

Moustafa Elmeshad

me58@nyu.edu

201-519-8389

Nutrition and Health of Oral Cavity

“One should eat to live, not live to eat.” –Benjamin Franklin

In relation to the words of Benjamin Franklin, we should focus more on eating for the sole purpose of survival and not for enjoyment. It is unhealthy to eat for leisure and pure pleasure. We should instead eat correct proportions of food in order to remain healthy and avoid diseases. Not only can diseases develop in our bodies when we are unhealthy, but we are also at risk of having an unhealthy oral cavity in effect. Nutrition is the key to a healthy body and oral cavity.

Balanced nutrition is the foundation of good health. And it supports the growth and well-being of man and his ability to work. When exposed to balanced nutrition imbalance, the infected human problems and ill. And a person is weak or sick because of the lack of adequate food that meets the needs of his body malnourished.

Malnutrition is one of the main reasons behind the health problems for the children and adults. For children, malnutrition can lead to a lack of growth, slowness in walking or talking or thinking, and common infections. These infections can have a long duration and be so severe that they may cause death,

depression, lack of vitality, and swelling. Swelling is also often accompanied by sores on the skin, thinning hair, and low vision at night.

One of the issues that may arise from other causes is malnutrition or exacerbation and complication. This can include diarrhea, recurrent infections, or headaches. In addition, it can lead to bleeding gums or redness, ease of injury to the skin, or bruises. Other complications include bloody nose, dry and cracking skin, irregular heartbeats or very rapid palpitations at the top of the stomach. Lastly, it also leads to cirrhosis of the liver.

Malnutrition during pregnancy causes weakness and anemia in the mother, which increases the risk of death during or after childbirth. Malnutrition can also lead to abortion or premature birth of a child. Healthy and nutritious food helps the body avoid things such as malnutrition, which is the leading cause behind the health problems mentioned above. Furthermore, malnutrition weakens the body's ability to resist all sorts of diseases, especially infections. For example, a child who is suffering from malnutrition is more likely to suffer from infection and severe diarrhea, which may lead to his death than a healthy child.

Another problem that malnutrition can bring up is measles. Measles is particularly intense danger to a child with malnutrition. Tuberculosis (TB) is also spread among the malnourished people and deteriorates more quickly. Cirrhosis of the liver (which dates back at some of the causes to excessive drinking) is common among malnourished more than others. Eating well can help patients to recover much faster. In order to prevent disease, one must eat well. When a sick man is becoming increasingly sick it is vital for him to consume nutritious food. Unfortunately, some mothers drop out of giving their children nutritious food when

they get sick or injured. The result is that the child is weakened and less able to fight the disease, which leads to his death.

Dental caries are produced when tissues are damaged by rigid acidic foods that create bacteria in the mouth. Due to the fact that some types of foods alone or with other foods can lead to tooth decay in adults, it is clear that diet is integrated indirectly to gum disease or any other diseases related to the teeth. If someone suffers of malnutrition, there is always a susceptibility to these diseases and they can evolve much quicker. Thus, the diseases affect the tissues surrounding the teeth and they work to weaken the teeth. This process can lead to the loss of teeth, which is the third problem associated with dental problems. Failure to follow a proper diet is the major problem in this situation. Not only is this a major problem, but a poor diet also affects the immune system of humans. Many results of a research showed that there is a close relationship between a weakened immune system disorder and disease such as diabetes (disease of the blood vessels).

Dentistry dates back to the days of the ancient Egyptians. The Egyptians were human beings like us that suffered from toothaches and gum infections. They also suffered from tooth decay and other diseases. For this reason, they went through treatment in primitive ways. There was once a famous doctor and wizard named Hesi-Ra in 2600 BCE that was the first alleged dentist in human history.

Many of the skulls of the ancient Egyptians were also found to have had open abscesses accumulated inside the bones of the jaw. It was also observed that there were dislocated teeth due to the decay. These issues were resolved by linking thread forces and stretching them to take them off. All of the treatment was also performed without anesthesia because it had not been discovered yet at that time. Among the recipes used in order to soothe the pain of dental procedures were hard-

body rats, which would be put on the place of pain. At the time, the belief was that the mice were protected by the sun and Herodotus.

A famous teeth maker of that era was Nora Ankh who was mentioned as the assistant to the doctor in An Chum Doctor Pharaoh. Nfrertas was also a teeth maker who was an assistant to the doctor Sasha Hotep. There were also heading Specialists at the time such as sensory Ra and Somatic SNP. Through their wisdom of medicine and their superiority in the science of health, the ancient Egyptians discovered the effects on the skulls of the ancient Pharaohs from their teeth, which were installed with wires of gold.

Islam is and always has been keen on human health and safety from disease. Among these ideas, we will talk about this in our theme and private oral and dental hygiene and its importance for humans. Maintaining ones teeth is one of the most important signs of maintaining health, especially the health of the digestive system. For this reason, teeth have a powerful sound when chewing and grinding food. When mixed with saliva, teeth help to ease digestion from starchy materials including the saliva of digestive enzymes.

There are many patients that have suffered from poor digestion. If a dentist looks at someone's mouth and teeth, he can quickly tell certain things about that person's health, such as whether or not that person has indigestion. This is because most overall health issues can be traced back do the oral cavity. It is due to this reason that maintaining the teeth is one of the most important factors in helping to maintain a healthy digestive system. The human mouth is always susceptible to a wide range of germs.

