ASSESSMENT OF KNOWLEDGE, ATTITUDE AND PRACTICE TOWARDS ORAL HEALTH AMONG MEDHANIALEM PREPARATORY SCHOOL STUDENT IN ADDIS ABABA,ETHIOPIA.

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A RESEARCH TO BE SUBMITTED TO COLLEGE OF PUBLIC HEALTH AND MEDICAL SCIENCE FOR PARTIAL FULLFULIMENT OF DOCTER OF DENTAL MEDICINE.

JUNE 2013 G.C

JIMMA,

ETHIOPIA

JIMMA UNVERCYITY

COLLEDGE OF PUBLIC HEALTH AND MEDICAL SCIENCES DEPARTMENT OF DENTISTRY

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JUNE, 2013

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ACKNOWLEDGEMENT

I am thankful to my lord Jesus Christ, and his mom Saint virgin Marry and also to CBE office for giving me the chance for preparing this research paper.

finaly but not the least I express my special thank to my advisor Dr. Fikirte Aklilu for her constructive comment and suggestions during the development of this research paper.

ABSTRACT

***Introduction*:** Oral health means much more thanhealthy teeth**.** It means being free of chronic oral-facial pain conditions, oral and pharyngeal (throat) cancers, oral soft tissue lesions, birth defects such as cleft lip and palate, and scores of other diseases and disorders that affect the oral, dental, and craniofacial tissues, collectively known as the craniofacial complex.

oral health can have a significant impact on the overall health and well-being of the nation's population key elements to be addressed were the determinants of health and disease, with a primary focus on prevention and producing health rather than restoring health; hence the prevention of oral disease should be prioritized in every nation o the world oral health is integral to the general health. So, oral health is more than healthy teeth and you cannot be healthy without.

Objective: to assess knowledge, attitude and practice toward oral heath among Medhanialem preparatory school student Addis Ababa, Ethiopia.

Methods:- Across sectional study was conducted in medhanialem preparatory students from may 25-30/2013 the data was collected by distributing self administered questionnaire for 337 students which were selected randomly from total of 2746 students. The sampling includes grade 11^{th} and 12^{th} students in the school.

The collected data was sorted, processed and analyzed by using spss window version and association is form by using chi-square contingency table. The analyzed data was presented by tables, figure and chart.

***Results*:** Of total of 337 respondents students, 52.7% were males with sex ratio 0f 1.2:1 The highest percentage of respondents 57.6% were in the range of 17-20 years. Altogether only 17.6% of grade 11 and grade 12 students were cleaning their tooth 2x a day which is the correct the ADA recommendation on dental hygiene.

Majorety of the respondent(84.3%) from both class clean their teeth. from those who clean there teeth most of the respondet (58.65) use mefakia as a cleaning material and none of the respondent use dental floss which was consider best cleaning material between two adjacent teeth according to ADA recommendation.

Regarding on visiting of a dentist 40.8% visited dental clinic from this only 2.8% of the respondent from both class visit a dentist regularly every 6-12 mouth which was correct according to ADA recommendation.

From those who use tooth brush to clean there teeth (22.45%) majority of the respondent(53.1%)change the tooth brush irregularly and only 5.6% change the tooth brush every three month which was correct ADA recommendation.

from grade 11 respondents student 32.8% and 37.3% from grade 12 had satisfactory knowledge the rest 67.2.9% from grade 11 and 62.7% from grade 12 had unsatisfactory knowledge with p-value 0.347 which has no significant association with their educational level since p-value >0.05.31.3% of respondents of grade 11 and 38.3% had favorable attitude and 68.7% of grade 11 respondents and 61.2 of grade 12 had unfavorable attitude with p-value 0.143 which has no significant association with educational level.

From a total of 337 students ,17.8% of grade 11 and 18.1% of grade 12 respondents had good practice,28.7% o grade 11 and 30.8% of grade 12 respondents had fair practice and the rest 54.5% of grade 11 and 51.1% of grade 12 respondents had poor practice with p-value 0.828 which has no significant association with their educational level.

***Conclusion*:** Most of medhanialem preparatory school students had unsatisfactory knowledge towards oral hygiene practice, cause and preventive measures of oral diseases.

***Recommendation*:** Message should convey about oral health via all kind of printing materials like newspaper, magazine, books, posters, leaflets, pamphlets, counseling cards and other materials for the students and Further study should be done inferential statistic different geographical location which help policy maker to conduct geographical factor intervention finally Dental personal should educate their parent or care giver to change their behavior in taking care their children oral hygiene.

ABBREVIATIONS

AA: Addis Ababa

CCF: Christen Children Fund

DC: Data Collector

DMD: Doctor of dental medicine

***KAP*:** knowledge attitude and practice

***PI*:** principal investigator

SRP: student research program

WHO: world health organization

***ADA*:**American dental association

„: minute

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CHAPTER ONE

1. INTRODUCTION

Oral health means more than healthy tooth the WHO has a definition of good oral health oral health means free of mouth and facial pain oral and throat cancer birth defects such as cleft lip and palate periodontal disease tooth decay and tooth loss and other disease and disorder that affects the mouth and oral cavity.(1)

Oral disease can be considered significant social impact. Chronic oral disease typically leadsto tooth loss, and in some cases has physical, emotional and economic impacts: physical Appearance and diet are often worsened, and the patterns of daily life and social relations areoften negatively affected. These impacts lead in turn to reduced welfare and quality of life. To minimize these negative impacts of chronic oral disease, there is thus a clear need to reduce harmful oral health habits. Such a reduction can be achieved through appropriate health education programmes.(2)

Tooth decay (dental caries) is a very frequent oral disease It may be prevented by acting on its basic causes, carcinogenic diet and poor oral hygiene. In the last 50 years, the epidemiological profile of dental caries has changed, as a result of oral health promotion programmes, as well as increased use of fluoridated toothpastes and drinking water, which g has been directly related to reductions in caries and tooth extractions.(2)

This declining trend is in clear support of the view that dental caries can be reduced by controlling risk factors. The oral health problems that are currently most prevalent- dental caries, periodontal diseases, and dental traumas can be prevented by measures aimed at reducing exposure to risk factors. However, such prevention requires subjects to be adequately informed about causal factors, and studies suggest that a high proportion of the population (including many of the people most immediately relevant for preventive measures of this type, namely parents, teachers and healthcare personnel) have limited understanding of how to prevent oral disease.(3)

Gum diseases are caused hardens to by bacteria along with their particles a sticky plaque on our teeth. plaque that is left form calculus. Gingivitis is mild form of gum diseases which can be caused by plaque buildup and tartar stay on teeth. If gingivitis left untreated it can advanced to periodontitis. Gum pull from the teeth and infected pockets will be formed which you may loss supporting by bone that may need treatment by dentist.(4)

