



ASSESSMENT OF MOTHER'S KNOWLEDGE, ATTITUDE AND  
PRACTICE TOWARDS THEIR CHILDREN'S DENTAL HEALTH CARE  
IN HOSSANA HOSPITAL, HADDIYA ZONE, ETHIOPIA

BY: TEMESGEN W\YESUS (DENTAL INTERN)

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ADVISOR: MULUALEM TOLESSA (DMD)

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## **ABSTRACT**

**INTRODUCTION:** Dental health is fundamental and essential part of general health and well being. Unfortunately many children are affected with dental caries at an early age. ECC is most common chronic disease in young children and may develop as soon as teeth erupt. A number of risk factor can be associated with ECC, which broadly classified in to biological (nutritional variable, feeding habits and early colonization of carcinogenic micro-organisms) and social (low educational level, low socio – economic status, lack of awareness about dental disease) risk factors.

**Objective:** - the purpose of this study is to asses mothers knowledge, attitude and practice towards their children's dental health care in Hossana hospital, 2013 GC.

**Methods and materials:** - A cross sectional study was conducted to asses KAP of mothers towards their children dental health care in Hossana hospital. Convenience sampling technique has been used to include all voluntary mothers who were visiting Hossana hospital. Data was collected using structured questionnaires by directly interviewing mothers.

**Result:** A total of 204 mothers - child pair took part in this study. Only 45.09% of mother had satisfactory knowledge, while 50% of mothers showed favorable attitudes towards their children's dental health. In contrast only 7.84% of mothers had good practice to maintain their children's dental health. ECC was observed in 57.84% of children with relatively lower percentage in children belongs to mothers who had better KAP. The mother with more years of education and more monthly income showed better KAP towards their children's dental health.

**Conclusion and recommendation:** Mothers/ caregivers can play an important role in preventing oral disease in children and should thus be well educated about dental health promotion. Educational efforts should focus on educating mothers with less education and less monthly income.

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## **ABBREVIATION**

**ECC** - Early child hood caries

**AAPD** - American academy of pediatric dentist

**JUSH** – Jimma University Specialized hospital

**SRP** – Student Research Program

**ASPD** – American society of pediatric dentistry

**ADA** – American dental association

**DEFT** – Decayed, extracted, filled tooth

**KAP** – Knowledge, Attitude and Practice

**MS** – Mutans streptococci

**PI**- principal investigator





# **CHAPTER ONE**

## **INTERLOCUTION**

### **1.1 Back ground:**

Dental health is fundamental and essential part of general health and well being (1). Unfortunately many children are affected with dental caries at an early age, even those as young as 1 year (2). Primary tooth decay does not discriminate. It crosses ethnic and cultural groupings but generally concentrated among disadvantaged populations. Furthermore, there is mounting evidence indicating that children who exhibit early childhood caries (ECC) are more likely to have an increased caries experience along the continuum of childhood (2).

ECC is defined as the presence of one or more decayed (cavitated or non – cavitated lesion), missing (due to caries) or filled tooth surfaces in any primary tooth in child under age of 6 years. ECC is the most common chronic disease in young children and may develop as soon as teeth erupt. It is a significant public health problem and certain segment of society, such as socially disadvantaged have the highest burden of disease (3).

A number of risk factors are associated with ECC, which can be broadly classified into biological and social risk factors. Biological risk factors include nutritional variables, feeding habits and early colonization of cariogenic microorganisms. Social risk factors include low level of parental education, low social economic status and lack of awareness about dental disease (3).

ECC is a very common bacterial infection. One of the major virulent caries producing organisms is mutans streptococci. MS vertical transmission from mothers to infants is the primary source of dental caries. However, horizontal transmission between siblings of similar age or children in a day care center.

MS can be detected in many locations in the oral cavity. The furrows of the tongue are important ecological niche in pre-dentate infants. Transmission of MS may occur from time of birth (4).

However significant colonization occurs after dental eruption, as MS can adhere to non-shedding tooth surfaces. After colonization, from sugar they produce acid (mainly organic acid) which over time, dematerializes tooth structure. The process normally takes place on the smooth surfaces of upper teeth starting from the central incisors, extending gradually to lateral incisors, the first primary molars, canines and then the second primary molars (4).

The consequence of ECC, when left untreated, can become painful and cause many alterations including chewing patterns, eating and dietary nutrition, learning, speech and communication; playing, sleeping and quality of life, in addition to potential growth restriction. Children with ECC have been reported to have a high risk of decay in both primary and permanent dentition. This could cause mal-alignment and crowding of permanent teeth that consequently result in malocclusion. In addition, early loss of tooth may result in speech difficulties as well as associated self-esteem issues due to altered appearance (4).

