Assessment of The prevalence of early child hood caries and associated factors among preschool children joining kebuwa rose park academy

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Jimma , Ethiopia

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ABSTRACT

BACKGROUND:- Early childhood caries is a serious health problem in both developing developed countries. It continues to affect babies and preschool children's world wide .disease progression can cause great damage to teeth or even tooth loss, and it may
Result in local, systemic psychological and social complication

OBJECTIVE:-The main objective of this study is to asses' prevalence of ECC among preschool children attending kebuwa rose park academy

METHODS:-a cross sectional study will be conducted on preschool children attending kebuwa rose park academy by taking an appropriate sample size of 144 children which is selected by random sampling technique. The total will be collected using structural questioner which designed to get all necessary information. And with clinical examination which done by spatula, a mirror and with visual observation

RESULT AND DISCUSSION:-the data will be cleaned, coded and analyzed using computer and calculator and will be displayed using tables and figures .discussion will be made based on available literature to provide basic information

CONCLUTION AND RECOMINDATION:-the conclusion and recommendation will be done after data collection and analysis procedures.

AKNOWLEGEMENT

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Abbreviations

AAPD:-American academy of pediatrics dentistry

CDC:-center of disease control

Deft:-Decayed ,extracted due to caries and filled primary teeth

ECC:-early child hood caries

SES:-socio economic status

WHO:-world health organization

M.S:-Mutans streptococci

CHAPTER ONE

INTRODUCTION

1.1 Back ground Information

clear indication of ECC (1). Early childhood caries is a destructive from of tooth decay affecting young children. A distinctive pattern of caries in infants and children, starting in the primary maxillary incisors and often progressing to the deciduous molars, in a

The American Academy of pediatric dentistry (AAPD) defines ECC as the occurrence of at least one primary tooth affected by decay in a child under 6 years of age (2), where as the presence of at least one carious lesion affecting a maxillary tooth in pre-school children may be classified as ECC (3).

Caries in infants and young children has long been recognized as a clinical syndrome which was described as early as the first decades of the last century. Beltrami (1952) described the early caries in children in 1950's as "black teeth of the very young" Fads (1962) in perhaps the best known in this regard as for using the term "nursing bottle mouth" since 1962, a variety of other terms have been used to identify the caries in young children including the terms baby bottle tooth decay, nursing bottle syndrome, bottle mouth caries, rampant caries, nursing bottle mouth, milk bottle syndrome, breast milk tooth decay and facio-lingual pattern of decay. Among all the expressions used to address caries in young children, the role of the baby bottle as an etiologic factor in progression of caries is perceived (4).

Prolonged use of a baby bottle, especially use of the bottle at bet time, is believed to be associated with increased risk for caries, but use of the baby bottle might not be the only factor in caries development in early childhood. Carious lesions are produced from the interaction of Carioqenic microorganisms fermentable carbohydrates, and teeth. Given the proper time, these factors induce incipient carious lesions that continue to progress frequent consumption of liquids containing square can increase the

risk for caries due to prolonged contact between square in the consumed liquid and carioqenic bacteria on the susceptible teeth.

As a result, the center for disease control (CDC) recommended the term early childhood caries to be used to describe any form of caries in infants and preschool children to better reflect the multi factorial etiologic process related to ECC development.

This new name for the old problem reflects on evolving understanding about the underlying etiologic factors of caries in young children. The new term may induce a greater awareness of the importance of other behavioral and demographic factors contributing to ECC (5).

ECC is a series public health problem in both developing and industrialized continues to affect babies and preschool children worldwide prevalence varies from population, however, Children of disadvantaged sub populations, regardless of race, ethnicity or culture have been found most vulnerable. IN these populations, prenatal and prenatal malnutrition are often the causes of enamel hyperplasia, reduced salivary secretion and low buffering capacity.