To protect oral health good oral hygiene's assertion good oral hoping is measured by the health of the oral cavity so that adequate oral health education is provided to create positive attitude and knowledge resaving oral hygiene in the society and providing opportunities for carrying out these practice which is essential for keeping the month and teeth healthy.(5)

1.1 Statement of the Problem

Oral health is one of the most neglected area of global health yet 90% of people have had dental problems or tooth aches caused by caries and sever Periodontitis affects up to 15%

Despite great achievements in oral health globally, dental caries is still a major problems in most industrialized countries affecting 6o-90% of school children and vast majority of Adults. It is also most prevalent oral diseases in several Asian and Latin American countries while it papers to be less common and less severe in most African countries. In the light of changing living conditions. However, it is expected that the incidence of dental caries will increase in many developing countries in Africans as result of growing consumption of sugars.(5)

Traditional treatment of oral disease is extremely coasty in several industrialized countries and not feasible in most low income and middle income countries. WHO global put a new strategy for management prevention and control of oral disease. School student may play an active role in oral health promotion and lack of knowledge among school student about oral disease has been shown to contribute to delay in early treatment.(5)

Periodontal disease is one of the most common oral health problem affecting 15-17% of the adult population of USA .sever Periodontitis is found in 5-20% of the adult population world wide as one of the developing nation our country share the majored burden of the disease.(6)

In Ethiopia there is very little epidemiology research done in this field In resent day but research done in 2000 it was found that the prevalence of dental caries was determined to be 21.1% and it was found to increase significantly with high consumption of sweet and who do not clean their teeth regularly. Periodontal disease affect more than half (53.4) of the study subject and it was significantly higher in those having poor oral hygienic.(7)

Oral disease has its effect on the entire body and hence it cannot omitted from the subject of health.so, dental disease is not just a minor aliment of the gums and teeth. it is a disease of the body that happens to begin in the mouth. If left unchecked, it can contribute to other more harmful disease that can seriously affect the quality of life and actually shorten life expectancy so taking care of oral health is investing in our overall health [9]

The role that preparatory school students can play in improving oral health of population rely on their knowledge about oral diseases, Attitude toward oral hygiene and their routine practice to maintain oral health. So oral health KAP study will be carried out to the ground realities and use as guide line to plan preventive measures and to state strategies to combat oral diseases [11]

1.2 Significance of the study

Adequate studies haven't been done in different part of the world as well as in our country related to this topic so, this study help to identify the level of knowledge and attitude towards oral health and their practice of oral hygiene among preparatory school students and determine the relationship between oral health knowledge, attitude and practice toward the oral health and with their educational level.

Therefore, the study provides information to make the knowledge; attitude and practice toward oral health get attention by the community as well as the government and hoped provide a base line data in order to stimulate broad scale studies on the subject area. Also, put forward recommendations to the concerned bodies and for further research.

CHAPTER TWO

2. LITERATUREREVIEW

Good oral health is important for keeping the mouth and teeth healthy. Unfortunately dental disease is common particularly because of lack of dental care. For example oral health has much remarkable progress in most developed countries as a result of prevention programmes that stress the optimal use of fluorides. Oral health practice and adaptation of healthy eating habits However, the situation is beginning to deteriorate time to time in many developing countries. To modify this condition there are several commonly recommended ways like reducing eating sweets, brushing the teeth as soon as after eating and rinse with water after eating.(1)

Research survey done in KSR Matriculation School. This survey found that only 30.7 percent of the students brush their teeth two or more times a day. Fear of the dentist was the main cause of irregular visit in 36.7 percent of study participants. In this study 26.1 percent responded as the last visit to the dentist was due to pain. The use of other recommended oral hygiene methods (23.9 percent) was found to be less; this also could be attributed to the lack of oral health education and/or the cost of such aids.(14)

perception adults about oral health care information was inadequate in china 1996-97, a large scale on oral health epidemiological study was conducted in southern china from 8 urban and 8 rural communities Guangdong province 1,573(35-40) years old and 1,551(65-

74) years old were sampled. Almost all of the middle aged and more than 90% of the dental elderly survey claimed that they brushed their teeth every day and used tooth brush with paste during bruising but awareness about fluoride content was lacking. The respondents had poor oral health knowledge but positive attitude towards oral health providing a base for more community based oral health education programme.(10)

Research done in 11- to 12-year-old school children in government-aided missionary school of Bangalore city 58.4%, received information regarding oral health mainly from television. Only 20.9% considered keeping natural teeth was important. Thirty-seven percent of study participants agreed that tooth decay makes them look bad. It was found that 75.1% thought that brushing teeth prevents tooth decay and gum disease and 48.9% (46%: Male; 52.6% Female) knew the reason that eating sweets causes tooth decay. Only 36.3% knew that fluoride prevents tooth decay. Although 67.8%of the study population was aware of the importanceof regular dental visits, only 35.1% of the study populationreported that they have visited dentist during last 12 months.(14)

Mostly the majority cause of halitosis is connected to the local factor like that of not brushing tooth and the rest soft tissue, as well as using harmful habits like that of cigarette smoking, drinking alcohol and chewing tobacco are indicated other than the rare cause i.e. systemic diseases .study done in Bulgaria show that tobacco chewing and poor oral hygiene was indicated for the main cause for halitosis.(12)

The study done Sarawak secondary school of students kuching shows that about 24.4% of the respondents had practiced although most of the students stated that regular dental visit was necessary, This shows that the awareness of Oral health does not necessarily influence good dental practice . Barker and Lorton showed that delay in seeking dental care would be attributed to other factors like parental beliefs and practice lack of economic resources and accessibility of dental services. Research done in Sarawak secondary school students of kuching shows that about 95.7% of the respondents brush their teeth at last twice per day. Female Students (54.6%) brush their teeth more than twice a day as compared to male students. However female students have a higher consumption of sweet food daily

compared to male students. Almost all of the respondents (97.6%) brushed their teeth with brush and tooth paste and most of the respondents practiced tooth brushing in the morning and before bed time (80.44%) only 1/3 of the respondents reported brushing their teeth at noon time. However the use of dental floss was still not very popular among the students. The majority of the students (52.2%) believed to visit their dentist when they had dental pain. .Approximately a quarter of the students (24.4) had regular dental visit every 6 to 12 months. This could be due to school oral health programme which required all of the students to visit their dentist as part of the annual routine(13)