Improper feeding practice without appropriate preventive measures can lead to early childhood caries in susceptible infants. Frequent bottle feeding at night and extended and repetitive use of non-spill training cup associated with ECC (4)

The preventive program with young children should begin at the earliest time possible, parental tooth brushing especially with very small amount of fluoridated dentifrice is helpful when accompanied at least once a day. Also dietary interventions are appropriate. According to the article in the journal of

Canadian dental association “primary prevention of ECC has largely been restricted to counseling parents about caries promoting feeding behavior. (2)

## **1.2 Statement of the problem**

Oral health is an integral part of general health. It also becomes clear that the causative and risk factors in oral diseases are often the same as those implicated in the major diseases. Dental caries (tooth decay) still remains one of the most commonly occurring oral health problems in the children all over the globe. A considerable portion of children in the developing nations is being affected by tooth decay and most of the time their proper treatment giving last priority owing to limited access to oral health services; lack of affordability of oral health services not only results in aggravation of disease but also enhances the cost of treatment and care. There is no single country that claims have caries free children (5).

At the global level, rapid changes in the pattern of dental disease have been observed during past decades. A dramatic reduction in the level of dental caries with children has been observed in the most industrialized countries. There is general agreements that the various uses of fluoride has been the main reason for the decline of caries changes with sugar consumption, preventive dental treatment and improvement in oral hygiene care are other possible contribution factors for decline of caries prevalence in those countries. (6).

Tooth decay (dental caries) is a very frequent oral disease. It may be prevented by acting on its basic causes, cariogenic diet and poor oral hygiene. In last 50 years, the epidemiological profile of dental caries has changed, as well as, increased use of fluoridated tooth pastes and drinking water, which has been

directly related to reduction in caries and tooth extraction. this clearly shows that dental caries can be reduced by controlling risk factors. (7)

A common misconception that milk teeth of children will exfoliate and there is a less need to seek expert dental advice may lead to various dental problems such as malocclusions, dental caries and periodontal problems.

Parents usually are the primary decision makers on matters affecting their children's health care. Moreover, in everyday life, parents function as role models for their children, and therefore, parents own dental health hygiene habits are very meaningful. Parental characteristics and beliefs may also be important consideration in attempts made to improve children's oral health. Therefore, in attempts to achieve the best oral health outcomes for children, parents should be considered as key person in ensuring the well being of young children. The family is the first institution that influences children behavior and development, especially mother, which are the primary model for developing behavior. Therefore, child hood is an important period of life that needs to be monitored closely so that the child will grow up healthy. Parent's health belief and attitudes towards their own dental care which is a significant predictor of children's dental care utilization (4)

Research show that mothers dental health related knowledge belief and attitude influence the tooth brushing behavior of their children. Furthermore, mother's attitudes have significant positive influence on children dental health cares (8).

In our country, Ethiopia, dental professional unequally distributed and concentrated mainly on curative (restorative) needs of urban areas, and most of the rural areas lack access to dental services. Therefore, the high prevalence of ECC in children attending Hossana hospital initiates the investigator to study more on knowledge, attitude and practice of mothers towards their children dental health care.

## **CHAPTER TWO**

### **2.1 REVIEW OF LITERATURE**

Caries in children is the most common chronic childhood disease. In USA It is five times more than asthma, seven times more common than hay fever and 14 times more common than chronic bronchitis(9). While the eyes may be the window of the soul, our mouth is window to our body's health (10). Most oral diseases like most chronic pathogenesis are directly related to life style. Chronic oral disease typically leads to tooth loss, and in some cases has physical, emotional and economic impacts. Physical appearance and diets are often worsened, and the pattern of daily life and social relations are often negatively affected which in turn lead to reduce welfare (7) and quality of life (11).

In one study which was done in Saudi Arabia only 231 out of 446 preschool children were completely caries free (14). Early childhood caries, a severe form of tooth decay that affects primary teeth of infants and young children up to 6 years of age can have serious consequence for a Childs general health (15).

ECC can be prevented by successfully educating primary care givers of new born children about this disease and by thus motivating them to engage with positive dental health promotion efforts (16).

Research suggests that establishing good oral hygiene in early years is important for a life time of good oral health. Hence, improving oral hygiene in early childhood requires that mothers own tooth brushing habits and their children oral cleaning skills are improved (3). Prevention is the key for ECC, and can be achieved successfully by knowledgeable and efficacious caregivers. Children could be at higher risk for developing ailments such as dental caries (3).

Another research suggests that many mothers do not know how to prevent caries in their children. 26.7% of mothers of children of 5 years and under who brought their children for extraction of teeth under general anesthesia to dental school did not know how to prevent caries in their children (16).

Young children dental environment is complex because their mothers and or caregivers dental knowledge, attitudes, beliefs and practices affect the child - Oral condition. Feeding habits are said to be of prime importance in etiology of dental caries at any age, but more especially in preschool children (17).

