Republic of Iraq
Ministry of Higher Education
& Scientific Research
University of Baghdad
College of Dentistry

Effect of Dental knowledge and behavior on dental caries among children.

A project

Submitted to the college of dentistry, University of Baghdad Department of Preventive Dentistry in partial fulfillment for the requirement to award the degree B.D.S.

Submitted by

Riyam Ahmed Abdulhussein

5th Grade

Supervised By

Dr. Muna Abdullah Saleem

B.D.S., M.SC.

2018 A.D **1439 A.H**

Supervisor Declaration

This is to certify organization and preparation of this project has been made by the graduate student Riyam Ahmed Abdulhussein under my supervision **at the College of Dentistry, University of Baghdad in partial fulfillment of the requirement for the degree of B.D.S.**

Signature:

Dr. Muna Abdullah Saleem

B.D.S.M.S.C.

Dedication

For my mother

For my father

For my brothers

For my friends

Thank you for your support, Love and Help.

ACKNOWLEDGMENT

Firstly, and lastly, all gratefulness and faithfulness thanks and praises are to **'ALLAH'**. I would like to thank the **Professor Dr**. **Hussein Faisal Alhuwaizi,** the dean of the College of the Dentistry, University of Baghdad. I would also like to convey appreciation and thanks to Assistant Professor **D**r. **Nada Jaafar AL Sheikh the head of Department of Pedodontics and Preventive Dentistry**, where the first step of my study has begun, for her efforts with us and gave us the scientific advices and information that will help us in the future.

I would like to extend my deepest respect and gratefulness to Assistant Lec Dr. **Muna Abdulla Saleem** for her patience, encouragement, meaningful and valuable instructions, advice and kindness inside and throughout working this project. Finally, I wish to thank my cousin **Ali Mohammed Jalil** for his support and help.

List of contents

Acknowledgement	I
List of content	II
Introduction	1-2
Review of Literature	
1. Oral health	3
2. The Relationship Between Oral Health and General Health	4
3.The Status Of Oral Health in Iraq	5
4. Oral Health Portioning and Maintaining	5
5. dental caries	7
6. Epidemiology of dental caries	8
7. Risk factors affecting dental caries	8
8. Children's Knowledge Regarding Oral Health	11
9. Children's Behavior Regarding Oral Health	12
10. previous studies	13
Conclusion	16
References	17

Introduction

A good oral health is the state of mouth free of any disease affecting the oral cavity and its surrounding structures. Oral health has remained as an integral part of an individual's general health and over all well-being. Maintaining good oral hygiene is one of the most important things for healthy teeth and gums. Good oral health not only enables a person to look and feel good, it is equally important in maintaining oral functions. (Chaloob E.;2013).

The occurrence of two most common diseases of the oral cavity, dental caries and periodontal disease, as well as reduction in their distribution significantly depend on the knowledge about their origin and measures for their prevention. Health education plays a role in promotion of the right information in order to prevent these diseases. Health education aims to develop responsibility in every individual for their own health, health of the nearest environment as well as for communities where we live and work. (Albander JM; AND Ram TE)

In the domain of dental care, health education role is to inform and motivate individuals and society in total to preserve the health of mouth and teeth. The role is also to promote the establishment of regular and proper oral hygiene habits, establishment of proper nutrition, as well as the use of fluoride. Oral health is largely dependent on habits, and behaviors that are current hygienic-dietary habits in the family. (Naaom,2009).

The parents, as the highest authority, have a high importance in forming the personality of the child with the positive behaviors towards oral health by their health education influence on children. Studies have shown that children, who visit the dentist more often, are more informed about teeth and mouth health. However, implementation of existing knowledge greatly depends on motivation of patient (possible children) to preserve one's own health, but also on the motivation and commitment of parents. Al-Caesy M. (2000)

Health education program should be based on active learning process and education, both in preschool and school children, their parents and the whole community. The role of dentists is essential in children and parents counseling,

as well as in finding an adequate way for the implementation of preventive measures. Recent researches show that the oral health of school children must be improved and school health education programs are needed for health promotion. Biesbrock AR (2003)

The engagement of parents and teachers in these programs is essential. Various literature data indicate that the most efficient and economically most cost-effective method of oral preventive program worldwide is the School Dental Care(SDC). It is particularly significant because schools may include those children who cannot come (due to socioeconomic reasons), do not want to come (because of fear) or who are not sufficiently motivated and interested in coming for regular checkups and dental repairs. Habits of regular and proper oral hygiene accepted during childhood are extremely important for the preservation of health of teeth and mouth through life. Improvement of oral-hygiene habits led to enhanced dental health in the elderly population. Al-Caesy M. (2000)

1.Oral health

Oral health is the key factor for elimination of many health problems, has received considerable attention among the health care community and people. The focus of most research and studies on the seriousness of these health problems on children and society, and the concern is that children may not pay attention to the behavior of the correct treatment and prevention methods. It means more than healthy teeth and absence of the disease; it involves the ability to carry out essential function such as Dental, oral, and craniofacial, the mouth includes not only the teeth and their supporting tissues but also the hard and soft palate, It has been found that dental caries and tooth loss remain significant problems affecting the Nation's oral health (Mafuvadze et al., 2013).