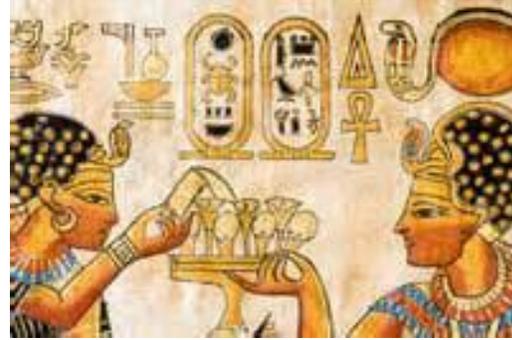
Cleanliness in Islam is an urged the health of objects, beauty and intensive care, and he considered the core of his message; This is because the impact deep in

recommending self-empowerment rights of the burdens of life, has been among the Messenger of Allah that a man who is keen on the purity of his body, and the cleanliness of its members sends on the condition that the Day of Resurrection.

Before any Muslim prays, he or she is required to perform a preparation in which he/she cleans themselves thoroughly. One of the required tasks is to rinse out one's mouth very well and to keep the mouth clean. Islam stresses the cleanliness of not only the human body, but also of the oral cavity because the oral cavity has a major impact on the rest of the body.

As I graduated from the Dental School in Al-Azhar University (Islamic university) in 1979, I have a thorough understanding of both Islam and the oral cavity. While studying Islamic classes beside the dental classes I learned a lot about both topics. I have taken classes about how Profit Muhammad use to teach his companions how they can to take care of their health and especially the health of oral cavity through eating health foods and cleaning their mouths and teeth by using Asoka. The Messenger of Allah ordered the use of tooth brushing by Asoka in an era of time where it was not known in any medical practice. There is no doubt, then, that the "Messenger of Allah" was the first of an order of oral hygiene dental care.

As I have been practicing Dentistry for more than thirty five years in many places around the world, I can give my opinion about the differences between the patients from place to place depending upon many factors. These factors can range anywhere from culture, nutrition, education, literacy, and socioeconomic status. I will take one case study from Cairo, Egypt and another one from New York, U.S.A. to give a clear idea about dentistry in Egypt in comparison to the U.S.A.



The Paranoiac civilization is the greatest and oldest civilizations in the world has not only limited to greatness on the architectural side, but was a universal civilization architecturally and culturally, scientifically, morally, intellectually and also they take care of nutrition and general and oral health

Dentistry dates back to the days of the ancient Egyptians. The Egyptians were human beings like us that suffered from toothaches and gum infections. They also suffered from tooth decay and other diseases. For this reason, they went through treatment in preventive ways. There was once a famous doctor and wizard named Hessen RI in 2600 BCE that was the first alleged dentist in human history.

Many of the skulls of the ancient Egyptians were also found to have had open abscesses accumulated inside the bones of the jaw. There were also observed that there were dislocated teeth due to the decay. These issues were resolved by linking thread forces and stretching them to take them off. All of the treatment was also performed without anesthesia because it had not been discovered yet. Through their wisdom of medicine and their superiority in the science of health, the ancient Egyptians discovered the effects on the skulls of the ancient Pharaohs from their teeth, which were installed with wires of gold to support the teeth in the jaws.

Human Biology has shed light on the dental health of ancient Egyptians they found “Worn teeth, periodontal diseases, abscesses and cavities, dental health

disorders and signs of bone disorders and fractures. The reason why some Egyptians had good dental health and others did not is the result of the other foods that were available to them. Fish and vegetables were available to many of the Egyptians, and these foods are high in the right minerals, nutrients and fat-soluble vitamins that are needed to build strong bones and healthy teeth.

Islam is always has been keen on human health and safety from disease. Among these ideas, the holy Qur'an attaches great importance to personal and environmental cleanliness:

“Oh you who believe! When you prepare for prayers, wash your face; wash your hands and arms unto elbow. Rub your heads with water and wash your feet to the ankles...” (5: 6)

This is the ablution we are supposed to perform at least five times a day. Obviously, if the hands would be cleaned so many times a day; there would be very little chance of germs to remain on or being transferred by human hands. Performing ablution has many steps and one of them is washing hands. Having the intention to purify oneself for the sake of Allah and in accordance with Sunni starts this religious formality. The ablution is not just for members of the cleaning phenomenon, and not just a cleansing of the body dribble several times a day, but the psychological impact and spiritual elevation felt by Muslim ablutions after something deeper than that expressed by the words.

Washing the mouth: After washing the hands a Muslim is supposed to wash his mouth 3 times by gargling. Mouth is an ideal location for microorganisms and it is the main entry point for infections as it is through mouth that microorganisms reach the stomach and respiratory tract. Three different types of microorganisms

cause throat infections, viral, bacterial and fungal. To protect the throat against infections, the mouth should be washed with gargling motions so that water reaches the throat. This is the area where most of the dust particles accumulate. By washing five times a day, all the dust and harmful organisms can be eliminated, thereby protecting the individual against infection. In addition, brushing of teeth before prayer is Sunni. Prophet said, **“Your mouth is the pathways of the Qur’an, so make them fragrant” (Bukhara).**

He also said, “Had it not been difficult for my followers, I would have ordered them to use tooth stick before every prayer” This emphasizes the importance placed on oral cleanliness.