High sugar intake is a significant factor in dental caries (18). Putting an infant to bed with a formula bottle or sucking cup with juice or giving children sweets as snacks, are topics that dental care providers need to discuss with care givers (19). Some mothers knew that putting children to bed with bottle containing a sugar liquid was harmful; they continued to give sugar drinks at night (20). 100 out of 139 mothers admitted giving their children sweets to reward them for good behavior, to pacify the child or for no specific reason (15).

One research suggested that understanding of what mothers know about dental health issues is crucial in order to modify their behavior and encourage good health promotion (21). Hale stated that along with proper feeding practices, mothers should be aware of limiting of basic oral health practices such as when the child should see dentist for the first time and when should have exposure to small amounts of fluoride (22).

Knowledge about tooth brushing is crucial as well. As study done concerning the prevention of caries demonstrated that 80% of their respondents that tooth brushing can prevent decay, however, only 46 % of that tooth brushing can prevent decay, however, only 46% of these respondents believe that fluoride can prevent tooth decay. Few mothers mentioned flossing when asked about dental hygiene practice in their households (23).

Research showed that the degree to which mother's understands dental health issues is significantly related to better dental health in their children (15). In addition, mother knowledge about dental health had an important impact on their children's future oral health related practices (15).

The study in USA also showed that parent's awareness is affected by other back ground factors. The higher the family income was the more the respondents knew about dental care utilization, and oral health behavior. The more years of education the respondents had the more they knew about consequences of poor oral health. The more knowledgeable the respondents' knew about oral health promotion, the more often they brushed and flossed and less dental anxiety they had (24).

The American academy of pediatric dentistry (AAPD) website says "your child should visit a pediatric dentist when the first toothed appears or no later than his/her first birth day". Also AAPD recommends "starting at birth, clean your child gums with soft infant tooth brush and water. Remember that most small children do not have the dexterity to brush their teeth effectively. Unless it advised by your child's pediatric dentists do not use fluoridated tooth paste until 2-3" (6) only 25.7% of respondents gave correct answer to a question concerning that age of at which children should start seeing a dentist and only 32.4% correctly answered a question about the age at which their children should be their teeth brushed (24).

In another study done in USA, in North Carolina the caregivers revealed high knowledge about child's oral health and ECC. For example, 79% know putting a child to bed in a bottle containing milk causes cavities. About 76% knew that children should start making dental visits between ages of 1 and 3 year. 89% knew that fluoride in tooth paste prevents decay and 83% knew that teeth should be brushed with tooth paste containing fluoride (36)



There is low level of dental awareness and initiation for dental visit in mothers of preschool children in Indian society. About 72% of the parents were using kids tooth paste after being recommended by some family dentist (20).

One research done in republic of china, only few children (4%) had practical support from their parents in daily brushing. Only 42% of mothers knew that dental caries caused by sugar (28). The study done in Romania showed that only 39% knew the cause of caries (37).

A research done in Malaysia showed that 14% of parents never examined their children's mouth. A considerable number of parents (67.6%) practiced biting food into small pieces before giving the child.

There were only 11.8% of the parents who never bought sweetened food for their baby.

About half of the parents (45%) gave sweetened liquid or juice in the bottle to their children. (40)

A study in Poland reported that 54% of mothers regularly assist their children with tooth brushing and proportion is greatest among mothers with higher education (38).

One research done at Africa on mothers/guardians knowledge, attitude and practice towards child's oral health and dental health. A research reported on oral health knowledge of Tanzania mothers was poor and the more parents/guardian with secondary education should relatively better dental knowledge than those with primary education (39). No published data that shows the mothers knowledge, attitude and practice towards their children's dental health care and ECC in Ethiopia.

## **2.2 Significance of study**

Since mothers are the primary decision maker on matters that affecting their children oral health and health care especially for preschool children so understanding mothers knowledge attitude and practice among their children's oral health and factor that motivate perception can help dentist to overcome barriers that mothers encounter in accessing dental health care for their children.

This study will provide information on assessment of knowledge, attitude and practice of mothers towards their children dental health care and to promote mothers knowledge about dental health promoting factors and to initiate them to practice on their children.

It will provide information for mothers concerning responsibility of them about their children's, oral health in home care and inform mothers, along with clinicians to play key role to achieve the best oral health outcomes for their children. If mothers or primary care giver are well equipped with necessary knowledge and practice, early child hood dental problems are preventable otherwise different sequels will follow like tooth decay, toothache, missing primary or permanent teeth.

## **CHAPTER THREE**

### **3. OBJECTIVE OF THE STUDY**

#### **3.1 General objectives**

- To assess mothers knowledge, attitude and practices towards their children's dental health care.

#### **3.2 Specific objective**

1. To assess the oral health status of children under 6 years of age
2. To explore if any background factors that affect mother's knowledge about prompting their children's dental health.
3. To explore attitudes of mothers towards their children's dental health.
4. To assess practice of mothers towards their children's dental health.
5. To suggest possible preventive measures.