Although average dental caries rates for school –aged children have declined, nearly a half of all children still have caries. With advancement in oral health promotion and preventive measures more people retain their natural teeth into their old age as compared to half a century ago. The effect on the oral health includes the effect on oral mucosa, lips, teeth and other associated structures, and their functional activity leading to impairment of speech, mastication, swallowing and pain leading to anxiety and depression (Kaur et al.,2011).

Many epidemiological studies agreed that, oral health is an essential compartment of health through life. However, millions of individuals suffer from dental caries and periodontal disease resulting in unnecessary pain, difficulty in chewing, swallowing, speaking and increased medical coast. Untreated oral disease in children frequently led to serious general health problems, significant pain. And interference with eating and lost school time (Gathrecha et al,.2012)

2.The Relationship between Oral Health and General Health

Several dental problems in children and adolescence also have been negatively associated with psychosocial well-being. Dental pain affects emotional stability of children and engaging in playing (Smyth et al.,2007).

Oral health has a critical impact on the functional, psychological, and economic aspects of the overall quality of life of individuals. The oral cavity is portal of entry for microbial infections. Bacteria from oral flora have been received from infection sites in other organs of patients with endocarditis or aspiration pneumonia. Oral infection-induced periodontal disease has also been associated as a risk factor for several cardiovascular diseases because cytokines elicited by oral inflammation might mediate the initiation/progression of these diseases (Kaur et al., 2011).

Miller et al., (2011) found that the daily reality is continuous dental pain, endurance of dental abscesses infection in the mouth, inability to chew foods well, embracement, about discolored and damaged teeth and distraction from play and learning. Acute pain caused by dental caries has a strong effect on children, families, and systemic that is often equal to and sometimes greater than the effect of asthma.

National academy of sciences (2011) found that the mouth as a mirror of health and disease occurring in the rest of the body in part because a through oral examination can detect signs of numerous general health problems, like nutritional deficiencies and systemic diseases, including microbial infections, immune disorders injures, and some cancers. In addition, there is mounting evidence that oral health complications not only reflect general health conditions but also exacerbate and even initiate them.

Dental health plays a key role in the overall health status and quality of life of children, it may also affect several aspects of child development and growth. good dental health enhances the child's ability to develop several physical and social functions such as feeding, breathing, speaking, smiling and social adaptation (Guranizo-Herre- no and George. 2012)

Study by American Academy of Pediatric Dentistry (Thikkurissy et al.,2012) children and adolescents with oral health problems are more likely to feel worthless and inferior, shy, unhappy, sad, or depressed and are less likely to be friendly compared with those without oral health problems. Early tooth loss caused by tooth decay can result in failure to grow properly, impaired speech development, and reduced self –esteem.

3. The status of oral health in Iraq

Previous reports on the sweet preferences and dental caries in Iraqi children demonstrate that the level of sugar intake was high. Urban individuals showed a much higher performance and consumption of sugar than their rural counterpart Within the urban population individuals who had lived longer in the city and who were from families with lower educational backgrounds had the highest levels of sugar consumption. finally, the observed disease in the caries prevalence among children after years of economic sanitation was attributed to the low availability of sugar (ahmed et al., 2007).

AL-Sadam (2013) reported that were conducted concerning the assessment of nutritional status among different age groups children and different geographical Locations; results showed that manipulation may affect the oral health.

In Iraq it has been found that the prevalence of dental caries varied from one to another geographical location. Furthermore, these the nutrition status as caries experience was higher among malnourished children (Mohammed results showed that the prevalence was more among people living in urban area than those living in rural area. The prevalence of dental caries in Iraq was related to, 2013).

4. Oral health promoting and maintaining

According to (Gherunpong et al., 2006) to overcome the high prevalence of oral disease in developing countries, the need for community – oriented preventive program is emphasized. Oral health education is believed to be a cost – effective method for promoting oral health if done through schools, where all children irrespective of their socioeconomic status or ethnicity can be reached. According to adequate oral health practices occur due to healthy attitudes which in turn develop due to proper knowledge.

According to Willerhausen et al., (2007) to maintain oral health, several factors such as food low in fermentable carbohydrates, oral hygiene techniques, adequate fluoride supplement, as well as regular dental examination have to be taken into consideration. Different national preventive programs during the last decades are responsible for a significant decrease in dental decay, partially in children and adolescents.