The Messenger of Allah ordered the use of tooth brushing in an era of time, were not known in which medical knowledge. There is no doubt, then, that the Messenger of Allah "was the first of an order of care and oral hygiene dental hygiene when Muslims Islamic monthly magazine dental folder - 36, 1891 p. 2 36-366)



Moswak



Arak tree

There was a tree called "Ark" that the prophet was known to use for brushing his teeth. Its scientific name is *Asalafadora Persia*. It grows in many areas around Mecca and in Medina. It is a tree a short, no more than trunk diameter of about feet, limbs spindle, leaves shiny stumps creased and color of light brown and the user is the core of the roots and use dried and then kept in a place far away

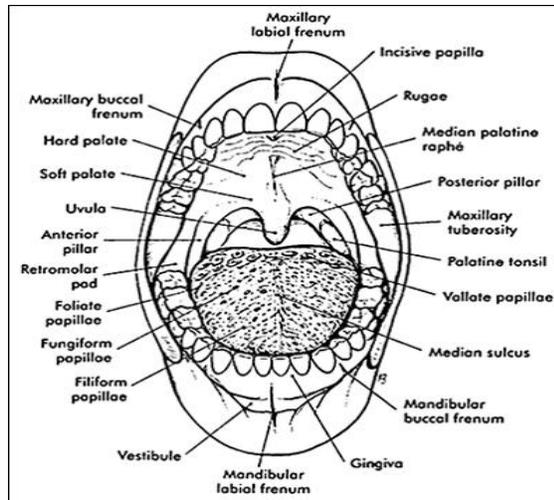
from moisture before using it beats by a sharp object and then begins to use it or if Java dunks Tusk in the water and then it tooth and remains so even if its use is weakened and eroded stop its use and then cut this part and another part is used and so on.

It has been shown chemically analyzed it contains the following:

- Material in "Gulwadah can be Silvarurin
- Trey instance Amin
- Attic ratio of chloride and fluoride and silica.
- Sulfur
- Vitamin C
- Small amount of material spooning and tannins and flavonoids
- Abundant amount of material Alsitusterol

As we can see since 1400 years ago, Islam gave more attention to the nutrition and health of the oral cavity by cleaning the mouth 5 times a day and brushing the teeth few times a day.

Landmarks of the Oral Cavity



“One should eat to live, not live to eat.” –Benjamin Franklin

In relation to the words of Benjamin Franklin, “We should focus more on eating for the sole purpose of survival and not for enjoyment. It is unhealthy to eat for leisure and pure pleasure. We should instead eat correct proportions of food in order to remain healthy and avoid diseases. Not only can diseases develop in our bodies when we are unhealthy, but we are also at risk of having an unhealthy oral cavity in effect. Nutrition is the key to a healthy body and oral cavity.”

Balanced nutrition is the foundation of good health. And it supports the growth and well-being of man and his ability to work. When exposed to balanced nutrition imbalance, the infected human problems and ill. And a person is weak or sick because of the lack of adequate food that meets the needs of his body malnourished. The oral cavity is the first organ in the digestive system getting ill because if the oral and teeth are not healthy the first and important step in digestion will affect the whole digestive process.

“If you can’t pronounce it, don’t eat it” -Common sense



The relationship between food and health is clear and certain. Food is necessary for human life, growth, activity and resistance to many harmful diseases. Food may also be the cause of certain diseases as a result of lack of balance and exposure to pollution. The relationship between malnutrition and various diseases includes but is not limited to:

- Illness due to a lack of or increase food item or more in food daily (Malnutrition).
- Illness due to contamination of food with bacteria and microbes (Infectious diseases)
- Illness due to contamination of food through pesticides and the remnants of radioactive isotopes (Pollution).
- Illness due to the interaction of the body against some existing materials and food allergies.

Some diseases caused by malnutrition include:

- Anemia: A lack of iron or vitamin B12. Symptoms include pallor in the skin, general weakness, extreme fatigue, and loss of appetite.
- Protein deficiency diseases in children: Shows (from 6 months to 12 months) so as not to give the baby some foods to complement breast milk, such as egg yolks, yogurt, meat, chicken and fish. Symptoms: change hair color and its tendency to fall as redness and inflammation of the skin occur and enlargement of the liver.
- Rickets: The result is a lack of calcium and vitamin D and calcium one important minerals for the body and is one of the components of breast milk, but we can get it from milk and dairy products, fish and some vegetables, grains and legumes.
And also advised the exposure of the child to the sun in the period between (810) in the morning and that as a source of vitamin D.
- Disease pellagra: occurs due to a lack of components of vitamin B compound which acid Alniconatic have had this disease has recently spread too in the Egyptian countryside and the result of the adoption parents to corn flour in their food, have less disease greatly in recent years, so as to change the diet and acquisition healthy eating habits.

“To insure good health: eat lightly, breathe deeply, live moderately, cultivate cheerfulness, and maintain an interest in life.” -William Londen

Obesity is the most dangerous disease that a human can experience because of the blockage caused by fat in the arteries of the heart or brain. High blood sugar may be a hereditary disease, but often be acquired due to overweight and

obesity. Obesity-dental decay relationship contradicts the obesity-sugar and the obesity-dental decay relationship hypotheses. Sugar is well recognized as necessary and sufficient for dental decay

The role of nutrition in the prevention and treatment of various diseases:

- Full and adequate food is of particular importance in maintaining the health level of the human being and protection.
- Food is the primary treatment or in some cases, only the patient as a treatment of anemia and protein deficiency, obesity and thinness, diabetes and atherosclerosis.
- Malnutrition and injured children of various diseases may lead to delays in their physical, mental, and so the child nutrition foods appropriate, especially during periods of illness and in recovery, prevent delays in the growth and increase the vitality and activity, and reduce the duration of illness.
- It is clear to us here the role of nutrition in the prevention and treatment.
- Malnutrition is the (poor nutrition) and interpreted as follows:
- The absence of a balanced diet, or lack of nutrients that reach to the human body, which lead to his health problems. It is medically diagnosed malnutrition not to eat an adequate supply of protein, energy and other nutrients, and diagnosed also incidence of infection or disease, and nutritional status of any person to be the product of the complex interaction between the food we eat and the state of public health of the

person and the environment in which they live, and briefly in the lack of three things may lead to malnutrition: (food - Health Care -).