## **CHAPTER FOUR**

### **Methods and Materials**

#### **4.1 Study area and period**

This study was conducted in Hossana hospital, Haddiya zone, Hossana town, Southwest of Ethiopia from April 15-21/08/2005 EC. Hossana Hospital is the only district hospital in the zone. The main departments of service are internal medicine, Gynecology, pediatrics and surgery. There are five general practitioners and one surgeon and also one ophthalmologist.

It has only one dental unit and one dental doctor. But the dental unit doesn't deliver full service to the society because of limited set up. The common treatment given is extraction and antibiotics for dental infection.

**4.2 Study design:** Cross sectional study was conducted on KAP of mothers towards their children's dental health care in Hossana hospital in Haddiya Zone.

#### **4.3 Population**

**4.3.1 Source population:** All children's and their mother's attending Hossana hospital during the study period

**4.3.2 Sample population:** As ECC is age specific, participation was restricted to those children younger than 6 year of age and their mother attending Hossana hospital.

### **4.3.3 Inclusion and exclusion criteria**

**Inclusion criteria:** - children younger than 6 years of age accompanied by their mother

**Exclusion criteria:** - children not accompanied by their mother

### **4.3.4 Sample size and sampling technique**

**4.3.3 Sample size and sampling technique:** - since data collection time was short all children younger than 6 of age who were accompanied by their mother, attending Hossana hospital and who were volunteer.

My sampling technique was non- random convenience sampling method

## **4.5 Variables**

### **4.5.1 Dependent variables**

- Knowledge of mother
- Attitude of mother
- Practice of mother

### **4.5.2 Independent variables**

- Age
- Ethnicity
- Sex
- Address
- Religion
- Educational level status

### **4.5.3 Confounding variables**

Monthly income

#### **4.6 Materials**

- Pen
- Pencil
- Eraser
- Glove
- Wooden spatula
- Mirror
- Probe
- Mask
- Torch

#### **4.7 Data collection**

The data for this study was collected by using structured questioner which was formulated in English with adequate translation in to the language which understandable to the respondents by principal investigator and well trained five data collectors and also clarification was given to the study population in order to handle misunderstanding. The respondents for this study was given a choice to either respond in a written survey in their own or participate in a face to face interview.

#### **4.8 Data processing and analysis**

After accomplishment of data collection, data was compiled and analyzed manually and using scientific calculator by the principal investigator and finally presented using tables and figures.

#### **4.9 Data quality control**

To ensure validity and completeness of the data, the structured questioner was tested by my advisor Dr. Muluaem tolessa before data collection. Data collection instrument was tasted by similar subjects.

#### **4.10 pre- tests**

Pre-test was conducted to evaluate the validity of the questionnaire by using 5% of sample size of the students in Jimma University for about ten health science students.

#### **4.11 Monitoring and evaluation**

The whole activities of study was monitored and evaluated by principle investigator and advisor.

#### **4.12 Ethical Consideration**

An official letter was written from Jimma University school of dentistry and submitted to Hossana hospital head which describes the objectives of study. Informed consent will be obtained from all mothers prior to enrolment and only volunteers will be candidate; there response was kept confidentially.

#### **4.13 Limitation of the study**

Lack of base line data with similar topic at national level for comparison

#### **4.14 Operation definition**

Preschool child – A child whose age is two (2) to six (6) years of age

Dental caries – Also known as dental decay, is infections destructive bacterial process causing to decalcification of hard tooth structure (enamel, dentin and cementum)

Early childhood caries – Presence of one or more decayed, missing or filled tooth surface in primary tooth in a child of 6 years of age or younger.

Knowledge – Familiarity, awareness or understanding gained through

Combination of data, information, experience and individual

## Interpretation.

Satisfactory knowledge – If the respondents

Answers more than 60% knowledge question correctly.

Unsatisfactory knowledge – If the respondent answers less than 60% knowledge

Questions correctly.

Attitude – Predisposition or a tendency to respond positively or negatively

Towards ascertain idea, objects, persons or situation.

Favorable (positive attitude) – If the respondents answers 60% and more  
attitude questions correctly

Unfavorable (negative attitude) – If the respondents answered less than 60%  
attitude questions correctly.

Practice – To do or perform something habitually or repeatedly.

Good practice – If respondents are practicing more than 60% of practice  
questions correctly.

Average practice – If the respondent is practicing 50-60% of practice questions  
correctly

Poor practice – If the respondents are practicing less than 50% of practice  
questions correctly.

Poor oral hygiene – Supra gingival calculus and soft debris covering more than  
two third of the exposed tooth surfaces or a continuous heavy  
band of sub gingival calculus covering around the cervical  
portion of the teeth.