As with for too many other conditions, ECC is not attributed evenly throughout the population, children from families with low incomes and some racial ethnic minorities are estimated to be affected at higher rates (6). ECC remains a sizable and significant public health problem in developing countries and among minorities in developed countries.

The higher public cost of treating ECC, especially in severe case in need of hospitalization and general anesthesia, implicates a crucial need for prevention of disease (7).

1.2 Statement of the Problem

ECC is the most common infections disease affecting children worldwide. In the USA, its prevalence is estimated to be five times than that of asthma and seven times higher than that of allergic rhinitis (8).

The prevalence of ECC, however, has been shown to be over whelming high among low income and minority populations such as Native Americans, Hispanics, and African Americans in the United States. Hispanics have the highest rate of ECC in both developed and developing countries whit an average prevalence of 13% - 29% second only to native Americans (9).

ECC is an alarming problem because the disease is so common and widespread amongst young children. In facts the prevalence of ECC in children, ages 3 – 5 year in united state head start programs is as high as 90%, In developing countries ECC is a critical problem as well, heightened by extraneous factors such as low income or malnutrition. The prevalence of ECC in these countries is reported to be as high as 10 . Overall, defining ECC is a problematic because the true nature of the syndrome is not clear thus, subsequent recommendations for prevention and treatment may be limited (10).

ECC is most prevalent in minority and poorer populations. In 1993 – 1994, The California oral health needs assessment of children in the head start program demon started that 30% - 33% of Asian and Latino /Hispanic children and ECC, with 49% - 54% of who presented with untreated caries (11).

Relatively few studies cover ECC prevalence in infants and toddlers, and the data available often are grouped in to broad age categories, In general, the prevalence of caries in preschool children seems to be on the decline or the trend has reached a plateau in most of the developed countries (12) but may be increasing inn some developed and developing countries (13). A considerable proportion of preschool thus are still affected by dental caries.

Dental pain associated with ECC is the immediate most common consequence of untreated caries. Children with dental pain have their daily activities, such as eating, sleeping and playing. In addition, such pain can impair school performance and be the reason for school absence (14).

Early deciduous teeth loss can be avoided since those teeth are very important. For an adequate development and growth of maxillary arches, correct connect organization of occlusion and, chewing and speech function. Dental loss can cause such consequences to permanent dentition (15).

When there is early loss in the upper anterior region due to ECC, there might be abnormal swallowing and production of speech sounds, delay or acceleration of permanent teeth eruption, eating difficulty and development of probable orthodontic problems, as well as psychological disorders (16). Robka detected loss of the vertical dimension in 63.3% of the children with extensive carious visions in the upper incisors cause by ECC (17).

Early loss of posterior teeth (deciduous molars) leads to chewing difficulty, In addition to possibility of loss of space for the permanent tooth (18). Moreover, early child hold caries have been associated with later caries experience during child hood and in permanent dentition (19).

The consequences of sever ECC are deeper than pain and infection. Although those are the primary effects, such disease also affects children's general health. Eating disorders caused by severe ECC are more frequently detected due to its direct impact, but there are also problems affecting the child's general health. For instance, it has been found that children with severe ECC have. Significantly lower weight than caries free children. It has been also detected that children with severe ECC weight less than 80% of their optimal weight, being significantly different from those in the control group. In addition, as children with ECC grew older, their chance of having low weight percentages also increased (20).

1.3 Significance of the Study

This research is done to have information about the ECC condition about Ethiopia ,ECC condition in Ethiopia have not been much study so this research will have the following 5 significant
- ⬜ It will be used as a reference for further studies on ECC in Ethiopia
- ⬜ It will be used by public health works and health planers as base line data

❑   To create awareness and to forward recommendation on prevention of ECC

CHAPTER TWO

LITERATURE REVIEW

ECC is a specific form of devastating caries that affect the primary dentition and may begin as soon as the infant tooth erupt. ECC is neither self limiting nor amenable to short term pharmacological management and remains a sizable and significant personal and public health problem (21).