The research done in medina Arabia 65% of the respondents 12 years cleaned their teeth at least once a day and 16 % used the miswak (mefakia) for brushing .Oral situation of school children in Riyadh Saudi Arabia ,38% of students cleaned their teeth at least daily ,27% used the miswak and only 5.1% used dental floss.(17)
research done in Secondary Level Students Of Rural Nepal show only 35.1%of the study sample brushes their teeth at least twice daily while 64.9% reported regular brushing once daily.66.3% of the study population was aware that gingival bleeding reflects gingivitis and only 48% knew the significance of dental plaque. Only 20% reported that they were regular dental attendees, while only 19 % ofthe respondent visited dentist only when they got dental pain. Majority of the study sample reported thatdentist did provide proper care (99%) and explaineddental procedures (76%) and preventive instructions(80%).(16)

Oral health seems to deteriorating developing countries when the provision of comprehensive care by university trained dentists impossible for economic reasons. programmes of preventive cares are clearly necessary. In Zimbabwe's moshonal and east province which has million in habitants in two areas during 1989, with the objective of promoting good oral health among children, two main target groups were selected. School children and preschool children with their parents. The survey in Zimbabwe showed that children's knowledge on how to prevent oral problems was poor.(14)

Research done on oral health care in nursing students of Zambia shows that 46 of 119 respondents had visited a dentist more than five times and almost all respondents brushed their teeth daily. The most frequently used aid for cleaning the teeth was tooth paste (n=112).

Five respondents answered that they never cleaning between the teeth, 34 answered daily and 20 weekly use. Most of the respondents know that sugar and bacteria causes dental caries but their knowledge about periodontitis appeared to be low. Almost 90% of the respondents know that fluoride strengthen teeth and prevents caries. About 98% of students answered that treatment of the oral cavity equally important as in other parts of the body and also considered that regular visits to the dentist are essential.(15)

Brushing of tooth 2x a day,2-3 minutes regarding the duration, vertical method of cleaning and tooth brush be changed every 3 month after use and brushing of tongue for 20-30 seconds. These are American dental association recommendation. They are estimated to be practice in several industrilsed countries.(18)

As studied in the reports of CCF, National office Addis Ababa Dr. mesfin tadesse (DMD) that the information of dental screening of children supported by CCF projects in A.A different kebeles and shashmene and meki areas. The reports depend on whether there is acceptable oral health condition in each individual or not . From the reports it is observed that among AA 6064 examined children 7.12% are healthy, 23.45% need health education, 69. 24% need dental care and 0.18 needs serious attention. Among the shashemene and meki 1481 examined children 11.88% are healthy, 23.45% need oral health education, 62. 12% need dental care and 0.14% needs serious attention. All those are result of lack of oral health education rather than negligence, therefore the researchers recommended to conducted oral health education for all of children and train all parents so that they monitor their children as well as their siblings too.(18)

The study done regarding oral health knowledge of Jimma town population shows that they brush their teeth in morning and before bed time (50%), in morning (28.3), before bed time (12.9) and after each meal (8.14%)About 63 .9% of respondents know the risk factors and prevention measures of major oral health problems. The commonest method of

teeth cleaning practice was found to be mefakia 62.2% and followed by tooth brush with paste (28.9%).(20)

Study done regarding oral health KAP on (291) JimmaJiren high school students showed that 26.1% of students put sugar containing food as cause of dental caries and 29.9% did not know the cause of dental caries.on the other hand, 18.9% of students consider bacteria in mouth as main cause of Gum disease and 32% did not know the cause.23.3% of students put not keeping oral hygiene as cause of bad breath and 18.6% did not know the cause. This study showed that most of students did not know cause of dental caries and gum disease.13.4% of students visit dental clinic of which 89.7% visit when dental pain occur and 86.6% did not visit a dentist.82% of students clean their teeth of which 63% use mefakia 14.3% use tooth brush and 22.7 use both mefakia and brush.47.1% of students clean their teeth irregularly 26.5% clean twice a day, 16.8 clean their teeth 3x a day and9.7 clean once a day .68.1 of students clean their teeth for more than 3 minutes,20.2% for 1-3 minutes and 11.7% clean for < 2 minutes.51.7% of students use mixed (vertical& horizontal) method of cleaning ,28.2% use vertical and 20.2% use horizontal way of cleaning.(21)

Study conducted in JimmaJiren elementary school students, showed that only 35% of the total students had good oral hygiene while 45% had poor oral hygiene and the rest 20% had fair oral hygiene. In this study there was no significant association between educational level towards oral hygiene practice.(22)

CHAPTER THREE

3. OBJECTIVE

3.1. General Objective

To assess knowledge, attitude and practice of oral health among medhaniyalem preparatory school students.

3.2. ***SpecificObjectives***

- To assess the knowledge of the students towards oral health
- To assess their attitude towards oral health
- To assess their practices to keep oral hygiene
- To assess relation between KAP with educational level

CHAPTER FOUR

4. METHOD AND MATERIALS

4.1 Study Area and Period

4.1.1. **Studyarea**

The study was conducted in Medhaniyalem preparatory school which has a total student of 2746 among the student 1506 are male and 1240 are female.the school has 58 section from this grade 11 takes 28 sections and grade 12 takes 30 sections.the average number of student in each class is 48.the school have both social(21section) and natural(37section)students.the school was located in Addis Ababa capital city of Ethiopia, the city lies the foot of mount Entoto from lowest point, around bole international air port at 2,326m above sea level in southern periphery, the city rises to over 3,000m in the entoto mountains tie the north and it lies a subtropical highland climate. its total population is 2,739,551 of whom 1,305,387 are men and 1,434,164 women(on 2007 census)the working language is Amharic.

4.1.2 study period

The study was conducted from may 25-30/2013

4.2 study design

Cross-sectional study was conducted among medhanialem preparatory school student using self administered questionnaires by using random sampling technique.

4.3. Population

4.3.1. Sources Population

All grade 11 and 12 Medhanialem preparatory school students.

Sample size and sampling techniques

Sample size= =(n)=$\frac{(Z^{a}/_{2})^{2}\, pq}{D^{2}}$ $\frac{(1.96)^{2}(0.5)(0.5)}{(0.05)^{2}}$384.16~384

n= sample size

Za/2 standard normal value n= 384

Corresponding to the given confidence internal nf= n

1+ (n/N)

D= margin of error 5%= 0.05 nf= 384/2746

P= maximum prevalence = 0.5

Q= 1-P=1-0.5 = 0.5

N= 2746 study population **nf=337**

nf= final sample size

$n_{f(11)}$=final size grad 11 **$n_{f(12)}$=** $\frac{N_{(12)}}{N} X n_f$ = 1418X 337=**174**

2746

n_s =no of section for each class

$n_{f(12)}$=final sample size of grad 12 $n_{f(12)}$= **$n_{f(12)}$**=17 4=5.8~ **6**(***final sample for each class of grade 12)***

N_{11} = 1328 study population in gread 11 $n_{s(12)}$ 30

$N_{12=1418}$ study population of grad 12 $n_{(11)}=\frac{N_{(11)} \times n_f}{N} = \frac{1328 \times 337}{2746} = 163$

$n_{f(11)}= \frac{n_{(11)}}{n_{s(11)}} = \frac{163}{2} = 5.82 \sim 6$ (*fnal sample for each class of grade 11*)

4.4 Sampling technique: stratified sampling technique was used to select the sampled number of student (337) and the sampled student selected from each class by lottery method.