Fair oral hygiene – Soft debris and supra gingival calculus covering more than  
two third of the exposed tooth surface or the presence of



individual plaques of sub gingival calculus around the cervical portion of the teeth

Good oral hygiene – Soft debris and calculus covering not more than one third of the tooth surface being examined or the presence of extrinsic stain without debris regardless of surface area covered

Literate – Who can read and write

Illiterate – Who cannot reads and write

#### **4.15 Dissemination of results**

The result of the study was disseminated to Hossana hospital Staffs, Haddiya zone health biro and on line by principal investigator besides submitting the report to Jimma university student research program office and research department.

## **CHAPTER FIVE**

### **RESULT**

#### **5.1 Socio –demographic characteristics**

A total of 204 mother-child pairs took part in this study. The demographic data of respondents was presented in table 1.

The majority of interviewed caregivers/ mothers who participated in this study, (45.09%) range between 30-39 years old, (46.08%) and homemaker (64.70%).

The majority of interviewed mother resides in urban (61.76%). The dominant religion of interviewer's was protestant (48.03%). Regarding level of education 30.88% are literate 23.52% are illiterate. The monthly income of most mothers was <450 (43.13%) Ethiopian birr.

**Table 1:** Distribution of mother's socio- demographic characteristic among mother's attending Hossana hospital, 2013 G.C

No	Characteristics		No	Percentage (%)
1	Age	<20	5	2.45
		20-29	62	30.39
		30-39	92	45.09
		40-50	43	21.07
		>50	2	0.98
2	Address	Urban	123	61.76
		Rural	81	38.24
3	Religion	Muslim	12	5.88
		Orthodox	82	40.19
		Protestant	98	48.03
		Other	12	5.88
4	Ethnicity	Haddiya	111	54.4
		Kembata	60	29.41
		Amhara	26	12.74
		Others	7	3.43
5	Marital status	Married	167	81.86
		Divorced	17	8.33
		Windowed	20	9.80
6	Educational level	Illiterate	48	23.52
		Literate	63	30.88
		Elementary	31	15.19
		High school	52	25.49
		College/ university	10	4.90
7	Occupation	Homemaker	132	64.70
		Wording outside the home	72	35.29
8	Monthly income	<450	88	43.13
		451-1000	64	31.37
		1001-1500	43	21.07
		>1500	9	4.41

## **5.2 Mothers Dental Health and ECC Knowledge**

Table-2 shows the response of mothers knowledge questions. Most mothers\care givers believed that mothers should begin to clean child's teeth when first tooth erupts (86.27%) and child tooth should be cleaned a minimum of two times a day (76.96%).

87.25% correctly reported that frequent sugar in take with milk, coffee and tea causes dental caries. 38.23% knew that at the age of 6 years child can able to brush their own teeth independently. However less than half of caregivers/ mothers believed that, a mother should begin to clean baby's tooth/gum as soon as possible after birth even before tooth eruption (47.5%) and child should visit the dentist twice a year (24.51%).

Only 17.15% knew that children should have their teeth flossed by 3 years of age. There seemed to be considerable number of respondents who reported that they didn't know whether the specific statement assessing knowledge of mothers towards their children dental health and ECC was correct or incurrent. For instance, 57.84% mothers didn't know that once a child in 6 month the child should visit the dentist. As a method of dental caries pre venation only 26.47% know that the floride in tooth paste is important for preventing tooth decay.

Generally after assessment of individual's knowledge only 45.1% of mothers had satisfaction knowledge.

**Table 2:** Mothers knowledge on child's dental health and ECC in Hossana Hospital, 2013

No	Knowledge	Correct		Incorrect		Don't know	
		No	%	No	%	No	%
1	A mother should being to clean baby's gum as sons as possible after birth even before tooth eruption	97	47.5	89	43.6	18	10.78
2	Care giver/ mothers should begin to clean child's teeth when first tooth erupts	176	86.27	23	11.27	5	2.45
3	At the age of 6 year child can be able to brush their own teeth independently	78	38.23	56	27.45	70	34.31
4	Child teeth should be cleaned minimum of 2 times a day	157	76.96	34	16.66	13	6.37
5	Children should have their teeth flossed by 3 years of age	35	17.15	54	26.47	115	56.37
6	Once a child is 6 month the child should visit dentists	66	32.35	20	9.8	118	57.84
7	Children should visit the dentist twice a year	50	24.51	60	29.41	94	46.08
8	Frequent sugar intake with milk, coffee, tea causes dental cavities	178	87.25	4	1.96	22	10.78
9	Fluoride in tooth paste is important for preventing tooth decay	54	26.47	24	11.77	126	61.76

### **5.3 Mother's attitude on child's dental health and early child-hood caries.**

Seven questions were designed to assess mother's attitude towards children's dental health and ECC primary caregiver's (mothers) were asked whether they agree or disagree to specific attitude questions. The summary of their responses appear in table 3. Half of mothers (50%) had favorable (positive) attitude towards their child's dental health.