A Comprehensive review of the occurrence of the caries on maxillary anterior teeth in children, including numerous studies from Europe, Africa, Asia, the Middle East, and North America, found the highest caries prevalence in Africa and South East Asia .

In Europe, investigation in England, Sweden, and Finland have reported the prevalence of ECC in those 3 years old to range from below 1% - 32%. The prevalence is as high as 56% in some Eastern European Countries. Caries prevalence in USA preschool children has been reported to be 17%, however, in various studies this prevalence has ranged from 4% to the more than 90% of caries has been as high as 46% in 25 – 36 month olds (22) and 67% in native Canadian three- years-olds (23).

In Asia, in the Far East region which seems to have one of the highest prevalence and severity for the disease, the prevalence in three-years olds ranges from 36% - 85% (24), while in India a prevalence of 44% has been reported for caries in 8 to 48 months-olds (25).

ECC has been considered at epidemic proportions in the developing countries. In the Middle East, the prevalence of caries in three-years olds has been reported as between 22% and 61% (26) and in Africa between 38% and 45% (27).
Oral health provides on over view of global caries epidemiology that confirms its international pandemic distribution. Globally, WHO reports caries prevalence in pre-school age children at 60% - 90% and as virtually universal among adults in the majority of countries. On the other hand August 2005 report revel high on going prevalence of dental caries in children, with 27% of preschoolers, 42% of school age children and 91% of dentate adults having caries experience.

In Iran studies conducted under age three were rare. The country wide report for Iran gives a prevalence of 47% for ECC in three-years-old children using the criteria of two affected maxillary incisors (mean deft = 1.8) It mentions that approximately 98% of the deft is due to caries. As a probable future of these-year-olds, by six years of age the denotes as light increase in the caries experience of three-year-olds (Mean deft = 1.9) As Iran is one of the countries with the youngest populations in the world, 13% under age six, this increase in caries experience should be considered an alarming finding, regarding public health issues (28).

Schwarz et al (1993) conducted a survey to determine the relationship between infant bottle drinking patterns and ECC. The sleeping habits of the child and the contents of the bottle were evaluated. The results indicate that children, Who fell asleep while feeding from the bottle had more cases of ECC than did children who discarded the bottle before falling a sleeping, however, hold more cases of ECC than did children who were not given the bottle at all at bedtime (29).

Socio economic status (SES) and ethnicity has been addressed the risk for ECC, SES is usually a mix of years of education, current income, and occupation on held, social class may influence caries risk in several ways individuals from /over SES groups experience financial social and materials disadvantages that compromised their ability to core for themselves obtain professional health care services, and live in a healthy environment. In addition, low SES individuals have more fatalistic beliefs about their health and have a lower perceived need or care, leading to less self-care and lower utilization of preventive health services.

A discrepancy exists regarding the relationship between parents SES and child hood caries rares. An inverse relationship between caries development in children and higher SES has been shown in several studies, where as some other researchers have failed to show such a clear relationship .

It has been suggested that ethnic minorities show an increased risk for caries. However it has been difficult to separate the cultural influences of ethnicity form. The effects of low SES on prevalence of dental caries. Reports of the influence of ethnicity on caries prevalence are difficult to compare due to the variety of definitions ethnicity, ranging from nationality to origin or roots, and due to variation in confounding factors such as

In Iran, 55% of those entering universities are women. In general 10% of women have a university education, 75% to 80% have an elementary to high school educatory while 10% to 15% of women under 40 in the whole country are literate. The illiteracy rate of women in Tehran is about 5%. One third of family income is devoted to having and less than 10% to health. The average number of children in the family is two and almost 90% of children under three are looked other by their mother. But the prevalence of ECC in this country is 47% which is considered an alarming finding (30).

Bottle-feeding and sleeping with bottle have been considered carioqenic in sever a reports (5,20).42 Milk-based formulas for infant feeding, even those without sucrose in their formulation, proved cariogenic in some studies (31).