4.5 Variables

4.5.1 Independent variables

- ✓ Age
- ✓ Sex
- ✓ Family income
- ✓ Source of information
- ✓ Educational level

4.5.2. Dependants Variables

Knowledge, attitude and practice towards oral health

4.6 Inclusion and Exclusion criteria

All voluntary students of medhanialem preparatory school present at a time of data collection dates to be included in the study .

4.6. Data Collection

The data was collected after consent to conduct the study is obtained for the concerned authorities as well as the participants. The groups was given as a self administer, predesigned and pre-tested MCQ type questioner to solve on the spot. The questionnaire was distributed to sampled student (337) and the subject under study was instructed to fill the questionnaire and drop it in to a box to reduce social desirability bias. The questions was administered by investigator and each participant was given 15 minutes to fill in the questionnaire.

4.6.1 Data collection materials and instruments

- Pen
- Pencil
- Paper
- Eraser
- Questionnaires

4.7. Data quality control

The principal investigator had on going supervision each day during data collection to ensure quality of data by checking filled formats for their completeness and consistency.

4.7 Data analysis

The collected data was sorted, processed and analyzed by using spss window version and association is form by using chi-square contingency table. The analyzed data was presented by tables, figure and chart.

4.8 Ethical consideration

A formal letter of permission was written by Jimma university department of dentistry to medhanialem preparatory school to get permission and support during data collection. The objectives of the study was explained to director of the school and participants for confidentiality of their response.

4.10. Operational definitions

Knowledge:-The feelings, facts or experiences known by a person or group of people which obtained from study or investigation something or tends to be have towards it.

Satisfactory knowledge: the respondents correctly answer each knowledge question>=60%

Unsatisfactory knowledge: the respondents answer each knowledge question<60%.

Attitude: The way the person views something or tends to behave towards.

Favorable attitude: the respondents correctly answer each attitude questions >= 60%

Unfavorable attitude: the respondents answer each attitude questions < 60%.

Practice: the cognition of having mastery of skill or activity via repetition

Good practice: The respondents correctly answer each practice questions > 60%.

Fair practice: The respondents correctly answer each practice questions 50%-60%

Poor practice: The respondent's answer each practice questions < 50%.

Plaque: A soft sticky substance that adhere to the tooth surface formed mainly by growth of bacteria colonizing the teeth.

Tarter: a Calcified adherent mass on the surface of the teeth or calcified plaques

Dental caries: an infectious microbial disease that result in dissolution and destruction of the calcified tissue of the tooth

Periodontal disease: it's a disease that Affecting the supporting structure of tooth consisting of gingival, periodontal ligament, alveolar bone and Cementum.

Bad breath: it is un pleasant smell of the mouth which is similar to malodor.

CHAPTER FIVE
RESULTS

Table 1.Distribution of medhanialem preparatory school students with socio-demographic variables,Addis ababa,2013

Variables		Number	Percent(%)
Age	17-20	201	60.1
	>20	133	39.9
Sex	Male	176	52.7
	Female	158	47.3
Religion	Orthodox	189	56.6
	Muslim	94	28.2
	Protestant	43	12.8
	Catholic	6	1.8

	Others	2	0.6
Ethnicity	Amhara	185	55.4
	Oromo	96	28.8
	Tigre	37	11
	Other	16	4.8
Educational Status	11th	2oo	59.9
	12th	134	40.1

Out of the total respondents(337),52.7% were males followed by47.3% females with a sex ratio of 1.2:1.regarding their distribution 60.1%were with the range of 17-20 years of age and 59.9% were grade 11th followed by 40.1% grade 12th with ratio of 1.4:1. Majority of respondents 56.6% were orthodox. Among the religion .Most of them were amahra 55.4% regarding to ethnicity.(table 1).

Table 2. Distribution of medhanialem preparatory school students by their category of Grades with their knowledge towards cause of the main oral health problems, Addis Ababa,2013

Knowledge toward oral heath		Category of grade			
		11th		12th	
		No	%	No	%
	Sugar Containing Food	81	40.3	91	45.3

Causes of dental caries	Bacteria	45	22.4	60	29.8
	Do not know	75	37.3	50	24.9
Causes of gum Disease	Irregular tooth brush	22	10.9	31	15.4
	Bacteria in The mouth	51	25.4	70	34.8
	Alcohol drinking	18	8.9	17	8.6
	Don't know	110	54.8	83	41.4

Cause of halitosis(bad breath)	Eating garlic	46	22.9	34	16.9
	Not keeping oral hygiene	142	70.7	154	76.6
	Brushing	8	3.9	9	4.5
	Don't know	5	2.5	4	2

Concerning the causes of dental caries 42.8% of both grade 11th and 12th students knew that Sugar Containing Food is the causes dental caries while 26.1% of both grade 11th and 12th students responded bacteria as the causes dental caries and 31.1% don't know the cause of dental caries.

Regarding to the causes of gum diseases only 13.2% of both grade's students knew that irregular tooth brushing as causes of gum diseases and 30.1% of both respondent knew bacteria cause gum diseases.