“Health is not simply the absence of sickness.” ~Hannah Green

Definition of malnutrition:

- Malnutrition is not to get the human body to adequate food, and this situation may result from the lack of a balanced diet, indigestion, malabsorption, or any other diseases.

Causes of malnutrition:

- Malnutrition may occur for one of the following reasons:
 - The lack of a particular vitamin in the diet (one of only vitamins sufficient injury to malnutrition).
 - Failure to get the person to adequate nutrition.
 - Famine is one of the images of malnutrition.
 - When you are dining in an integrated manner, but one or more nutrients are not digested or absorbed.
 - Alcoholism.
 - Inflammation of the colon, and stomach disorders.
 - Nutrition problem spread among children may not show symptoms of malnutrition when the case may be medium, or may be sharp and cause serious health damage cannot be treated and the person remains alive. The problem of malnutrition is a global problem, especially among children,

and contributes to poverty, natural disasters and also political problems and wars exacerbate that problem.

Symptoms of malnutrition:

The symptoms of malnutrition according to the type of the disorder, which affects rights and the food, but there are some general symptoms, which include fatigue, dizziness, weight loss, decreased immune response to the human body, confusion, gas, depression, diarrhea, dehydration, obesity, a sense of fatigue, weakness in the descent of the menstrual cycle in females, poor growth in children, the rapid hair loss.

If left untreated, malnutrition will lead to a change in the biochemical functions of the body, but its structure and related disorders such as blood, represented in bleeding. In advanced stages of the skin becomes dry, dripping teeth, gums swell and bleed, the hair becomes dry and brittle and flaking, Taatqar nails become brittle, considering weaken, affected bones and joints pain. And detect malnutrition assessment of the person in terms of food and by blood tests.

Treatment of malnutrition:

Treatment consists mostly supply the body with food that lacks a scientific manner, with the treatment of the symptoms, and treatment of any health disorders arise from malnutrition, but if the cause is another condition must cure the original disease which has caused malnutrition and the inevitable result will disappear symptoms of malnutrition. The relationship between nutrition and dental caries it is important to distinguish between the systemic effects of the

absorbed food upon the developing tooth and the environmental effects of dietary habits.

Dental caries is the result of bacterial attack on the surface of the tooth. Some teeth seem better equipped than others to combat this attack.

It is pertinent to inquire

How far this resistance can be attributed to nutritional factors present during the Tooth development.

What causes caries?



Dental caries (tooth decay) is a major oral health problem in most industrialized countries, affecting 60–90% of schoolchildren and the vast majority of adults. The early manifestation of the caries process is a small patch of demineralized (softened) enamel at the tooth surface, often hidden from sight in the fissures (grooves) of teeth or in between the teeth.

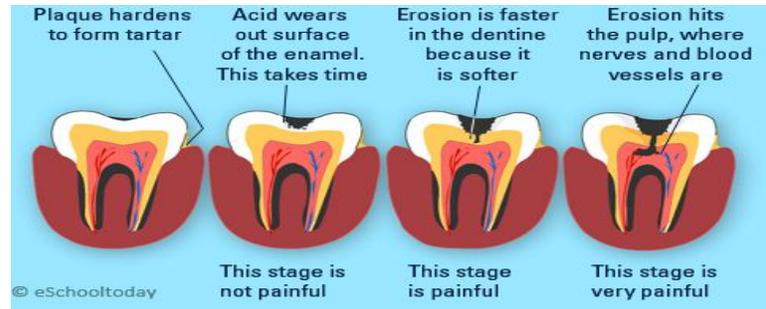
The destruction spreads into the softer, sensitive part of the tooth beneath the enamel (dentine). The weakened enamel then collapses to form a cavity and the tooth is progressively destroyed. Caries can also attack the roots of teeth should they become exposed by gum recession. This is more common in older adults. Dental caries are caused by the action of acids on the enamel surface.

The acid is produced when sugars (mainly sucrose) in foods or drinks react with bacteria present in the dental biofilm (plaque) on the tooth surface. The acid produced leads to a loss of calcium and phosphate from the enamel; this process is called demineralization. Saliva acts to dilute and neutralize the acid which causes demineralization and is an important natural defense against caries.

Aside from buffering plaque acids and halting the demineralization of enamel, saliva provides a reservoir of minerals adjacent to the enamel from which it can demineralize and “heal” once the acids have been neutralized. The enamel demineralizes and remineralizes many times during the course of a day. It is when this balance is upset and demineralization exceeds remineralization that caries progresses. When demineralization occurs frequently and exceeds remineralization over many months, there is a breakdown of the enamel surface leading to a cavity.