Nevertheless, cow's milk contains calcium, phosphorus and case in all of which are thought to inhibit caries and animals studies have shown that cow's milk does not produce caries and that it has cariostatic action instead (32).

Compared to cow's milk, breast milk, breast milk, has a lower content, a higher concentration of lactose (7% Vs 3%) and lower protein content, but these differences are probably insignificant in terms of cariogenicity. The WHO has recommended that children be breast fed until age 24 months, because along with the positive health effects of breastfeeding with lower level of dental caries than with no breast feeding.

On the other hand, some reports suggest prolonged exposure of teeth to day time or night time breast feeding as risk factors for ECC. Based on the reports, weaning from the breast has been recommended dental professionals soon after the child's first birth day. Breast feeding has been assumed to be associated with ECC when the consumption pattern is frequent, prolonged and mainly frequent breast feeding during the night (33).

The recognition that sugars play an ethological role in dental caries has been with us for years. The research in more recent decades has done much to define that role while there is no questions that fermentable carbohydrates are necessary link in the causal chain for dental caries, recent reviews show the association between sugar intake and dental caries to be less strong as in the pre-fluoride era. This suggests that the widespread exposure to fluoride in developed societies has prevented dental caries even when the total amount of fermentable carbohydrates consumed has been high. In developing societies, where fluoride use and other methods of preventing dental caries are less available, an increase in sugar consumption could have a significant detrimental effect on dental health (34).

The available evidence indicates that the level of dental caries is low in countries where the consumption of free sugars is below 15 – 20kg per person per year (35).

For preschool children, however, the total amount of sugar is not predictive of dental caries, but frequent consumption of sugar snacks has been associated with ECC in some studies frequent consumption of sugar favors the establishment of cariogenic bacteria and provides a continuous substrate that influences the initiation and progression of the caries.

Antibiotics as well as other pediatric medicines such as power inhalers and iron drops are considered as sources of sugar intake and are implicated in the increased risk for ECC. The trend to eliminated unnecessary sugars from all medicines should continue and as far as possible, all pediatric medicines should be sugar free.

Caregivers should brush children's teeth twice a bay using a small soft brush with a dab of fluoride tooth paste. Excess tooth paste should be spit out, but rinsing should be discouraged because residual fluoride tooth paste on the teeth increases the caries preventive effect. As young children lack the ability to clean their own teeth effectively, parents are recommended to clean their children's teeth at least until they reach school age.

Tooth brushing a daily basis as opposed to less than daily to be the most important factor related to a decreased risk for ECC. To comparison, other factors such as the frequency to tooth brushing. Not having teeth brushed at bed time and use of fluoridated as opposed to non-fluoridated tooth paste are less important in increasing the risk for ECC (36).

However, most studies report that that the teeth were brushed with fluoridated tooth paste, it is difficult to distinguish whether the effect of tooth brushing is a measure of fluoride application or whether it is the result of mechanical removal of plague. In general, there is convincing evidence for the decay preventing benefit of tooth brushing when used with fluoride tooth paste (37).

The majority of children (76% - 99%) start tooth brushing before two years of age in several developed or developing countries. In Iran, the country wide report states that oral clearing was practiced for only 59% of the three-years-olds, more commonly in children of highly educated portents (38).

For caries development, teeth must be present. Implantation of S.Mutans can occurs only when teeth are present, because the teeth provide a non-shredding surface for colonization of the Micro organisms. The amount of s.mutanous depends on the number of erupted teeth present in the infants mouth oral level of these bacteria, which are generally acquired for the mother, were found to be elevated in children with ECC. The progression of lesions is rapid and this is a result of the enamel in primary incisors being very thing. However, there are reason for lesion development is the presence of s.miutians and fermentable carbohydrate.