Concerning the cause of halitosis, 56.7% both grade 11th and grade 12th students knew that eating garlic and not keeping oral hygiene as the causes of halitosis .(table 2)

Table 3. Distribution of medhanialem preparatory school students by their category of grades with their knowledge towards preventive measures against major oral health problem, Addis abeba,2013

Preventive measures against major oral health problems	Category of grades			
	11th		12th	
	No	%	No	%
Avoiding sugar foods(snacks)	52	25.9	48	23.8
Proper brushing	64	31.8	67	33.3
Visiting a dentist	38	18.9	35	17.4
Rinsing the mouth after meal	15	7.5	20	9.9
Do not know	32	15.9	31	15.4

Source of information on the prevention measurement				
Parents	42	20.8	38	18.9
Teacher	61	30.4	71	35.4
Tv	43	21.3	47	23.5
Radios	37	18.4	31	15.4
Newspaper	15	7.6	10	4.9
Others	3	1.5	4	1.9

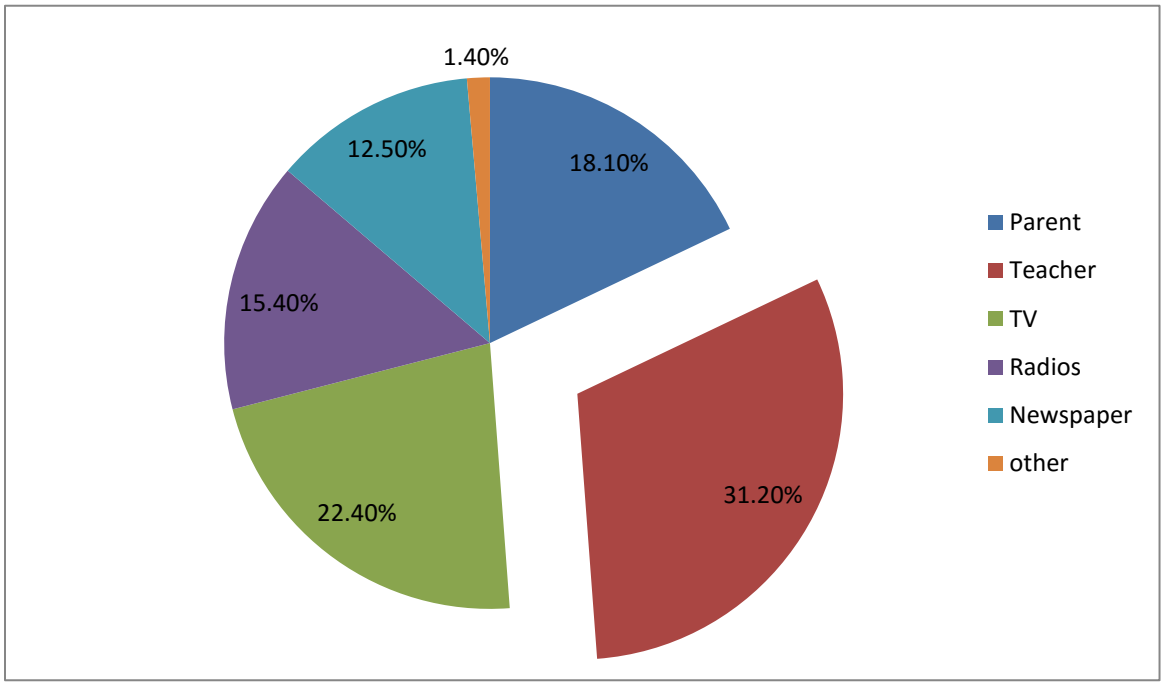

Fig1.*Source of information on the prevention measurement among medhanialem preparatory school student,Adiss Ababa,2013.*

32.6% of both grade 11th and 12th student knew that proper brushing used as a preventive measures. And 25.9% of grade 11th and 23.8% of grade12th students also knew that avoiding sugar food(snacks) as the preventive measures of major oral health problems.

Majority of the student both grade 11 and 12 get source of information on the preventive measures are teachers which account 32.9%. (Table3)

Table 4. Distribution of medhanialem preparatory school students by their category of grades with their attitude towards oral health, Addis Ababa, 2013

Attitude towards oral health		Category of grade			
		11th		12th	
		No	%	No	%
Regular visiting of dentist	Yes	78	38.8	86	42.7
	No	123	61.1	115	57.2
Frequency of dental visit	Regularly every 6-12 month	4	1.9	8	3.9
	Occasionally	0	0	3	1.4

	When dental pain occur	80	39.8	65	32.4
	Never	117	58.3	125	62.3

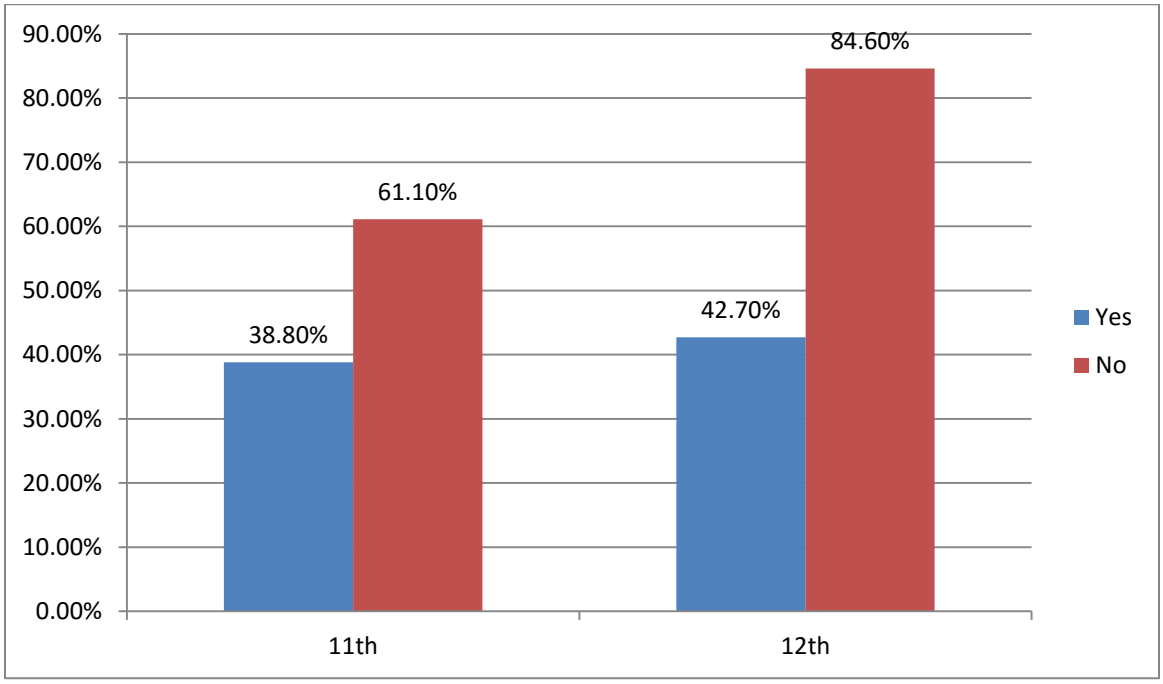

Fig2. ***regular visiting of a dentist among medhanialem preparatory school student,addis ababa,2013***

Regarding their attitude towards oral health,59.1% of both grade 11th and 12th students did not visit dental professional. 40.7% of both grade 11th and 12th students believed that the frequency of dental visit should be needed when dental pain occur and 60.3% of the respondents believed that they had never visit a dentist.(Table4)

Table 5. Distribution of medhanialem preparatory school students by their category of grades on practice toward oral health, Addis abeba,2013