Cavities, even in children who do not yet have their permanent teeth, can have serious and lasting complications such as pain, tooth abscess, tooth loss, broken teeth, chewing problems and serious infection. The main treatment option for a tooth cavity is to drill out the decay and put in a filling (restoration) made from various materials (e.g., composite resins, amalgam, porcelain). Extensive tooth decay may necessitate a crown, root canal treatment or even extraction of the tooth

The Process of Tooth Decay



The process of tooth decay (otherwise known as dental caries) begins when certain bacteria, which are always present in the mouth, break down components of saliva. These components then adhere to tooth enamel, forming dental plaque—a clear, gelatinous material that allows bacteria to remain on the teeth. If dental plaque is not removed frequently (at least once a day) by proper brushing and flossing, the plaque becomes tightly attached to the tooth and only a professional cleaning can remove it. Dental plaque can also cause gingivitis—a condition that causes inflammation of the gums, tissue breakdown, and possible tooth loss.

Tooth Demineralization



Inside the dental plaque, bacteria actively ferment dietary carbohydrates to be used as a food source. This fermentation produces several acids that dematerialize (breakdown) the tooth enamel. As the tooth dematerializes, bacteria move into the tooth, resulting in tooth decay and formation of a cavity.

Implications for Nutrition and Diet

Untreated dental caries is painful and can result in tooth loss, which may lead to the inability to chew certain foods. Malnutrition or abnormal digestion may result, since these conditions often prevent a person from chewing and eating adequate amounts of food as well as eating some hard, high-fiber foods. Additionally, many diseases such as type 1 and type 2 diabetes, and cardiovascular disease, may exacerbate these conditions and lead to poor oral health.

Despite great improvements in the oral health of populations across the world, problems still persist particularly among poor and disadvantaged groups in both developed and developing countries. According to the World Oral Health Report 2003, dental caries remains a major public health problem in most industrialized countries, affecting 60–90% of schoolchildren and the vast majority of adults. Although it appears that dental caries is less common and less severe in

developing countries of Africa, it is anticipated that the incidence of caries will increase in several countries of that continent, due to changing living conditions and dietary habits, and inadequate exposure to fluorides. Research on the oral health effects of fluoride started around 100 years ago.

Fluoridation



Fluoridation is widely, but not universally, accepted by dentists and other medical professionals as being useful in preventing tooth decay. The U.S. Center for Disease Control lists water fluoridation as one of the "ten greatest public health achievements of the 20th century." It is therefore understandable that fluoride therapy would be commonly practiced and in many modalities. Many types of fluoride therapies are known, ranging from use of fluoridated toothpaste at-home to professionally administer topical fluorides provided by dental offices, to publicly sponsored fluoridation of water or other commonly ingested materials such as salt. At-home therapies can be further divided into over-the-counter (OTC) and prescription strengths. The fluoride therapies, whether OTC or PATF, are

categorized by application – dentifrices, mouth rinses, gels/foams, varnishes, dietary fluoride supplements, and water fluoridation.

Prevention and Homecare



- Limit consumption of food and beverages that contribute to poor oral health. (See list on reverse side)
- Eat sweets at mealtime, not as a snack, because the increased flow of saliva during a meal helps protect the teeth by washing away and diluting sugar.
- If sugar is the first ingredient listed on a product label, then the food has high sugar content. Look for other sugars on the label: corn syrup, corn sweeteners, dextrose, fructose, glucose, honey, maple syrup, molasses and sucrose.
- Check to see if liquid medicines (such as cough syrup) contain sugar. Ask the doctor or pharmacist for sugar-free medicines.
- Drink water between meals.
- Prepare food in healthy ways, such as steaming, sautéing, poaching or baking.

- Avoid clean or floss between teeth and gums once a day; clean or scrape the tongue daily.
- Delay brushing for at least an hour after consuming acidic food or beverages. Because acid softens the tooth's surface, brushing will cause more enamel loss. Instead, rinse mouth with water, chew hard cheese or sugarless gum to stimulate saliva flow, which helps to wash away and neutralize acids.
- Visit a dental hygienist for regular professional cleaning, customized home care and to discuss nutrition and healthy food choices and limit salt intake.
- Maintain proper oral hygiene. Brush twice a day for two minutes with fluoridated toothpaste and a soft toothbrush.

One interesting case of adverse effects from fluoride treatment was encountered. The patient's name is Hind and she is nine years old. When she was an infant, she suffered from several infections and she was taking antibiotics amoxicillin. She also showed hypo mineralization in the developing structure of their tooth enamel, making the enamel weak. It has also been established that fluoride is an effective remineralizing agent that is an important part of a child's health. Though, not obvious, there is a link between amoxicillin, fluoride treatments, and the diagnosis of fluorosis. The daily use of amoxicillin weakens the enamel to such an extent that the surface becomes very permeable. The enamel layer begins to absorb fluoride in large quantities because the mineral is given during the office visits every couple of months.

There is a patient and her name is Gihan. She is a young woman who believes that brushing only once a day and not flossing is enough to maintain proper oral health. The patient often develops layers of plaque and biofilm on several tooth surfaces which are not removed from 24 or more hours. Because of this poor oral

healthcare routine, the patient has developed plaque induced gingivitis. The patient has very sensitive teeth and gums with several points of bleeding on probing. The patient does not show any intention of altering her oral hygiene home care habits.

These factors classify patient Gihan as a patient who is at risk for developing tooth decay and caries as well as periodontitis. As such, fluoride supplement will also prove to be beneficial for my patient Gihan.

Nutrition and oral health in Nigeria



Through the experience I have gained from my work as a dentist, I have been sent through the Egyptian Fund for the African Development Bank. This program is connected with the World Health Organization, which sent me to work in Nigeria as a consultant Dentist. I focused on the health of the mouth and teeth in the Nasuraoh state located in the center of Nigeria.