Quandt et al., (2007) found that maintaining proper oral health patterns affects overall health in two ways. First, poor health alters behavioral patterns which lead to poor physical and mental health. Pain and problems with teeth can often cause patients to modify their diet and eating habits, making it difficult to eat a nutritious diet. Similarly, poor oral health has smiling, and interacting in social situations, affecting a person’s quality of life. Secondly, poor oral health has been

related to systemic health problems. Researcher has shown association between chronic oral health infections and stroke, heart and lung disease.

According to Miller et al., (2011) many reasons explain why preventable oral diseases remain widespread in children and why caregivers may not adopt preventive practices that are effective in maintain oral health. The hypothesized, that caregiver literacy may be an important explanatory variable in oral health behavior and the development of the dental caries among children. Caregiver literacy is related to other health outcomes among young children and may represent a mutable factor for overcoming dental health disparities.

Ramroop et al., (2011) the use of teachers in school health education and health promotion holds many advantages including continuity in instruction being given, integration of general and oral health with other activities as well as the overall low cost associated with such program. In addition to the direct benefits to the students, school health education and health promotion program which include health promotion for staff have been shown to have beneficial effects for teachers in terms of reduced teacher absenteeism and improved morale and quality of classroom instructions. Gathecha et al., (2012) found that in several industrialized countries the prevalence oral health care program and changed in living conditions and lifestyle in developing the countries.

According to Prendergast (2012) the maintenance of oral health is dependent upon trade of factors: Hydration of tissues, the cleansing, microbial properties of saliva, and debridement of the teeth and tongue. Oral care regimens to support and enhance the interrelated components have been well developed in the out-patient setting, but less well developed for the critically ill. Hydration of oral tissues is attributed to oral intake as well as the lubrication properties of saliva. Among healthy individuals, an intake thirst mechanism will prompt individuals to drink fluids, thereby receiving direct moisture to oral tissues while maintain a positive fluid balance, during times of fever, stress, hypovolemic, or with ingestions of certain medication.

The social and economic factors of the population need to be taken into consideration. Therefore, developing an effective oral health promotion strategy in any given community must be based on and in-depth understanding of the unique needs of the population. A simple assessment of the knowledge, practice, behavior levels may be the first step in identifying areas of weakness (Ashkenazi and Al-Sane, 2013).

5. Dental Caries

Dental caries is a complex, chronic, multifactorial disease and one of the most prevalent diseases in industrialized and developing countries. Caries appears to concentrate in specific groups of individuals. The phenomenon is termed as polarization and its cause remains obscure, representing one of the epidemiological disease aspects in which a portion of the population is in most need of treatment.

Dental caries is used to describe the signs and symptoms of a localized chemical dissolution of the tooth surface caused by metabolic events taking place in biofilm dental plaque covering the affected area; and the destruction can affect enamel, dentin and cementum (Ja'far, 2011) and (Mohammed, 2013).

Advancing Oral Health in America (2011) identified dental caries as the term is used in the singular and refers to the disease commonly known as the tooth decay, the single most common chronic childhood disease. Today, dental caries remains a common chronic disease across the life span in the United States as well as around the world.

Dental caries remains a major oral health disease affecting children worldwide. While the prevalence and severity of dental caries in most industrialized countries have declined substantially in recent years, in developing countries the prevalence is predicted to increase. This disparity between industrialized and developing countries has been attributed to preventive oral health care programs adopted by the former and changes in dietary habits coupled with inadequate exposure to fluorides in developing countries (Gathecha et al., 2012)

Surbahar et al., 92013) indicated that during the past two decades, the levels of dental caries have increased in children and adolescents in developing countries, in contrast to developed countries.

6. Epidemiology of Dental Caries

According to Al-Chalabi (2011) Iraq is one of the developing countries that showed an alarming increase in caries prevalence and intensity.

(Gurinzo-Herrno and George 2012) explaining that caries prevalence as well as caries severity was increased in developing countries while the inverse was seen in industrialized countries. This was attributed to the implementation of preventive measure like water fluoridation, introduction of fluoridation tooth paste, mouth rinses and changes in diet habits to dental education. Although there

has been general improvement in children's health over recent decades, dental problems are still highly prevalent during childhood.

7. Risk factors affecting Dental caries

1.7.1- Race or Ethnic Group:

Certain races enjoy high degree of resistance to caries. These beliefs have faded as evidence suggests that these differences are more due to environmental factors than inherent racial attributes. Non-European races such as African and Asian enjoyed freedom from caries than Europeans. Moreover, certain groups, once thought to be resistant to caries became susceptible when they moved area with different cultural and dietary pattern .Many epidemiological studies showed that race or ethnic background was found to be a factor influencing caries. Many of these studies indicate that the prevalence and severity of dental caries higher in black people than white people (Bedi and Elton, 2001).