Practice towards oral health		Category of grade			
		11th		12th	
		No	%	No	%
Cleaning teeth	Yes	167	83	172	85.6
	No	34	17	29	14.4
Frequency	Once a day	18	9	26	12.9

of cleaning	Twice a day	29	14.5	37	18.4
	3 time a day	7	3.4	5	2.5
	Once a week	35	17.4	45	22.4
	Irregularly	112	55.7	88	43.8
Methods of cleaning	Horizontal	56	27.8	40	19.9
	Vertical (up and down)	87	43.3	93	46.3
	Mixed	58	28.9	68	33.8
Duration of cleaning	<2 minutes	118	58.9	97	48.2
	2-3 minutes	71	35.6	83	41.4
	4-5 minutes	11	5.5	21	10.4
Frequency of eating sweet(snack) food per day	Once a day	143	71.8	152	75.7
	2-4 times	56	27.9	44	21.9
	5-6 times	2	0.2	4	1.9
	More than 6 times	0	0	1	0.5

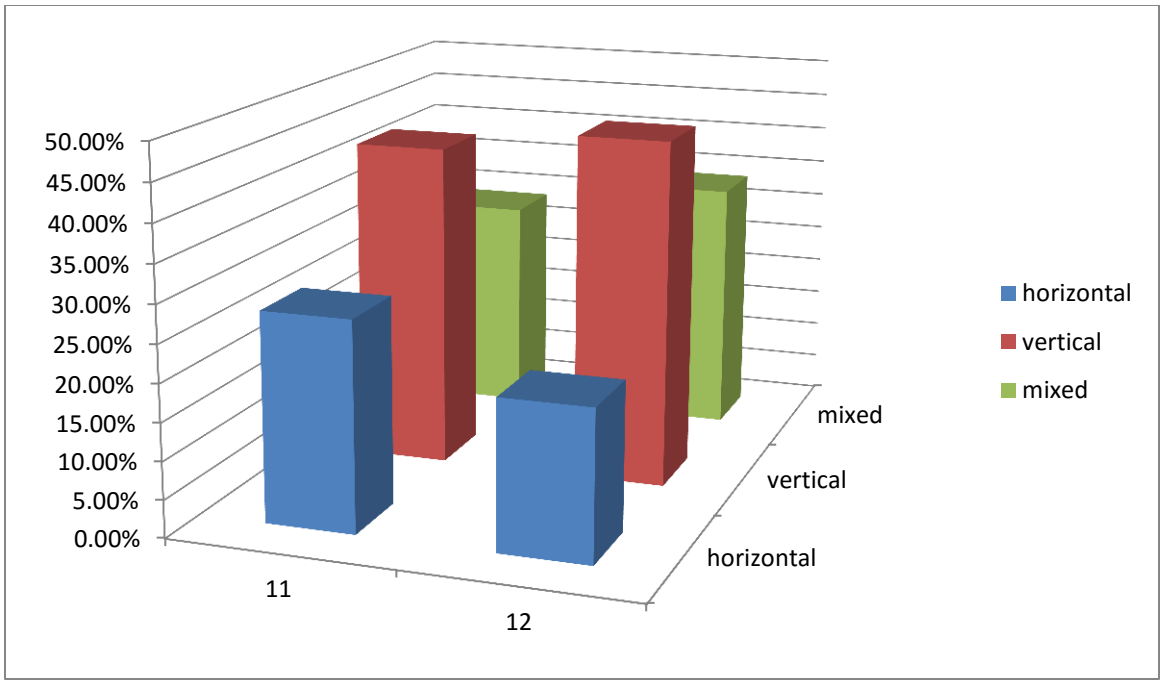

Fig3.*method of cleaning of tooth among medhanialem preparatory school student,addis ababa,2013*.

Concerning to oral hygiene practice,about 84.3% of both grade 11 and 12 students respondent clean theire teeth and the majority of them(44.8%)64.9% of both grade students cleaned their tooth vertically. with frequency ,16.5% of respondents cleaned their teeth 2x aday,3% of respondents 3x a day,and majority 49.6% of student cleaned irregularly.53.6% of most respondents cleaned their tooth for < 2 minutes 38.5% for 2-3 minutes and only 7.9% of respondents for 4-5 minutes and most 73.6% 0f respondents took sweets once a day for both grade 11 and 12.(Table5)

Table 6. Distribution of medhanialem preparatory school student by their category of grades on the use of tools (materials) to clean their tooth Addis Ababa, 2013

Materials	**Category of grade**			
	11th		12th	
	No	%	No	%
Sticks (Mefakia)	114	56.5	122	60.8
tooth brush	43	21.5	47	23.4
tooth brush and mefakia	19	9.5	14	6.9
Dental floss	0	0	0	0
Simple triad	4	2	3	1.4
Stickini	21	10.5	15	7.5

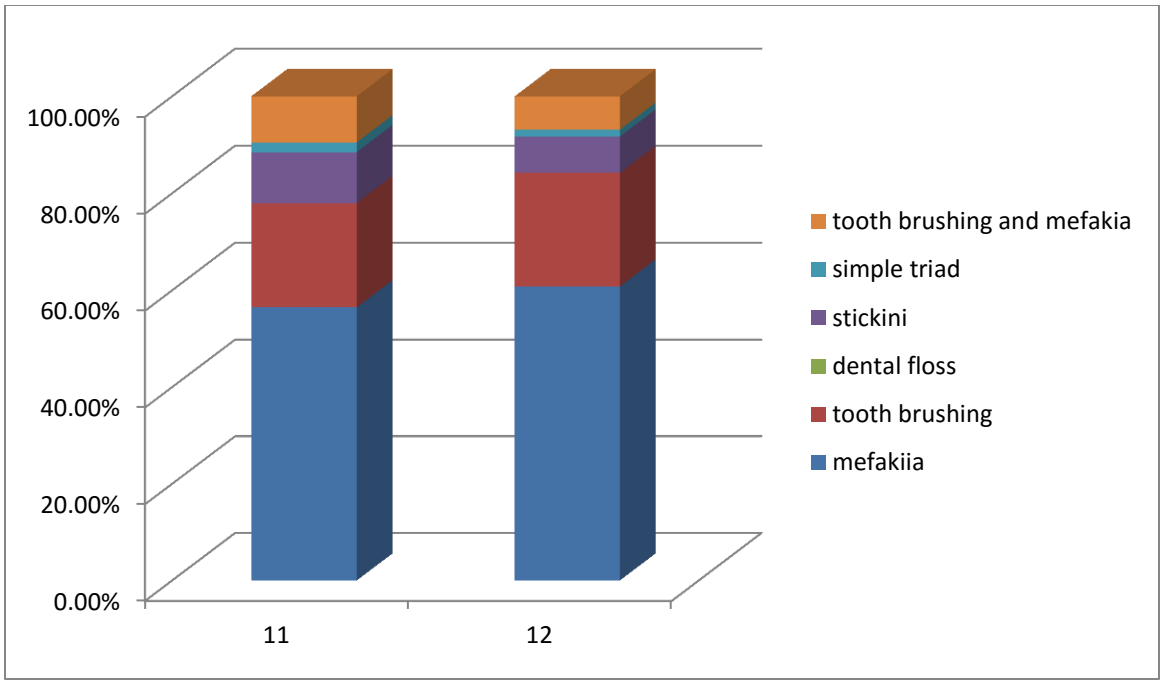

Fig3.*the tools (materials) to clean theire thooth among medhanialem preparatory school student,Addis ababa,2013*