At the end of August 2000, I arrived in Kano Airport in north of Nigeria. Kano is the capital of the north. From my first experience there, I felt my job would be not easy. An officer at the airport refused to give me back my passport unless I gave him some money. I became surprised because I was holding a diplomatic passport and I supposed to be treated in a different way. From that moment on, I felt that there was too much corruption in the country and that my

mission would not be as easy as I was expecting. In the end, I took my passport after many arguments with the officer from Nasuraoh state. He took me and drove the car around for eight hours. During the drive, I saw a lot of very poor people that lived in cottages.

This experience was the opposite from the information I read it about Nigeria before I went. There was so much poverty and corruption. I was intending to go back via the same plane to Cairo but I decided to pursue a completely different mission that included aiding these unfortunate people once I saw their situation. After the eight hours were up we arrived to Nasoraoh state which was almost identical to Kano state. They took me to a hotel outside the city and it was not bad but I was very tired by the atmosphere. I took a nap and once I woke in the morning, someone came to pick me up to go to the hospital so I can introduce myself. Accordingly, I introduced myself to the manager and the dental staff in the hospital. A few days later, I began to observe patients and read statistics about oral health.

During the first few days at Nasoraoh state, I went to explore the country. I found bad general public health. For example, the sewage was not isolated because it was exposed and it ran beside the curb. The citizens were selling the food in the front of these sewage channels. Furthermore, I found poverty everywhere but soon after a man took me to the governor's palace. It was incredible but it also made me realize the level of corruption in the country because while many were living in terrible conditions, this man was living like a king.

“If poverty were a man I would have killed him” -Ali Bin Abu-Taleb



About 25% child-bearing women are anemic. Malnourished children also tend to be anemic. Anemia compromises the host defense system thereby influencing the vulnerability of the tissues to disease and oral pathogens leading to cracks and fissures at the angles of the mouth and atrophy of the oral mucosa. Side effects include loss of tongue papillae leading to smooth and sore tongue. In addition, they include shallow ulceration of the tongue, intermittent burning sensation, loss of taste and dysphagia due to esophageal stricture. These oral lesions in turn compromise eating thereby leading to a vicious cycle of disease.

A developing fetus gets all its nutritional requirements from the mother. If the mother's diet is compromised, the fetus does not get adequate nutrition and its dental development is compromised. Optimal maternal nutrition is therefore required for optimal ontogenesis and calcification of the deciduous teeth in the fetus. Ontogenesis (tooth development) commences at about the 6th week of intrauterine life and mineralization of the teeth starts at about the 4th month of intrauterine life. Mineralization of the teeth starts at birth. Ameloblasts are sensitive to nutritional deficiencies and infections. Enamel hypoplasia/ hypocalcification may result from neonatal infections, Vitamin A, D and calcium deficiency.



The HIV/AIDS pandemic has added another dimension to the issue of malnutrition in Nigeria. HIV/AIDS ravages the youths who constitute the workforce either in farming or in engaging in other jobs to provide for their families. HIV/ AIDS remove these people leaving many HIV orphans and families without a breadwinner. In addition, much time, energy and resources are expended on the care of sick coupled with funeral expenses result in poverty which worsens malnutrition. 90% of HIV/AIDS patients will have oral lesions at a point in the course of their disease.

Oral lesions are mainly ulcerative, affect the periodontium are very painful (oral ulcers, necrotizing ulcerative periodontitis, Herpes simplex virus ulcers etc) and impairs mastication and nutrition. In HIV/AIDS, the energy/ nutritional requirements of the body are increased and these requirements cannot be met either because of inability to eat due to oral pain or unavailability of good food leading to a worsening of the malnutrition and leading to early deterioration of immune status, morbidity and early mortality.

That was one of my experiences I have through my carrier and let me think about these poor people who are living in this situation in spite that there country can offers them nice and human life but with such corruption I do not think they cannot have this life.

Food and Health in Sabia

The Prophet Muhammad (peace be upon him) once said: “the son of Adam filled the pot belly of evil, according to the man who dishes crucifixion, was inevitably the one third for his food, one third for his drink and one third for breath”

The messenger (peace be upon him) explained three conditions for the Muslim people. First, he explained the manner in which one should fill his/her stomach. In doing so he exposed the causes of disease and lethargy. Second, cuisine is explained to sometimes be similar to crucifixion. There is nothing between sufficiency and fullness. Third, one must fill two-thirds of his/her stomach with food and drink while leaving one third open for breathe. This is the gift of the prophet to his people.



This week I will write about an important period in my career as a dentist. I was practicing for around a year in the province of Sabina in the southwestern part of Saudi Arabia, in the plain stretching between the mountains of the east Sahara and the eastern shores of the Red Sea to the west. This area was full of mountains and the population had special habits and traditions. Their food was

especially unique because lunch it consisted of Kasbah, a rice mixture of either stuffed lamb or chicken.

Maras was also another food they would eat. It is a mixture of natural honey bees and a special sweet banana with an equal amount of butter consequent. This helped to create a state of satiety after eating that fatty meal. They believed that they had to make a food known as Khat would help them to digest this heavy meal.



Khat is a green plant species spread grown in abundance in most regions of Yemen and the southwestern part of Saudi Arabia. It is used at social gatherings and meetings, which is common in males more than in females, but is not limited to social events necessarily because it represents a daily habit organization

Usually, khat is eaten right after lunch. An individual chews it then keeps it in the form of a block so that they form a prominent bulge in the cheek for several hours. It is believed that chewing it causes a lot of oral lesions such as

infections of the mouth and gums - diseases of the oral tissues, oral ulceration, leukoplakia, oral cancer, and oral mucosal tissues.