Majority of mothers agreed that a child teeth should be cleaned or brushed as soon as tooth erupt (78.4%), a child should not go to bed sucking bottle (57.84%), tooth caries affects the coming permanent teeth (63.72%) and tooth caries affects child's general health (45.58%). However 31.37% agreed that effective cleaning teeth/ brushing can be achieved by child him/herself at age of 6 years old. Only 22.55% mothers agreed that swallowing of fluoride tooth paste is harmful for children's health.

**Table 3:** Mother's attitude on child's dental health and ECC to Hossana hospital, 2013 G.C

No	Attitude	Agree		Don't know		Disagree	
		No	%	No	%	No	%
1	A child teeth should be cleaned or brushed as soon as tooth erupt	160	78.4	26	12.74	18	8.8
2	Effective cleaning to teeth or brushing can be achieved by child him/her self at age of 6 years old.	64	31.37	42	20.58	98	48.03
3	Night time bottle feeding/ child go to bed sucking bottle can cause tooth decay	118	57.84	56	27.45	30	14.71
4	Tooth caries affects the coming permanent teeth	130	63.72	34	16.67	40	19.61
5	Tooth caries affects child's general health	93	45.58	50	24.51	61	29.90
6	Tooth caries affects children from their activities	162	79.41	18	8.82	24	11.76
7	Swallowing fluoride tooth paste is harmful for children's health	46	22.55	64	31.37	94	46.08

#### **4.5 Mother's practice to maintain dental health of their children.**

As it is apparent on table 4, most mothers bite the food into small piece before giving to their children (37.25%) while Only 7.84% didn't practiced this habit and 16.16% of children had no practice assistance from their mothers while brushing his/her teeth. 66.17% of children had no practice assistance from their mothers/caregivers/ while flossing their teeth. Only 14.21% mothers had never gave sweet food to their children at night while 41.66%, 27.45% and 16.66% always, often and sometimes gave sweet food to their children respectively. Only 3.9% of mothers often gave plain water to their children after each meal and 30.88% mothers didn't examine their children's mouth.

About 99.02% of child had never visited the dentist for checkup. Responses of mothers showed that only 7.84% of mothers had good practice to maintain their children's dental health while 65.69% had poor practice and the rest had average practice.



**Table 4:** Mother's practice to maintain their child's dental health in Hossana hospital, 2013 G.C

No	Practice	Always		Often		Sometimes		Never	
		No	%	No	%	No	%	No	%
1	Do you bit the food in to small piece before giving your child	76	37.25	24	11.77	88	43.14	16	7.84
2	How often do you examine mouth of your child	29	14.21	39	19.11	73	35.78	63	30.88
3	How often did you give sweet food to the children	85	41.66	56	27.45	34	16.66	29	14.21
4	How often did you give plain water after each food	8	3.9	14	6.9	70	34.3	112	54.9
5	How often did you assist you children while brushing his/her teeth	34	16.67	26	12.74	58	28.43	86	42.16
6	How often did assist you children while flossing his/her teeth	33	16.17	24	11.76	12	5.88	135	66.17
7	How much tooth paste do you use to brush your child's teeth	30	14.71	22	10.78	60	29.41	92	45.1
8	Do your child visit dentist for check up twice in a year	0	0	0	0	2	0.98	202	99.02

### 5.5 child's dental health status

Out of 204 children 67.64% had poor oral hygiene and 58.82% of children had their teeth affected by caries with lower deciduous molars and upper incisors are mostly affected tooth represented in table 5 below.

**Table 5:** Child's dental health status in Hossana hospital 2013 G.E

No		No		Parentage
1	Child's hygiene status	Poor	138	67.64
		Fair	42	20.58
		Good	24	11.76
2	Caries free child	86		42.16
3	Child with caries	118		57.84

## **5.6 The association between mothers background (characteristics) and early child hood caries.**

Analysis to this study showed the more the education level of the mother had, the more likely they knew about child dental health and ECC. For instance only 6.25% of illiterate mothers had caries free child while 41.26% of literate, 58.06% of elementary school, 61.53% of high school and 70% of university/collage educational level mothers had caries free child.

Most of mothers who had monthly income <450 birr /month had less (28.41%) of child caries free teeth. Out of mothers who had 451-1000 birr/month and 1001-1500 birr/month, 43.75% and 60.47% caries free child respectively and >1500 birr/month (80%)

Analysis of bivariate association between mothers characteristics and early child hood caries using contingency table demonstrate significant association for mothers educational level ( $P=0.03$ ) and monthly income ( $P=0.012$ ).