1.7.2. Age

Age considered of the factors that causes a childhood disease. The carious attack is spread out more through life and caries has to be viewed as a life time disease, where caries experience is sever, the disease seems to start early and it is common in young (kawamura,2008).

Al-Ghalebi (2011) the variation in the prevalence of dental caries affects humans of all age groups particularly children where caries disease is one the rise. In primary dentition, dental caries was found to continue increasing till age six, while a decrees in disease was recorded in years after.

Al-Aazzawi (2013) found that caries lesions that results in cavitation are irreversible and therefore accumulative with age, there is strong correlation between age and dental caries. It was found that by age six years old about 20% of children have experienced dental caries in their dentition.

1.7.3 Gender

Gender is another factors affect and cause caries rates are higher in women than in men. There is an evidence has been provided to demonstrate that caries risk factors for women include a different salivary composition and flow rate,

hormonal fluctuation, dietary habits, genetic variation, and particular social roles among their family (ferraro and Vieria ,2010).

In study by (Lukacs and largaespada, 2006) when dental caries rates are reported by six, females are typically found to exhibit higher prevalence rates than males. This finding is generally true for diverse cultures with different subsistence systems and for a wide range of chronological periods. Exceptions the caries rates for females are approximately twice the frequency of caries among males.

Lee et al., (2012) think the underlying mechanisms of any generic contributions to the increased prevalence of caries in females versus males can be speculated to reside in the sex chromosomes, exhibiting sex-linked modes of inheritance

1.7.4 Diet

The development of dental caries by the action of food in mouth is the most significant effect of nutrition on the teeth. Come specific cariogenic bacteria the progressive destruction of enamel, dentine and cementum. Oral bacteria ferment dietary carbohydrates including sugar, as un energy source and produce lactic acid which can cause demineralization on the susceptible tooth surface. Saw et al., (2012)

Chaloob (2013) found that it is becoming increasingly evident that food and nutrient intake throughout the life exerts profound influence on the level of health as well as the susceptibility to a wide variety of diseases, including those of oral cavity. Tooth calcification and development could be affected by nutritional imbalance, nutrition could have a strong impact on oral health and there is no question about the importance of childhood nutrition on children's health.

1.7.5 Fluoride

Fluoride is another factor affecting teeth and play a key role in the prevention and control of dental caries. There is no doubt that the discovery of the anti-cariogenic properties of fluoride was one of the most important landmarks in the history of dentistry (Fejerskov, 2004).

In the world oral health report 2003 it has shown that fluoride is most effective in dental caries prevention when low level of the fluoride is constantly maintained in the oral cavity.

(Gherunpong et al., 2006). According to Lreland (2006) Fluorides mouth rinse or toothpaste, as well as from professionally applied fluorides, or from other sources The use of fluoride toothpaste reduces caries susceptibility as fluoride is

applied to the surface of the teeth. In Iraq, epidemiological studies have been conducted to determine the concentration of fluoride in drinking water.

Ahmed et al., (2007) And Al-Ghalebi (2011) showed that the concentration of fluoride in drinking water of different governorates in Iraq is ranging from (0.12-0.22) ppm.

1.7.6 Familial Heredity:

Family studies have shown that offspring have the same score as parents and this happens due to transmission of dietary and oral hygiene habits through family Mansbridge found a greater resemblance between identical twins or fraternal twins than unrelated pair of children. Vakani et al., (2001)

1.7.7 Socio Economic Status

It is difficult to correlate caries pattern with socioeconomic status due to its complexity. It is noticed that low SES groups have more number of decayed & missing teeth but less number of filled teeth and vice versa in high SES group. Good economic status and social pressure is the direction of good appearances are both strong factors in creating demand for dental treatment. AL-obaidi W and; and AL-droubi R (2005).

8. Children's Knowledge Regarding Oral Health

Child Knowledge is the capacity to acquire retains and uses information, which is a mixture of comprehensive experience, understanding and skill (AL-Eissa,2004).

According to (Smyth et al.,2007) the study of knowledge. A fund of information that enable an individual to have confident understanding of subject with the ability to use it for a specific purpose

(Mahdi,2013). It refers to the right response given by children to the questions asked by the investigator regarding oral health.

While Ghasemi, 2012) showed the major challenge for the future of peoples' oral health will be to translate knowledge and experiences of disease prevention into action programs. Dental caries initiation and progression has been improved in recent strategies. Dental professionals are expected to update their practice

according to the evidence-based knowledge which emphasize continuous changed in dentists' education.

Burkiene and Aleksejuniene, (2013) showed that health education is one of the health promotion strategies which, in order to achieve optimum health, focuses on knowledge and behavior changes.