First Juices and carbonated beverages have also implicated in children diagnosed with arsing caries. Fruit juices naturally contain a sugar and are in trinsically acidic. Carbonated beverages may have a sugar sweetening agent and an acid PH. When fruit juices are involved in nursing caries, erosion may be the primary enamel change preceding rampant caries. Both fruit juices and carbonated beverages lead to a significant in plague PH.

Children who are malnourished pre, peri-or post natality or who are of low are of low birth weight are linearly to have hypomineralised or hypoplastic primary teeth. These teeth have a higher risk than normal of becoming carious and are more susceptible to mutans streptococci colonization (39).

Tinanoff stated that children with ECC were shown to weight less than 80% of their ideal weight. The pain or infections associated with ECC make it difficult for affected children to eat. Alternatively, poor nutritional practices may be responsible for both the reduced body weight and caries.

It is reported that children with ECC use a bottle, breast or pacifier 8.5hr /day compared to only 2.2hr/ day for children without caries. The frequency of contact of the substrate has a major role in carioqenicity during a 24hr period.

When milk is take frequently over a period of 4 to 6 weeks, there is a greater decrease in plague PH from subsequent milk ingestion (40). On the other hand, research on Flemish preschool children than socio advantaged children. Disadvantaged children in the USA from Hispanic and Africa. American parents had high caries prevalence.

This research is done for the first time in Ethiopia on preschool children's ,which makes it impossible to get national or regional data's for the research.

CHAPTER THREE

OBJECTIVES

3.1 general objectives

To assess the prevalence and associated factors of early childhood caries among preschool children's attending kebuwa rose park academy

3.2 specific objectives

To assess the prevalence of caries in infants and toddlers

To assess the prevalence of ECC with the level of child oral hygiene

To assess the impact of feeding on the prevalence of ECC

To assess the prevalence of ECC depend on the socio demogeraphic variables of parents

To recommend preventive measures to reduce the prevalence of ECC based on the study finding

CHRTER FOUR

METHODS AND MATERIALS

4.1 study area

The study will be conducted in kebuws rose park academy which located in Addis abeba.the school located in N/S/L/S/C. aidss abeba.adiss adiss abeba is the capital city of Ethiopia which is occupied by diversified culture and religion which will be supplemental to the representativeness of the research

4.2 study design and period

A cross sectional study design will be conducted to assess the prevalence of ECC among preschool children's in kebuwa rose park academy in the 2012/13 learning year

4.3 populations

4.3.1 Source population

The source population will be all children attending kebuwa rose park academy which is about 230 students

4.3.2 Study population

The study population will be all preschool children who are present at the time of study

4.4 sample size determination and sampling technique

4.4.1 Sample size

The sample size will be determined based on the assumption of overall ECC condition in 50% of prevalence,5% expected margins of errors,5% non-respondent rate ,95% confidence level.

The sample size will be calculated using the formula

$$N = \frac{Z^2 pq}{d^2}$$

where Z=95% confidence interval=1.96

p=prevalence of ECC in 50%=0.5

q=1-p

d=degree of accurse desired i.e. =0.05

$$N = \frac{Z^2 pq}{d^2}$$

$$N = \frac{(1.96)^2(0.5)(1-0.5)}{(0.05)^2}$$

$$N = \frac{(3.8414)(0.5)(0.5)}{0.0025}$$

$$N = \frac{0.96035}{0.0025}$$

N=384

Since the total number of children attending kebuwa rose park academy during the study period is less than 10,000the final sampling size will be calculated by applying correction formula

$$Nf = \frac{n}{1+n/N}$$

Where N = total no children attending kebuwa rose park acadamey = 230

n = sample size required

Nf = final sample size

$$Nf = \frac{n}{1+n/N}$$

$$= \frac{230}{1+\frac{384}{230}}$$

$$= \frac{384}{1+1.67}$$

$$= \frac{384}{2.67}$$

Nf =144 will be considered a sample size for the study population

4.4.2 Sampling techniques

Simple random sampling will be used for the determination of the study population