**Table 6:** The association between mother's characteristics and ECC in Hossana Hospital, 2013 G.C

Mother's characteristics		Dental health status of child				
		Child with ECC		Caries free child		
		No	%	No	%	
Education level	Illiterate	45	93.75	3	6.25	X <sup>2</sup> =10.7 P= 0.03 df=4
	Literate	37	58.73	26	41.26	
	Elementary	13	41.93	18	58.06	
	high school	20	38.46	32	61.53	
	College/ university	3	30	7	70	
Monthly income	<450	63	71.59	25	28.41	X <sup>2</sup> =10.9 P=0.012 df=3
	451-1000	36	56.25	28	43.75	
	1001-1500	17	39.53	26	60.47	
	>1500	2	20	7	80	

### **5.7 Association between mothers KAP and child's dental health status**

As it is apparent on table 7, 56.52% to child who belongs to the mothers who had satisfactory knowledge is caries free while less number (30.36%) of child who belongs to the mother's who had unsatisfactory knowledge is caries free. The result is statically significant ( $p=0.008$ ).

Out of 51 children who belongs to mother's who had favorable attitudes 52.94% were caries free, while only 31.37% of children who belongs to mother's with unfavorable attitudes had caries free teeth ( $p=0.027$ ).

75%, 44.44% and 37.31% of children's who belongs to mother with good, average and poor hygiene practice had caries free teeth respectively. The result is statically significant ( $p=0.0120$ ).

**Table 7:** The association between mother's knowledge attitude and practice towards their children's oral health status and ECC in Hossana Hospital 2013 G.C

Mother's		Dental health status of child				
		Caries free child		Child with ECC		
		No	%	No	%	
Knowledge	Satisfactory	52	56.52	40	43.48	X <sup>2</sup> =7.09 df= 1 P=0.008
	Unsatisfactory	34	30.36	78	69.64	
Attitude	Favorable	54	52.94	48	47.06	X <sup>2</sup> =4.86 Df=1 P=0.027
	Unfavorable	32	31.37	70	68.63	
Practice	Good	12	75	4	25	X <sup>2</sup> =4.24 Df=2 P=0.120
	Average	24	44.44	30	55.56	
	Poor	50	37.31	84	62.69	

## **CHAPTER –SIX**

### **DISCUSSION**

Dental health of the children is associated with dental health knowledge of their mothers/ caregivers, as dental health related habits are established during infancy and maintained through out early child hood caregivers especially mother function as role models for their children. Currently there are no coordinated dental/ oral health promotion programs targeting early child hood caries in Ethiopia, however it is crucial to discover basic caregiver knowledge, attitude and practice towards infant and preschool dental and oral health quality of life.

This study found that majority of mothers had unsatisfactory knowledge. For instance, even though AAPD recommend that child should visit a pediatric dentist when the first toothed appears or no later than his/her first birth day, only 32.35% knew that the child should visit dentist at 6 month (24). Also less than one half of respondents (47.5%) agreed with AAPP recommendation that a mother should begin to clean baby's gum as soon as possible after birth even before tool eruption.

A study by weirz back et.al concerning the prevention of caries demonstrated that 80% of polish mothers believed that child's tooth should be brushed a minimum of two times a day and 46% of respondents believed that fluoride prevents decay (2). Also a study in USA by MicKinney showed that 83% knew that teeth should be brushed with tooth paste containing fluoride and 89% knew that fluoride prevents decay (36). However in this study even though majority (76.96%) knew that child teeth should be cleaned a minimum of two times a day, but only 26.47% know fluoride in tooth paste helps to prevent tooth decay.

Only 42% and 39% of caregivers knew that dental caries is caused by sugar in wuhan, republic of china and Romania respectively (28) (37). In this study most of caregivers/ mothers (87.25%) knew that frequent intake of sugar with milk, coffee and tea causes decay. But on contrary, majority of mothers continued in giving sweetened food at night (41.66%).

57.84% mothers knew putting a child to bed with sucking bottle can cause tooth decay. In previous study done in USA about 79% knew that putting a child to bed with a bottle containing milk can cause cavities (36).

Moreover about 37.25% of mothers reported biting the food into small pieces before giving it to their child which was similar to preview study done in Malaysia (38). Hence this implicates that oral health education should adders the concept of transmissibility of oral bacteria.

The study in Poland reported that 33.4% of mothers regularly assist their child with tooth brushing (38). In contrary study done in republic of china showed that only 4% had practical support from their parents. In this study about 16.67% of mothers assist their children regularly.

Despite having relatively good levels of knowledge on some dental health questions, mothers appeared to be unable to apply knowledge in every day practice. For instances, about 99.02% of mothers didn't know that their child should visit dentist twice a year. This may be due to difficult access to dental clinics. Interestingly majorly of mothers agreed that teeth caries affects child's daily activates (79.41%), coming permanent tooth (63.72%) and child's general health (45.58%). This result is consistent with pervious study's conclusion (11-13) (15) (29).

Generally majority of the mothers had unsatisfactory knowledge (54.9%) and poor practice (65.69%) towards their children's dental health. This may be



because of absence of coordinated oral health promotion and prevention programs at community level. Out of total 204 examined children, ECC was detected in 57.84% of children. This is slightly greater than that of Saudi Arabia study in which 51.8% of children were caries free (14).