(Kamolmatyakul, 2012) The appropriate oral health education can help to cultivate healthy oral health practice providing adequate information, motivation and practice of the procedure.

(Medical Journal 2013) Oral health knowledge is considered to be crucial for developing healthy behaviors, and it has been shown that there is an association between increased knowledge and better oral health. Optimum health related practices are more likely to be taken up if an individual feels a sense of better control over their health with better understanding of diseases and their etiology.

Preventive dental knowledge is the precursor of the reduction of caries prevalence. It was noticed that young children's oral health conditions were influenced by their parents' knowledge of dental preventive measures. These included good oral hygiene, healthy and balanced diet and periodic dental clinic visits in which topical fluoride and pit and fissure sealant applications could be obtained. (Medical Journal 2013).

According to Suprabha et al., (2013) although adolescence have a basic knowledge health, like importance of proper brushing and diet in preventing dental caries, many failed to brush their teeth effectively and tend to consume cariogenic food. They may underestimate health risk and tend to oppose their parents and teachers making it the most difficult period for health education.

Ibrahaeem, 2013 found evidence had showed that strong knowledge of health demonstrates better oral care practice, Similarly, those with more positive outlook towards oral health are influenced by better knowledge in taking care of their teeth and further oral health education can help to cultivate oral health practice. It has been found that positive outlook towards oral health are predisposed by better knowledge the children may have in how to take care of their teeth.

Moheet and Farooq, (2013) one study suggested that children with adequate knowledge of oral health maintenance were less likely to develop dental caries that were those with insufficient knowledge.

9. Children's Behavior Regarding Oral Health

It is considered to respond positively or negatively towards certain idea, project, person, or situation (join business dictionary,2013).

It's the application of rules and knowledge that leads to actions, It is all that comes from student of primary schools about different responses about the behavior related to oral health.

It is agreed that high-risk behavior, cultural belief and health care delivery factor, are a problem. This is particular so in socioeconomically developing countries where changes from a traditional to a more Western-style diet have implicated increased sugar consumption from food (Kiwanka et al., 2004).

On the other hand, the American Dental Association recommends that to avoid oral diseases, individual should brush and floss at least once a day and visit a dentist regularly. Dental flossing and tooth brushing are the most commonly performed oral self –care behavior (Farsia et al., 2004).

Oral health behavior is essential for planning and evaluation of oral health promotion programs, Brushing and flossing are practices to maintain good dental health. Regular dental visits are equally important in maintaining oral health (Muttappillymyalil,2009).

(Peker et al., 2010) explain that oral heath behavior must improve to serve as positive models for patients, families, and friends.

Brukiene and niene, (2012) found that as unhealthy behaviors are difficult to change during the adult years, it is important to intervene before problematic behaviors became established by using diverse educational approaches targeting individuals at different stages of behavioral development and with different cognitive abilities.

Study by shard et al., (2013) the planning for most of the comprehensive oral health care programs is based on the information gathered from surveys for oral health status assessment. Oral health and general health status depend on dynamic interplay of many factors, including the individual's personal characteristics, and their behaviors and perception. There are many of behaviors. But in health context the most relevant are those that relate to risk of developing disease or health problems. The oral health behaviors relate to the individual's lifestyle, and influences health of the mouth of un individual.

10. Previous studies

1.10.1 Oral health knowledge, behavior of children and adolescents in china:

A study to describe oral health behavior, illness behavior, oral health knowledge and behavior among 12-years old and 18-years old Chinese, to analyses the oral health behavior profile of two age groups in relation to province and urbanization, and to assess the relative effect of socio-behavioral risks factors on dental caries experience.

1.10.2 Self-Reported knowledge and behavior related to oral and dental health in Turkish children:

The study was to present oral- and dental health- related knowledge and behaviors of children who presented to Akdeniz-University Medical Faculty Pediatric Outpatient Clinic between March 1 and May 1, 2006 for non-dental health reasons. Method: data were collected from a total of 173 children. A survey which contained questions about the children's oral health was completed using face-to face interview technique. Results: forty-eight percent of the children were 5-6 old and 68.8% were not going to school. It was determined that 43.3% 0f the mothers of the children in the study had a primary school level of education and 74.6% were housewives and

It also was determined that 49.1% of children had never had a cavity ,43.4% stated that they brushed their teeth after males. And 30.6 stated that they brushed at least once a day. There is a significant relationship was found between the children's ages and having a caries in the study. There also was a significant relationship between parent's tooth brushing habit and the children's tooth brushing, and between the parents' frequency of tooth brushing (Efe and sarvan, 2007).