Khat abusers suffer from chronic ulcers in the mouth, gums, and tongue. It is a cause of the emission of halitosis, and khat leads to loose gums, resulting in weakness in the gums and teeth. In addition, khat chewing may result in a number of changes in the oral mucosa and the dentition. The mechanical and chemical irritation may result in the development of mucosal white lesions and dark pigmentation.

Khat chewing may reduce aspects related to risk of gingival and periodontal inflammation, but it appears to be associated with attachment loss at the site of chewing.



Results of a study showed the incidence of tooth decay in those that were chewing this plant more often than non-Khat chewers. There was also the existence of a clear relationship to the occurrence of diseases of the tissues. The presence of white smears varying in size, shape and color in the chewing of Khat. A case of cancer of the tongue and in five cases of pre-cancerous lesions as well as other pests.

We cannot confirm the independence of the role in the creation of oral lesions certain that there were not several predisposing factors such as: the neglect of oral health, scratching and bruising chronic. It can also include khat chewing on the tissue of oral, increasing the unit smoking with chewing at, a lack of appetite leading to malnutrition and vulnerability. The most important factor is a survival of toxic chemicals present in the harmful leaves, which may be difficult to remove even with washing and for the use of indiscriminate.

Pesticide are sprayed on the trees to stimulate growth with non-compliance with the instructions for the use and picking twigs of khat. It is sold and chewed before the expiration of the waiting period is allowed for the pesticide. The doctors found there is a correlation between the increased incidences of cancers of the mouth and jaw. Especially in recent years as the spread of the use of chemicals is not allowed universally sprayed during cultivation. In addition to the process of irritation of the mouth during the storage process, which leads to changes in the lining of the mouth, the plant also helps in the incidence of cancer. Besides oral cancer, it is scientifically proven that khat leads to increased blood sugar, which makes the drug users more susceptible to diabetes

Poverty, Ignorance, Diseases and oral health

“Health is a crown over the heads of healthy people” -Unknown

This week is the last week in this class. I will now begin to talk about poverty, ignorance, disease and malnutrition with their effects on oral health. There is a lot of experience I gained in this field from the years that I spent practicing as a

dentist for over 25 years with the dental research center in the largest hospital in Cairo, Egypt. This hospital was named Ahmed Maher Teaching Hospital. It was located around urban areas which were where most of our patients came from. The other dentists and I collected large amounts of data from the numerous amounts of patients we treated.

After these long experiences I gained from my working in that center, I found that there was a triangle of life in the area. This triangle consists of the three vertices of poverty, ignorance and disease. These affect the general health and oral health of the community directly and indirectly. Poverty is apparent because there is malnutrition which leads to many diseases during life. In relation to the first stages of growth and development of the cells in the mouth, it is important that an infant receive maximum nutrition.

Optimal nutrition during the period of growth and development of cells, the cells become soft to allow for growth. It is also very important to build immunity against diseases. On the other hand, the poor nutrition during these critical stages of the evolution of the teeth can have chronic effects on the growth of the cells of the mouth and we find that when animals suffer from malnutrition during the these stages, it may cause an increase in allowing the mouth to get infectious diseases. In humans, these diseases can result in an effect on the port layer that can encapsulate and protect teeth.

Usually this problem can be corrected by the effect of malnutrition during the initial phase of cell growth, but the acute shortage of food on the extent of the growth cycle could affect the property of re-growth in the cells. It may also affect their ability to heal and that increases the susceptibility to oral disease.

Nutritional factors affect a large number of reasons for gum disease and the impact on the stages of disease progression. The estimated defense and corrective

cells in gums are at risk of becoming crucial in determining the severity of gum disease and methods of feeding that can be applied to avoid infections if disease is present. It is necessary to improve the body's ability to heal wounds in general. This is a technique that can be applied to avoid and manage periodontal disease, and include the need for the body to provide sufficient amounts of protein, vitamin C, iron, and zinc.

Good nutrition is essential, even with the presence of periodontal disease because there is a constant state of food that maintains the cells. These cells provide the relationship between malnutrition and inflammation, which are closely related. Especially with the inflammation increasing the problems of malnutrition. With the increasing inflammation, there is a demand for the gum cells that are trying to protect the gums and correct the damage that hit it. This increases the need for the presence of all the nutrients. If you suffer from bleeding gums and your dentist rules out poor dental hygiene, this will reduce the risk and severity of dental caries and vitamin D. These proteins have antibacterial effects to fight bacteria that cause dental caries. They may also neutralize toxic byproducts.

Vitamin B deficiency also may increase your risk of:

- Angular cheilitis
- Recurrent aphthous stomatitis
- Chronic oral mucosal candidiasis
- Atrophic glossitis

Vitamin C is also called ascorbic acid. This vitamin is needed to make collagen, the main building block for many tissues. A deficiency can lead to gums that bleed easily. Gingivitis, the earliest stage of gum disease, also can cause gums

to bleed easily. Vitamin C deficiency may also cause fatigue and easy bruising. Vitamin K helps to make proteins that allow the blood to clot. A deficiency of vitamin K may cause easy bruising and slow healing. People with vitamin K deficiency may have excessive bleeding after a tooth is extracted, or even after a tooth cleaning.