4.5 study variable

4.5.1 Independent variable

Age

Sex

Religion

Family income

Tooth cleaning habit

Family education

Feeding habit

Feeding time

4.5.2 Dependent variable

ECC

Oral hygiene status

4.6 data collection instruments

For data collection instruments spatulas, mirrors probes and examination gloves will be used for dental instrument

4.6.1 Data collection methods

The data will be collected through questioner filled by the children's parents and each children's examined by investigator

4.6.2 Data collectors

The data will be collected by a questioner which filled by parents and the oral examination by dental interns

4.7 data analysis

The data collection will be summarized, analyzed manually and the result will be presented using table, graphs' and charters

4.8 Data quality control

The principal investigator will have an on each day during the data collection to ensure the quality

Of the data checking filled questionnaire for their completeness and consistency.

4.9 Ethical consideration

A formal latter of permission will be written from Jimma universality to kebwwa rose park academy to get permission for support during data collection. The objective s of the study will be clearly in informed to the responds the individuals will be questioned politely during examination.

4.10 Dissemination of results

The result of the study will be disseminated to the concerned bodys wich are

- Puplic health and medical collage
- Jimma university research progeram
- Jimma university school of dentistry

4.11 Definition of operational terms

will be evaluated according to

Good –Absence of food debris, plaque, calculus and others.

Fair -state of dental condition with less plaque slight discoloration and massive deposition of food debris and others

Poor -

Plaque -a soft complex microbial community that accumulates on the teeth.

Hypoplasia-in complete development of the enamel of teeth.

Teeth decay   -a location on a teeth so much of the teeth's content dissolvable

S. mutants-a gram +ve facultative anaerobes' batteries found in the oral cavit

Declaifictun.- Is the loss of calcium from the the teeth.

fermentation carbohydrate –sugars that are easily metabolized by the bacteria present in the oral cavity to from acid compounds.

deft. The average number of primary teeth per child which are decreased extracted due to

Child caries and filled

To assess dental caries in a population, a deft index is used. During a systematic examination with a mirror and explorer that includes the crown and exposed root of every primary and permanent tooth, each crown and root are assigned a number based on the result of that exam. The numbers are recorded in boxes corresponding to each tooth to provide a deft chart. It is recommended that care be taken to record all tooth-colored fillings, which may be difficult to detect.

Number are assigned as follows:

☐   0: A zero indicates a sound crown or root, showing no evidence of either treated or untreated caries. A crown may have defects and still be recorded as 0. Defects that can be disregarded include white or chalky spots; discolored or rough spots that are not soft; stained enamel pits or fissures; dark, shiny, hard, pitted areas of moderate to severe fluorosis; or abraded areas.

☐   1: One indicates a tooth with caries. A tooth or root with a definite cavity, undermined enamel, or detectably softened or leathery area of enamel or cementum can be designated a 1. A tooth with a temporary filling, and teeth that are sealed but decayed, are also termed 1. A 1 is not assigned to any tooth in which caries is only suspected. In cases where the crown of a tooth is entirely decayed, leaving only the root, a 1 is assigned to both crown and root. Where only the root is decayed, only the root is termed a 1. In cases where both the crown and root are involved with decay, whichever site is judged the site of origin is recorded as a 1. These criteria apply to all numbers.

☐   2: Filled teeth, with additional decay, are termed 2. No distinction is made between primary caries which is not associated with a previous filling, and secondary caries, adjacent to an existing restoration.

☐   3: indicates for a filled tooth with no decay. If a tooth has been crowned because of previous decay, that tooth is judged a 3. When a tooth has been crowned for another reason such as aesthetics or for use as a bridge abutment, a 7 is used.