1.10.3 Oral health knowledge and behavior among Saudi School Students in Jeddah City:

To assess the knowledge and behavior in relation to periodontal health status among Saudi intermediate and high school students living in Jeddah Kingdom of Saudi Arabia. Methods a dental health questions were distributed to a random sample of total 2586 Saudi students from intermediate and high school, aged 12-18 years residing in Jeddah.Results while about 87.1% knew that tooth brush helps prevent periodontal disease, only 33.1% knew that using dental floss helps in preventing periodontal disease. Females used brushing and flossing more than males while males used miswak more than females. Dental pain was found to be the main reason for visiting the dentist among the target group (Farsia., et al 2004).

1.10.4 Oral Health knowledge, and behavior among school Children in North Jordan:

This study was to assess the knowledge, and behavior of school children towards oral health and dental care as well as to evaluate the factors that determine these variables. School children of an average age of 13.5 years attending public schools in North Jorden were recruited into this study. The subjects completed a questionnaire that aimed to evaluate young school children's behaviors, knowledge, and perception of their oral health and dental treatment.

The participant's oral hygiene habits (such as tooth brushing) were found to be irregular, and parent's role in the oral hygiene habits of their children was limited. The study population showed higher awareness of caries than periodontal conditions.

1.11 The Iraqi Studies

1.11.1 Dental Health Knowledge and Behavior in Al-Najaf city:

The oral health education and knowledge for groups of 300 adults and 369 children were randomly selected from Najaf city in (Najaf government), 160 kilometers south of Baghdad. The results showed that the adults and children have acceptable dental health knowledge (67%) and good dental behaviors as the brushing (about 91% for adults and 87% for children) even once every week. The study reveal that about (32% for females and 31% for males) they never visited the dentist because no pain, a financial problem, and fear or dental anxiety made a strong barrier for them to seek dental care. While about (69% males, and 67.5 for females), they usually visited dentist because of pain, extraction, filling, and gingivitis the main causes for the visiting the dentist. The main sources of dental health education were the (TV) and reading for adults (for males about 65.5% and about 49% for female) and the school for the children (Ibrahim, 2013).

1.11.2 Oral health status, knowledge and behaviors among children and adolescents (8-15) years old in the cities of Baghdad and Thamar:

Investigation dental health knowledge among children is important. knowing what behaviors are right in relation to dental health does not guarantee that children will practice those behaviors. However, lack of knowledge and misconceptions about dental health may lead to behaviors that are harmful to teeth and gum. Baseline data on knowledge levels are required to determine which

particular areas of dental health are need of improvement for high-risk children living in different geographical areas.

This research was conducted to study the oral health status, dental knowledge and behavior in relation to two different cities, among children in Baghdad and Thamar (republic of yamen) governorate.

This study was recorded that the age group 12-15 years' old the significant difference was found in relation to gingival health condition, the dental knowledge and behaviors was the highly significant difference was fond between Baghdad and Thamar groups. As well as highly scores of dental knowledge and behaviors was significantly related to the dental plaque for both Baghdad and Thamar group. The difference in the geographical location could effect on oral hygiene, dental health knowledge and behavior of the children and adolescent (chaloob, 2013).

Conclusion

1- There is a significant relationship between child's knowledge related to oral health and their demographical characteristics (like age, education, level of their father and mother, occupation of the mother and socio economic status of the family).
2- Family remains the main way by which children learn about oral health.
3- The Ministry of Education in Iraq should be included an instructional program about oral health aspects of school health services in their curriculum of the schools.
4- The school health policy should be used to promote oral health by provision of oral health instructions and highlighting harmful dietary habits and practices.
5- Prevention practices such as regular dental checkups should be advocated and promoted in schools.

REFERNCE

A

1- **Ahmed N.; Anne N.; Astrom A.; and Bergen N**.; "Dental caries prevalence and risk factors among 12-year old schools from Baghdad, Iraq: a post-war survey International Dental Journal, 57 (1), P. 37, 2007.

2- **Al-Aazzawi N.;** "Selected Salivary Constituents, Physical Properties v and Nutritional Status in Relation to Dental Caries Among (4-5) Year's Old Children (Comparative Study)", the University of Baghdad College of Dentistry Master thesis, P.7, 2013.

3- **AL-Eissa D.;** Oral health status of Preschool Children Aged 3-5 u Years old and its Relation to their socioeconomic status, and Parental Dental Knowledge, Behavior and Attitude in Two Different Social Areas in Baghdad City" the University of Baghdad College of Dentistry Master thesis, PP. 24, 26, 2004.

4**- Aleksejuniene1 J.; and Brukiene v.;** parenting style, Locus of Control, and Oral Hygiene in Adolescents". Medicina (Kaunas), vol. 48(2), PP, 8-102, 2012.