Regarding to the tool used to clean their teeth from those respondent which clean their teeth Most of them(58.7%) of both grade 11 and 12 use sticks(mefakia) as a cleaning tool. only 1.8% of respondents used simple triad as cleaning materials and none of the respondent used dental floss as clean tool.

Table7. Occasion of tooth cleaning among medhaniyalem preparatory school students by their category of grades, addis abeba,2013

Time of tooth cleaning	Category of grade			
	11th		12th	
	No	%	No	%
Morning	86	42.8	97	48.3
Before going to bed	15	7.4	12	5.9
Morning and before going to bed	21	10.5	14	6.9
After meal	57	28.4	47	23.4
Irregular	22	10.9	31	15.5

From the total of the respondent most the student (42.8% of grade 11 and 48.3% of grade 12) clean their teeth in the morning and only 25.9% of both grade respondents cleaned their teeth after meal. 13.2% of both grade respondent clean their teeth irregularly.(Table7)

Table 8. Frequency of changing tooth brush after use among medhanialem preparatory school students by their category of grades Addis Ababa,2013

Frequency of changing tooth brush after use	Category of grade			
	11th		12th	
	No	%	No	%
Every three month	3	6.9	2	4.6
Once a year	5	11.7	4	10.4
Irregularly	21	48.8	27	57.4
I don't know	14	32.6	14	30.3

Out of 89 respondents who used tooth brush 53.1% of both grade respondents change tooth brush irregularly. 31.5% of both grade respondents did not know when they changed tooth brush.after using and only 5 respondents changed tooth brush every three month.(Table8)

Table 9 Duration of cleaning of tongue among Medhanialem preparatory school students by their category of grades addisabeba, 2013

Cleaning Tongue		11th	%	12th	%
Yes	Duration				
	<20''	14	6.9	12	5.9
	20"-30"	9	4.5	15	7.5
	>30"	1	0.5	3	1.5
	Do not know	31	15.4	27	13.4
No		146	72.7	144	71.7

Regarding the duration of cleaning of the tongue majority of respondents 72.7% of grade 11 and 71.7% of grade 12 students did not know for how long they cleaned tongue and only 6% of both grade respondents had practiced to clean their tongue for 20"-30" seconds. (Table9)

Table 10. Association of knowledge, attitude and practice of respondents among medhanialem preparatory school student with their educational level Addis Ababa,2013

KAP		11th	%	12th	%	P-value X^2=chi square DF=Dgree of freedome
knowledge	Satisfactory	66	32.8	75	37.3	P=0.347 X^2=0.88
	Unsatisfactory	135	67.2	126	62.7	DF=1
practice	Good	28	17.8	31	18.1	p=0.347 X^2=0.377
	Fair	48	28.7	53	30.8	DF=2
	Poor	91	54.5	88	51.1	
Attitude	Favorable	63	31.3	77	38.3	P=0.143
	Unfavorable	138	68.7	124	61.7	X^2=2.15 DF=1

35.1% of both grade respondents had satisfactory knowledge and the rest 64.9% had unsatisfactory knowledge with p-value 0.347. 34.8% of respondents had favorable attitude and 65.2% of respondents had unfavorable attitude with p-value 0.143

From a total of 337 students ,17.9% respondents had good practice,29.7% respondents had fair practice and the rest 52.8% of respondents had poor practice with p-value 0.828.

There was no significant association between KAP with their educational level since p-value >0.05.

CHPTER SIX

DISCUSSION

This study assessed oral health attitudes, knowledge, and practice towards oral heath at medhanialem preparatory school school,addis ababa,Ethiopia,2013.

Medhanialem preparatory school students were less aware about oral health.31.1% did not know the main causes of dental caries which is higher than with the Study done government aided missionary school in bongolore city that 29.9%of high school students did not know the cause of dental caries.(19) and 42.8% of students put sugar containing food as main cause of dental caries. Study done in jiren high school students 26.1% put sugar containg food. The higher percentage of in the study compared to jiren high school students .(21)

A total of 30.1% of students were aware regarding to the cause of periodontal diseases. i.e. bacteria that is higher number of respondents than with the study done in Jimma showed that 18.9% of students considered bacteria in mouth as main cause of periodontal diseases.(20)

Concerning to the causes of halitosis 56.7% respondents said poor oral hygiene as main factor. Research done in Jimma showed that 23.3% of students put not keeping oral hygiene as main cause of halitosis which is less than a number of respondents as study showed .

Regarding the preventive measures 25.9% of both grade respondents knew that avoiding sugar containg food and 32.6% of respondents aware that proper brushing indicated as main preventive measures against major oral health problems which is less than study done in jimma town showed that 63.9% of respondents knew the preventive measurement this is due to less awareness about preventive measurement in the study group. (20)

44.4% of the respondents had positive attitude and they believed that regular dental visit was necessary and majority of respondents 96.7% believed to visit dentist when they had dental pain which is higher than in the Study done In

Rural Nepal show Only 19 % of the respondent visited dentist only when they got dental pain while 20% reported that they were regular dental attendees (16)

84.2% 0f students had practice towards oral hygiene. Only 16.5% of respondents brushed their teeth 2x a day which is less than the study done in Rural Nepal 35.1% of the study sample brushes their teeth at least twice daily while 64.9% reported regular brushing once daily. (16).Only 17% respondents brushed with the correct ADA recommendation frequency on dental hygiene. I.e. 2x a day (17). But majority of the students 49.6% cleaned their tooth irregularly which is less than 47.1% of respondents clean their teeth irregularly as study showed in jiren high school students.