Analysis of bivariate association between mothers characteristics and dental health status of their children demonstrates significant association for mothers educational level ( $p < 0.03$ ) and monthly income ( $p < 0.012$ ). The more years of education of mothers the more they knew, and they practice to maintain their children's dental health. The more monthly income, the less number of children with ECC. This is consistent with study done in USA and Tanzania (24) (39).

The children who belongs' to mother with favorable attitude were more likely to had better oral health than those who belongs' to mother with unfavorable attitudes. The mothers with good practice were more likely to have children's with better oral health than these who have poor practice. A previous study done by MicKinney proved these statements (36)

## **CHAPTER SEVEN**

### **Conclusion and Recommendation**

#### **7.1 Conclusion**

The majority of mothers/ caregivers had unsatisfactory knowledge and poor practice even though majority showed positive attitude towards their children's dental health.

Even though the mothers had better attitude and knowledge towards some topics of dental and oral health of preschool children, such knowledge didn't necessarily translated to behavioral practices that are likely to prevent ECC.

The more the mothers/ caregivers had satisfactory knowledge, favorable attitude and good practice the less likely their child had ECC. This shows mother/caregivers play an important role in preventing dental disease in children.

The mothers/ caregivers KAP is affected by some socio-economic backgrounds. The more years of education of the mothers the more they knew the dental status of their children and had the less number of children with ECC. The more monthly income, the less number of children's with ECC.

General mothers/ caregivers can play important role in preventing dental diseases in children and should thus be well educated about dental health promotion.

## **7.2 Recommendation**

Based on the study result the following recommendations are forwarded:

1. A ministry of health should launch a regular coordinated dental health promotion and prevention program at community level.
2. Hossana hospital in collaboration with ministry of health should assign dental professional and provide dental services to the community.
3. Both governmental and non-governmental organizations that working on dental (oral) health should contribute dental health promotion and disease prevention program at community level.
4. Currently in SNNPS, dental service is being given at certain area of country so SNNPS health biro should expand dental health service at woreda level

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## Questioners

### Jimma University Collage of Public Health and Medical Sciences, Department of Dentistry

A questioner designed on the mother's knowledge, attitude and practice towards their children's dental health care

#### Instruction

Please inform the respondents to answer all questions correctly and honestly and their response will be kept confidentially.

Thank you.

#### I. Mothers socio – demographic back ground

1. Age \_\_\_\_\_
2. Address            A. Urban            B. Rural
3. Religion            A. Muslim            B. Orthodox  
                                 C. Protestant        D. Other
4. Ethnicity            A. Haddiya            B. Kembata  
                                 C. Amhara            D. Others
5. Marital status      A. Married            B. Windowed        C. Divorced
6. Educational level    A. Illiterate            B. literate        C. Elementary  
                                 D. High school        E. College/university
7. Occupation            A. Homemaker        B. Working outside the home

8. Monthly in come.....

## II. Knowledge assessing questions

Please put “√” mark under your answer on space provided

No	Questions	Correct	Incorrect	I don't know
1	A mother should begin to clean Baby's gum as soon as possible after birth even before tooth eruption			
2	Care giver /mother should begin to clean child's teeth when first tooth erupts			
3	At the age of 6 year a child can be able to brush their own teeth independently			
4	Child teeth should be cleaned a minimum of 2 times a day.			
5	Children should have their teeth flossed by 3 years of age			
6	Once a child is 6 month the child should visit a dentist			
7	Children should visit the dentist twice a year			
8	Frequent sugar intake with milk, coffee,, tea causes dental caries			

## II. Attitude related questions

No	Attitude	Strongly agree/ agree	Don't know	Strongly disagree/ disagree
1	A child teeth should be cleaned/ brushed as soon as the teeth erupt			
2	Effective cleaning of teeth or brushing can be achieved by child him/herself			
3	Night time bottle feeding/ child go to bed sucking bottle can cause tooth decay			
4	Tooth caries affects the coming permanent teeth			
5	Tooth caries affects child's general health			
6	Tooth carries affects children from their activities			
7	Swallowing of fluoride tooth paste is harmful for a child's health			

**IV. Practice related questions**

No	Practice	Always	Often	sometimes	Never
1	Do you bite the food in to small pieces before giving to your child				
2	How often do you examine mouth of your child				
3	How often do you give sweet food to your child				
4	How often you give plain water after each food				
5	How often did you assist your child while brushing his/her teeth				
6	How often did you assist your child while flossing his/her teeth				
7	How much tooth paste do you use to brush your child's teeth				
8	Do your child visits dentist twice in a year				

**V. Child's examination.**

- 1) Age of child \_\_\_\_\_
- 2) Oral hygiene status      a) Good                      B. Fair              C. Poor
- 3) Fill the following table as erupted (e), unerupted (u). Missed/ extracted (m), Decayed (d) and filled (f).

55	54	53	52	51	61	62	63	64	65
85	84	83	82	81	71	72	73	74	75