5- **Al-Ghalebi S.;** "oral Health Status and Treatment Needs in Relation to Nutritional Status among 9-10 Year-old school children in Nasiriya City /Iraq", the University of Baghdad College of Dentistry Master thesis, PP, 5,8, 10, 2011.

6- **AL-Sadam N.;** Oral Health Status in Relation to Nutritional and Social Status in Kerbela a Governorate for Primary School Students Aged 12 Years old" the University of Baghdad College of Dentistry Master thesis, P. 1, 2013.

7- **Ashkanani F.; and Al-Sane M.** Knowledge Attitudes and Practices of Caregivers in Relation to oral Health of Preschool Children", Journal of the Kuwait University Health Sciences Centre, Vol. 22(2), 2013.

8. **Albander JM and; Rams TE**; "Global epidemiology of periodontal diseases an over view". Vol 20 P.2 ,2002.

9- **AL-Caesy M .** An investigation of the dental health education program of Jefferson country department of health in Birmingham. Master thesis submitted to the collage of Dentesrty University of Anama, P,2.3 1986.

10- **AL-Obaidi W and AL-Droubi B.** Severity of dental caries in relation to family size and other socioeconomic factors among a group of children in Baghdad, Iraq. J Coll Dentistry 2005.

B

1- **Brukiene V and ; niene J.;** Is the authoritative parenting model effective in changing oral hygiene behavior in adolescents?", Health Education Research, Vol. 27(6), PP. 1081-1090, 2012.

2-**Bedi R.; Elton RA** dental caries experience and oral cleanliness of Asian and white cacuasian children aged 5-6 years attending primary school in Glasgow and Trafford UK. Community Dental Health vol 12,. P ,8 ,2001.

3- **Biesbrok AR Walters PA, Bartizek RD.** initial impact on a national dental eduation program on the oral health and dental knowledge of children. Vol 15, P, 2003.

C

1- Chaloob "Nutritional Status in Relation to Oral Health Status among Patients attending Dental Hospital", the University of Baghdad College of Dentistry Master thesis, P. 23, 2013.

2- **Chaloob E.;** Oral health status, dental knowledge and behaviors among children and adolescents (8-15) years old in the cities of Baghdad and Thamar". J Bagh College Dentistry, Vol. 250(4), 2013.

D

1- **Damle S.;** "Pediatric Dentistry" in Development of Dentition and Occlusion, third Edition, Reserved with publisher, PP, 33, 40, 112, 1 13, 262, 2009.

E

1- **Efe E.; and Sarvan S.;** Self-reported knowledge and behaviors related to oral and dental health in Turkish Children National Library of Medicine, Vol. 30 (4), PP. 46-133, 2007.

F

1- **Farsia J.: Farghalyb M.; Farsi N.;** "oral health knowledge, attitude and behavior among Saudi school students in Jeddah city". Journal of Dentistry, Vol. 32, PP. 47-53, 2004.

2- **Fejerskov O.;** "Changing Paradigms in Concepts on Dental Caries: Consequences for Oral Health Care Caries Research, Vol. 38(3), P. 187, 2004.

G

1-**Gathecha G Makokha A.; Wanzala P.; Jared Omolo W.; and Smith p**.; "Dental caries and oral health practices among 12 years old children and in Nairobi West and Mathira West Districts Keya**",** Pan African Medical Journal, Vol. 12 (42), P.2 , 2012 .

2- **Ghasemi H.;** "Dentist and Preventive Oral Health Care ", intech, 2012.

3- **Gherunpong S.; Sheiham A.; and Tsakos G.;** "A Soccidental approach to assessing children's oral health needs: integrating an oral health-related quality of life (OHRQoL) measure into oral health service planning", World Health Organization, P.37, 2006.

4- **Guarnizo-Herre no S.; and George L.;** "Children's Dental Health, School Performance, and Psychosocial Well-Being" The journal of pediatrics, Vol. 161 (6), P. 1153, 2012.

I

1- **Ibraheem S**.; Dental Health knowledge and Behavior in Al-Najaf City", the University of Baghdad College of Dentistry Master thesis, P. 33, 2013.

J

1- Ja'far Z.; The levels of streptococcus mutans and lactobacilli in dental plaque among rampant, nursing and caries free children**", University of Baghdad College of Dentistry Master thesis, 2011. 4,**

2- **Join Business Dictionary**, what is Attitude? Web Finance, Inc. 2013.

K

1-**Kamolmatyakul S**.; "Oral Health Knowledge, Attitude and Practices of Parents/Caregivers' Prince of Songkla University Thailand. Vol. 5602), P. 62, 2012.

2**- Kaur S.; Goel S.; and Bhatnagar P.;** "Moral and professional responsibility of oral physician toward geriatric patient with interdisciplinary management The time to act is J Midlife now Health, Vol. 2 (1) ,2011.