53.6% of students brushed their teeth <2 minutes and only 38.5% of respondents brushed for 2-3 minutes which is the correct duration of cleaning of teeth according to ADA recommendation on dental hygiene.(17) and Similar Study done in Jimma showed that about 11.7% of students clean their teeth for < 2 minutes which is less than the findings of 71.6% of respondents in medhaniaem preparatory school students. In this study 21.2% of respondents cleaning theire teeth 2-3 minutes duration which is almost equal to 20.2% of respondents in jimma jiren high school students (20)

In this study 58.7% used mefakia to clean their teeth which is less than the study done in Jimma showed that about 63% of students used mefakia. Other study done in medina arbia which showed that about 27% of students used mefakia to clean their teeth which is more less than the study group (15) and other study 9% of respondents used tooth with paste which is less than 22.5% of respondents used tooth brush with paste in jiren high school students.(20)

23.6% of majorityof study students used horizontal which is not significant for teeth since it may results in abrasion of enamel that is higher than in the study showed that about 20.2% of respondents used horizontal. Only 44.8% of respondents used vertical methods of cleaning which is less than in the study done in Jimma showed that 28.2% of respondents used vertical way of cleaning.(20)

Out of 20 respondents used tooth brush,only one of respondents knew that the right time of changing tooth brush after using which is the correct way of changing tooth brush after using according to ADA recommendation on dental hygiene.(17)

45.6% of students practiced brushing in the morning and only 8.7% of respondents practiced brushing in morning and bed time which is less than the study done at Sarawak school in kuching 80.44% respondents practiced tooth brushing in morning as well as bed time.(13)
Out of 27.3% of respondents practiced for cleaning the tongue of which 6% of respondents cleaned their tongue for 20-30 seconds which is the correct duration of tongue cleaning according to ADA recommendation (17)

In this study there was no significance association between KAP with their educational level which is equivalent to the study done in jimma jiren school students showed that there was no significant association between educational level with their oral hygiene practice.(22).

Medhanialem preparatory school students had unsatisfactory knowledge, unfavorable attitude & poor practice when compared to study done in jimma town and jiren high school students. This may be due to awareness of oral health by means oral health information/education via CBE(CBTP,TTP & SRP) and they are less awrness about oral health.availability dental health services in jimma.

Medhanialem preparatory school students had low KAP when compared with other studies. This may be due to having less awareness about oral health and lack of considering oral health as a major problem.

CHAPTER SEVEN

CONCLUSION AND RECOMMENDATION

CONCLUSION

- Most of the students had unsatisfactory knowledge,unfavorable attitude and poor practice,
- Majority of respondents believed never to visit dentist until they have dental pain.
- Most of the respondents did not know preventive measures of oral health problems
- Their cleaning behaviors were still far from the ADA recommendation.ie 2x a day,with 2-3 minutes duration and vertical way of cleaning.
- Almost all of the respondeant student din't use dental floss.
- Most of students used mefakia for cleaning.
- Most of students did not clean their tongue
- Their cleaning tongue behaviors far from ADA recommendation .i.e 20-30 seconds

RECOMMENDATION

- Message should convey about oral health via all kind of printing materials like newspaper, magazine, books, posters, leaflets, pamphlets, counseling cards and other materials for the students.
- Oral health information should be given by all health professional in order to be insure the quality of life
- Further study should be done inferential statistic different geographical location which help policy maker to conduct geographical factor intervention.

- Dental personal should educate their parent or care giver to change their behavior in taking care their children oral hygiene.

ANNEXES

Annex-I REFERENCES

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ANNEX II

QUESTIONNAIRE

Jimma University

Department of dentistry, college of public Health and medical sciences structured questionnaire on oral health KAP of Belay zeleke high school students.

N.B the aim of this questionnaire is to assess the KAP of respondents towards oral health, so it needs your voluntariness.

The questionnaire does not include your name, so be confident to answer questions.

You can discontinue if you are not volunteer

Thank You!!

I. General information:

1. Age 7-20 ☐ > 20 ☐

2. Sex Male ☐ Female ☐

3. Religion Orthodox ☐ Muslim ☐ Protestant ☐ Catholic ☐ Others ☐

4. Ethnicity amhara ☐ Oromo ☐ Tigre ☐ Gurage ☐ Others ☐

5. Educational status

11th ☐ 12th ☐

II. Knowledge, questions regarding on oral health

1. Do you know the main cause of dental carries?

A. Sugar containing foods

B. Bacteria C. Don't know

D. others _____

2. What do you think the main cause of gum disease?

A. Irregular tooth brush D. Don't know

B. Bacteria in the mouth E. Other_____

C. Alcohol drinking

3. Do you know the main cause of bad breath (halitosis)?

A. Not keeping oral hygiene

B. Eating garlic

C. Brushing with tooth brush with or with our paste

D. Don't know

E. Other_____

4. Do you know the preventive measures against dental caries ,

Gum diseases and bad breath?

A. Avoiding sugar foods (snack) between meals.
B. Proper brushing of tooth by modern tooth brush and paste
C. Vesting a dentist
D. Rinsing the mouth with water
E. Don't know F. other _____

III. Attitude, Questions regarding on oral health.

1. Do you believe that visiting a dentist is good?

A. yes B. No

2. How often do you believe one should visit a dentist?

A. Regularly every 6 to 12 months

B. Occasionally

C. When dental pain occur

D. Never

IV Practice, questions regarding on oral health

1. Do you clean your tooth?

A. yes B. No

2. How often do you clean (brush) your teeth?

A. Once a day C. three times a day

B. Twice a day D. Once a week

E. Irregularly

3. For how long do you clean your tooth?

A. For < 2 minutes C.4-5minutes

B. For 2- 3 minutes

4. How often do you take sweet foods (candy, chocolate or sugar) per day?

A. Once a day C. 4-6 times

B. 2-4 times D. more than 6 times

5. What method of cleaning technique do you use?

A. Horizontal B. Vertical (up and down) C. mixed

6. What tools do you use to clan your tooth?

A. sticks (mefakia) D. simple triad

B. Tooth brush and mefakia E. stickini

C. Dental floss F. Others _____

7. When do you brush your teeth?

A. morning

B. Before going to bed

C. morning and before going to bed

D. After meal

E. Irregularly

8. How often do you change your tooth brush?

A. Monthly D. Irregularly

B. Every three month E. Don’t know

C. Once a year

9. How often do you brush your teeth?

A. Once a day D. Once a week

B. Twice a day E. Irregularly

C. Three times a day

10. Do you clean your tongue?

A. Yes B. No

11. For how long do you clean your tongue?

A. <20 seconds B.20-30 seconds C.>20seconds D. Do not know

12. If yes for Q10 how do you clean it?

A. rinsing with water

B. mefakia

C. using tooth brush

D. Others

Thank you!

Name of Data collector _____ Sign _____

Date _____