☐   4: indicates for a tooth that is missing as a result of caries. Only crowns are given 4 status. Roots of teeth that have been scored as 4 are recorded as 7 or 9. The tooth must be exteracted pre maturely ,tooth exfoliated will not be recoreded

⍰   5:indicated for tooth missing for any other reason than decay . Examples are teeth extracted for orthodontia or because of periodontal disease, teeth that are congenitally missing, or teeth missing because of trauma. The 5 is assigned to the crown, the root is given a 7 or 9. Knowledge of tooth eruption patterns is helpful to determine whether teeth are missing or not yet erupted. Clues to help in the determination include appearance of the alveolar ridge in the area in question, and caries status of other teeth in the mouth.

⍰   6: A 6 is assigned to teeth on which sealants have been placed. Teeth on which the occlusal fissure has been enlarged and a composite material placed should also be termed 6.

⍰   7: A 7 is used to indicate that the tooth is part of a fixed bridge. When a tooth has been crowned for a reason other than decay, this code is also used. Teeth that have veneers or laminates covering the facial surface are also termed 7 when there is no evidence of caries or restoration.

CHAPTER FIVE

WORK PLAN AND BUDGET

5.1.gannt chart showing work plan, the proposed research work

no	Personal involved		Dec	jan	Feb	Mar	apr	May	Jun	july
			Aug	sep						
1	Topical selection	PI								
2	Wrighting first draft	PI+PA								
3	Wrighting 2nd draft	PI+PA								
4	Securing fund collection of material	JU+PI								
5	Training of data collection	PI								
6	Dates collection and documentation	PI+PA								
7	Data analysis and interpretation	PI+DC+RA								
8	Finalizing research proposal	PI								
9	Report writing	PI								
10	Submission of the research proposal	PI								
11	Presentation	PI								

DC=data collector

P I=principal investigator

JU=jimma university CBE office

RA=research advisor

5.2 BUGDET PROPOSAL

I. PERSONAL

1.for training and data collection 3x2=600

2 for typist 150x1=150

II.stationary materials

NO	Lists of items	Units	Qty	Unit price		Total price	
1	Duplicating paper	Pack Of 400	2	120	00	240	00
2	removable disc	Each	1	150	00		00
3	Pen	Each	5	3	50	50	
4	Pencil	Each	4	2	00	00	
5	Stencil	Each	7	5	00	00	
		Total					

Total = I+II

=750+443.50

=1193.50

ANNEX

ANNEX-1 DUMMY TABLE

Table1:-distribution of children by socio-demographic characteristics in kebuwa rose park academy adiss abeba February 2013

Variables		No	%
Age group in month	36-41		
	42-47		
	48-53		
	54-59		
	60-65		
	66-71		
Sex	Male		
	Female		
Grade	Nursery		
	Kindergarten		
Ethnicity	Oromo		

Amhara

Tigrea

Others

Religion Orthodox

Muslim

Protestant

Catholic

Others

Family income per

Month <1000

1000-3000

>4000

Level of mother

Edcuation   Illiterate

Primary

Secondary

Diploma

Degree and above

Total

Table 2:- deft teeth by age among preschool children attending kebuwa rose park academy adiss abeba feburary 2013

Age group in Month	no	Decayed primery Tooth	Extracted primary Tooth	Filled primary Tooth	Deft index
40-36					
50-41					
72-51					
Total					

Table 3:- distribution of deft by teeth affected among preschool children attending kebuwa rose park academy ,adiss abeba,feburery 2013

Type of tooth		Decayed		extracted		filled		Deft index
		no	%	No	%	No	%	
Primary incisor	Max							
	Man							
Primary canines	Max							
	Man							
Primary first Molars	Max							
	Man							
Primary second Molar	Max							

Man

Total

Table 4:- distribution of state of oral hygiene and early child hood caries among preschool children attending kebuwa rose park academy,addis abeba,feburary 2013

State of oral

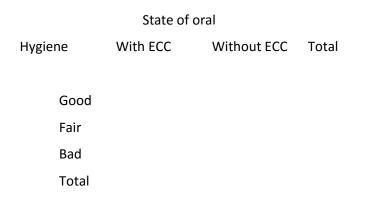| Hygiene	With ECC	Without ECC	Total
Good			
Fair			
Bad			
Total			

