentists were 52, 1 dentist for every 1.2 million of Ethiopian people and only 1 orthodontist and 1 prosthodontist most of them working in Addis Ababa. Thus dental health services were limited and the people including the HBW don't have habits of visiting dental clinic to get preventive and curative services.

From those who undergo dental treatments, majority of them i.e. 47.72% HBW and 50% EBW received extraction of painful tooth. This may be explained by most of the government health institutions do not give services other than extraction of tooth and most workers do not go to private care services due to expensiveness of services.

CHAPTER SEVEN

CONCLUSION AND RECOMMENDATION

CONCLUSIONS

- ❖ HBW have better and satisfactory knowledge and attitude towards oral health than EBW
- ❖ Majority of workers teeth cleaning behaviours are still far behind the international recommendation i.e.at least twice a day.
- ❖ Allmost all workers visit dental clinic below internationally recommended one i.e. every 6 months.
- ❖ Most of the workers who visited dental clinic received extraction of tooth which in another way indicated the quality of services given and the inexistence of preventive program in the country
- ❖ The consumption of sugar as a sweetener in coffee and tea of workers is high
- ❖ The use of tooth brush with tooth paste is good.
- ❖ Educational level and place of origin have significant association with KAP.

RECOMMENDATIONS

- ❖ Oral Health Education should be given for workers on the cause and preventive measures of oral problems by health and education bureau of oromia.
- ❖ The government should Increase the quality of services given in governmental health institutions specifically services for oral health.
- ❖ Ministry of health, NGOs should give regular training on oral health for workers about use of tooth brush with tooth paste, visiting dental clinics and restriction of abuse of substances like chat and smoking

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QUESTIONNAIRE

JIMMA UNIVERSITY

COLLEGE OF PUBLIC HEALTH AND MEDICAL SCIENCES

SCHOOL OF DENTISTRY

ASSESSMENT OF KNOWLEDGE ATTITUDE AND PRACTICE TOWARDS ORAL HEALTH AMONG HEALTH AND EDUCATION BUREAU OF OROMIA WORKERS IN OROMIA REGIONAL STATE ADMINISTRATION OFFICE, ADDIS ABABA.

Instructions: -

This questionnaire is designed to assess the knowledge, attitude and practice among health and education bureau of oromia workers in oromia regional state administration office towards oral health.

In addition, this study is for academic purposes only with an ultimate goal of drawing conclusions and recommendations. Moreover, the information collected will be kept confidential.

NB

1. This questionnaire is to be filled by volunteer workers
2. Filled questionnaire are not exposed in public
3. No one is required to write his/her name on the questionnaire

THANK YOU

IN ADVANCE

QUESTIONNAIRE

Part1. Background information

1. Age_____
2. Sex_____
3. religion

A. Orthodox

B. Muslim

C. Protestant

D. catholic

E. others

4. Place of origin

A. Urban

B. Rural

C. semi-urban

5. Ethnicity
- A. Oromo
 - B. Amhara
 - C. Tigre
 - D. Others
6. Monthly income in birr
- a. <1000
 - b. 1001 – 2000
 - c. 2001 – 3000
 - d. >3001
7. Education level
- A. certificate
 - B. Diploma
 - C. 1st degree
 - D. 2nd degree
 - E. above

Part 2: questions related to knowledge

8. How often should an individual clean his/her mouth/teeth?
- A. after each meals
 - B. in the morning before break fast
 - C. before going to bed
 - D. in the morning and before going to bed
9. Do you know the main etiologic factor of dental caries?
- A. yes
 - B No
10. If your answer is yes for Q 9. Could you mention some of them?
- A. _____
 - B. _____

C. _____

11. Do you know the use of fluoride for tooth care?

A. Yes B. No

12. What is the effect of sugar on tooth?

A. has no effect B. can cause dental caries

C. kills bacteria D. don't know

E. others (specify)

13. Do you know what are the main preventive measures against the most prevalent oral diseases?

A. Yes B. No

14. If yes to Q.13. Can you mention some (as you can)

A. _____

B. _____

C. _____

Part 3. Questions related to practice.

15. What method do you use for your teeth cleaning?

A. Mefakia B. Tooth brush

C. Rinse with water D. Other (specify)

16. How often do you clean your mouth?

A. Once a day B. Twice a day

C. After each meal D. Once a week

E. Irregularly

17. If you use tooth paste, what is the type?

A. Fluoride paste

B. Non fluoride paste

C. Don't know whether fluoridated or not

18. How often do you visit dental clinic?

A. Once a year

B. Twice a year

C. Only when you have oral problems

D. rarely

19. If you visit dental clinic, what was the reason?

A. For check ups

B. Asking advice about oral health

C. Treatment of oral problem (mention)

D. Other (specify)

20. Put (√) mark on space provided for those food stuffs you consumed in the time specified.

Food staff	once	twice	3 – 6x/wk	Only after meal	Between meal	rarely	never
Soft drink							
Coffee/tea w' sugar							
Fruit juice							
Candy							
Chocolate							
Biscuits							
Honey							
Chewing gums							

21. Do you have habits of chewing?

A. yes

B. No

22. If yes to Q 21 how often?

A. Daily

B. Weekly

C. 2x. Weekly

D. 3x.weekly

23. Do you smoke cigarettes?

A. yes

B. No

24. If yes to question 23, how often?

A. Regularly

B. Occasionally

C. Rarely

25. The last time you visited the dental clinic which one of the following procedures was done for you?

A. extraction of painful teeth

B. dental filling

C. scaling

D. medication & advice

E. others (specify)

Part 4. Questions related to attitude

26. Do you believe that local chewing sticks (mefakia) is as effective as tooth brush?

A. yes B. No

C. Don't know

27. Do you believe personal oral hygiene is the most effective measures for periodontal disease prevention?

A. yes B. No

C. don't know

28. Are you happy with your teeth?

A. Yes B. No

29. If no to Q 28, the reason being

A. malformed

B. due to loss of teeth / tooth

C. disordered teeth

30. Do you believe that educational level play an important role in practice towards oral health?

A. yes

B. No