3- **Kawamura. M.; Takase N.; Hisako Sasahara H.; and okada M**. "Teenagers' oral health attitudes and behavior in Japan: comparison by sex and age group", Journal of Oral Science, Vol. 5002), P 168 2008.

4- **Kiwanuka S.: Astrom A and Trovik T.;** "Dental caries experience and its relationship to social and behavioral factors among 3-5-year -old children in Uganda", International Journal of Pediatric Dentistry, Vol 14 (4), PP. 336-346, 2004.

L

1- **Lee H.; Choi Y.; H and Lee S.;** "Changing patterns in the Park association between regional socio-economic context and dental caries experience according to gender and age: A multilevel study in Korean adults", International Journal of Health Geographic, vol. 11(30), P. 2, 2012.

2**- Lukacs J.; Largaespada L.;** Explaining sex differences in dental prevalence: saliva, hormones, and "life-history" etiologies. caries American Journal of Human Biology, Vol. 1304) p. 542, 2014.

M

1- **Mafuvadze B.; Mahachi L.; an Mafuvadze B**.**;** "Dental caries and oral health practice among 12-year-old school children from low socio-economic status background in Zimbabwe Pan African. Medical Journal, No. 164), pp. 2, 1, 2013.

2- **Mahdi S.;** Assessment of Knowledge and Attitudes of Baghdad University Students' toward sexually Transmitted Diseases and HIV/AIDS the University of Baghdad College of Nursing Master Thesis, PP 8, 35, 2013.

3**- Miller M Jessica Y.; Darren A.; and William F.;** Impact of Caregiver Literacy on Children's Oral Health outcomes", NIH-PA Author Manuscript, vol. 12601). PP. 1, 2 2011.

4**- Moheet I.; and Farooq I.;** "Self-reported differences between oral health attitudes of pre-clinical and clinical students at a dental teaching institute in Saudi Arabia, The Saudi Dental Journal, Vol. 25, PP. 149-152, 2013.

5- **Muttappillymyalil J.; Divakaran B.; sreedharan J.; Salini K. and Sreedhar S.;** "Oral health behavior among adolescents in Kerala, India", JPH Year 7, Vol. 6(3), P.218, 2009.

N

1-**Naaom E.; "**Eeffec of preventive Health Education on the oral hygiene of primary school children ”MDJ, Vol. 6 ,2009.

P

1**- Peker K.; Uysal O; Berne G.;** "Dental Training and Changes in Oral Health Attitudes and Behaviors in Istanbul Dental Students Journal of Dental Education, Vol. 74 (9), PP, 1017, 1018, 2010.

2- **Prendergast P.;** “safety and efficacy of oral care for intubated neuroscience intensive care unit patients' Department of Health Sciences, Faculty of Medicine, Lund University, No. 37, P. -20, 2012.

Q

1- **Quandt S.; Clark H.; Rao P.; and Arcury T.;** "Oral Health of Children and Adults in Latino Migrant and Seasonal Farmworker Families", J Immigrant Minority Health, Vol. 9(229), P. 229, 2007.

R

1- **Ramroop V.; Wright D. and Naidu R.;** "Dental Health Knowledge and Attitudes of Primary School Teachers Toward Developing Dental Health Education", West Indian Med J, Vol. 60(5), P. 577, 2011.

S

1- **Saw W.; Shanita N Zahara B. Tuti N and Poh B.;** Dietary intake Assessment in Adults and its Association with weight status and Dental Caries". Pakistan Journal of Nutrition, Vol. 11, P.1066 2012.

2- **Sharda J.; Mathur L.; sharda A.;** "Oral Health Behavior and its Relationship with Dental Caries Status and Periodontal Status among 12-13-Year-Old School Children in Udaipur, India", OHDM Vol. 12(4), P. 237, 2013.

3- **Safaa Razzaq Arrar Allami** a questionnaire format was constructed to assess knowledge, behavior of primary school children. Based on extensive review of related literature and studies. (July 2014 AD.)

3- **Smyth E.; Caamano F.; and Fernandez-Riveiro F.;** “Oral health knowledge, attitudes and practice in 12-year-old schoolchildren” oral health KAP, Vol. 1 (12), P. 614, 2007.

T

1- **Thikkurissy S.; Kathryn G.; Homa A.; Paul S.; and Robert R.;** "The comparative Morbidities of Acute Dental Pain and Acute Asthma on Quality of Life in Children", American Academy of Pediatric Dentistry, Vol. 34 (4), PP. 77-80, 2012.

W

1- **Willerhausen B.; Blettner M.; Kasaj A.; Hohenfellner K.;** "Association between body mass index and dental health in 1,290 children of elementary schools in a German city", **Clin oral Invest.,** Vol. 11(195), P. 196, 2007.