Table 5:-association of prevalence of ECC with bed time feeding habits frequency of tooth cleaning, duration of bottle and breast feeding in kebuwa rose park academy feburwrey 2013

Variables	Feeding method	With ECC		Without ECC	
		No	%	no	%
Bed time feeding					
Habits	Breast				
	Bottle				
	Both				
	None				
Duration of bottle					
Feeding	<3 month				
	4-6 month				
	>7 month				

Duration of breast

feeding   <3 month

4-6 month

>7 month

Tooth cleaning

Frequency   Once in a day

2-3time in day

Once in a week

Irregularly

Total

Table 4:- association of prevalence of early childhood caries with sociodemographic characterstics in kebuwa rose park academy adiss abeba February 2013

Variables examination	No	With ECC		Without ECC	
		no	%	No	%
Age group	40-36				
	50-41				
	72-51				
Level of mothers Education	Illiterate				
	Primery School				
	Secondary school				
	Diploma				
	Degree and Above				
Family income	<1000				
	1000-3000				
	>4000				
Ethnicity	Oromo				
	Amhara				
	Tigerea				
	Others				
Grade level	Nursery				
	kindergarten				
Total					

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ANNEX II

QUESTIONER

JIMMA UNIVESITY

Medical sience school of dentistery

This questioners design ed to asses the prevalence of early child hood caries among preschool childrens

attending kebuwa rose park academey

Instructions

1) this questioner will be filled separetly and discussion is not allowed

2)if ther is any problem in understanding the questions openly because

All personal information will kept confidential

Thank u

partI sociodemographic characteristics

1)sex   male   femal

2)ethinicity   oromo   amhara   tigera

Others(specify)…………………………………………..

3)religen   orthodox   muslim   protosteant   catholic

Others(specify)……………………………………………………………

4) What is the level of child education ?

Nursery   kindergarten   not learning

5) Family income per month …………….. birr

6) Level of mothers education

Illiterate   primary school   secondary school   diploma

Degree and above

Part II questions related to feeding habits and snacking

1) How long has the child been breast feed?.........months

2) At what age did the child get introduced to the bottle?........month

3) What is the duration of bottle feeding?............months

4) What is the most frequent content of the bottle in day time?

Breast milk   cow's mile   formula   water

Other (specify)…………………………………

5) What does the child have in her/his mouth after bed time?

Breast   Bottle   Both   None

6) What do u   usually do to make the child sleep if he/she wakes up in the night?

Breast feeding   bottle containing only sweet liquid

Bottle containing inly milk

Bottle containing water   other (specify)…………………………………

7) How many times do you feed your children during the night?

Once   twice   3-4 times   more than5 times never

8) How often does the child takes sugar meals or drinks in a day?

Once   twice   3-4twice   occasionally

Part III practice related to child's oral hygiene

1) Do u clean your child tooth?   Yes   no

2) If yes for the question 19, what is used to clean the teeth of the child?

Gauze   tooth brush   water   stick

3) How often are the child teeth usually brushed or clean?

Once a day   2 times a day   once a week   irregularly

4)who performs the child's tooth brushing?

The child alone   adults   another child's

The child with supervission

5) When do you clean your child tooth?

In the morning   after each meal   before bed

When she/he feels cleaning

Part IV oral hygiene examination

1) Oral hygiene status   good   fair   bad

2) Mark the following abbreviation of words in site of decayed, extracted due to caries and filed
Primary teeth in the table

55	54	53	52	51	61	62	63	64	65

85   84   83   82   81   71   72   73   74   75

d- decayed primery tooth

e- extracted primary tooth due to careis

f- filled primary teeth

fair- state of dental condition with les plaque, slight discoloration and marked deposition of food debris and others

Good - absence of food debris, plaque, calculus and others

Bad – state of dental conditions with marked plaque clear discoloration and marked deposition of food and others.