The second vertex of the triangle is ignorance. Ignorance means that over 65 percent of the respondents had no clue that eating habits could cause dental problems. “Only a handful of people across the country take oral healthcare seriously. For the most part, Egyptians only approach a dentist when faced with a crisis, and usually only after they turn 40. Then, they blame dentists for expensive and prolonged sessions. Dentists also pointed out that many in rural areas still use their fingers, brick powder or neem sticks for brushing teeth. Some of these things could actually be harmful.” Oral care is important, but many take it for granted. It is important because the mouth is where the digestive system begins. People fail to understand the intimate connection between oral health and overall health.

The mouth is the starting place for keeping bacteria out, and it should be properly maintained. The use of brick powder and neem sticks just won't serve the purpose. The third vertex of the triangle is diseases People suffering from periodontitis (a gum disease) are at higher risk of coronary artery disease. The bacteria might enter the bloodstream while chewing or brushing and this would contribute to the formation of clots in the arteries, which can cause heart attack. Gum disease could also be a sign of diabetes. Diabetics are prone to have periodontal disease, if their condition is not under control.

The conclusion to have a good nutrition and good health is that everyone needs the three vertices of the triangle of oral health by working together like we

have been to fight poverty. We must also give good education and healthy nutrition to those in need. Lastly, we must give the needy the right information and advices to let everyone understand that good oral health is the key to a healthy body.

Bibliography

"Acid Erosion-preventing acid burnout of your teeth." *Elmtree Dental*. N.p., n.d. Web. 19 Sept.

2012. <www.elmtreedental.com/Images?Acid_erosion.html>.

Agbelusi G. A., Jeboda S. O. Oral Health Status of 12-year old Nigerian Children. *West African*

Journal of Medicine. 2006; 25: 195-198.

Agbelusi G. A., Wright A. A. Role of the Dentist in the management of patients with HIV/AIDS.

Nig Dent J. 2007; 15(2): 61-65.

Ahmed, Hind. Personal interview. 29 June, 2014

"Benefits of Fluoride and Understanding Dental Caries." *Partners in Prevention: getting a Head*

Start on Oral Health. N.p., n.d. Web. 11 Oct. 2012.

<www.nypartnersinoralhealth.com/t>.

"Brushing – The importance of Brushing Your Teeth." *Dental Care – All About Dentistry and*

dental care from About.com. N.p., n.d. Web. 26 Sept. 2012.

<www.dentistry.about.com/od/dentalhealth>.

Bulletin of the WHO. 2005; Vol. 83(9): 661-669.

"Dietary Supplements In Tablets." *The British Medical Journal* 2.4155 (1940): 259. Web.

"Discovery News: DNews." *DNews.* Web. 15 June 2014.

Enwonwu CO. Noma the ulcer of extreme poverty. *New Engl J Med.* 2006; 354: 221-224.

Fawzi WW, Msamanga GI, Spiegelman D, Wei R, Kapiga S, Villamor E, Mwakagile D, et al. A

randomized trial of multivitamin supplements and HIV disease progression and mortality.

N Engl J Med. 2004; 351(1): 23-32.

Genco R., Offenbacher S., Beck J. Periodontal disease and cardiovascular disease: Epidemiology

and possible mechanisms. *J Am Dent Assoc.* 2002; 133 Supply: 14S- 22S.

"Global Healing Center Health Products & Information." *Global Healing Center Health*

Products & Information. N.p., n.d. Web. 10 Aug. 2014.

Gombart, Adrian. "Result Filters." *National Center for Biotechnology Information*. U.S. National

Library of Medicine, 4 Nov. 2009. Web. 05 Aug. 2014.

Grant, William B., and Barbara J. Boucher. "Are Hill's Criteria for Causality Satisfied for

Vitamin D and Periodontal Disease?" *Dermato-Endocrinology: Review*. Landes

Bioscience, n.d. Web. 05 Aug. 2014.

Hadeeth Shareef

Hams, Moiz, Dr. "CONCEPT OF HEALTH AND HYGIENE IN ISLAM by Dr. Moiz Shams."

CONCEPT OF HEALTH AND HYGIENE IN ISLAM by Dr. Moiz Shams. Makah

Mokarrama, n.d. Web. 16 June 2014.

http://www.biharanjuman.org/health_islam.htm.

Holy Qur'an (5: 6), (Bukhara).

Jessica. "Catalogue General Antiquites Egyptiennes Du Musee Du Caire: The Royal Mummies,

Page XXXVI." *Catalogue General Antiquites Egyptiennes Du Musee Du Caire: The*

Royal Mummies, Page XXXVI. Web. 15 June 2014.

http://www1.lib.uchicago.edu/cgibin/eos/eos_page.pl?DPI=100&callnum=DT57.C2_vol59&object=162.

Jessica. "Why Did the Ancient Egyptians Suffer From Poor Dental Health?" *Cure Tooth Decay*

Blog. Web. 15 June 2014.

Khalif, Maryan (2013) *Khat and oral white lesions*. BSc dissertation, University of Portsmouth. Abdulwahab I. Al-Kholani 1

"KHAT: Uses, Side Effects, Interactions and Warnings - WebMD." *WebMD*. WebMD, n.d.

Web. 29 July 2014.

"Lack of Vitamin C Can Show in Your Gums." *By Oral-B*. Oral-B, n.d. Web. 05 Aug. 2014.

"Lenus, the Irish Health Repository." *Annual Report 2003*. N.p., n.d. Web. 10 Aug. 2014.

"MedFacts Natural Products Information (Professional)." *MedFacts Natural Products*

Information (Professional). MedFacts, n.d. Web. 29 July 2014.

Meir Gorsky, 1 Joel B. Epstein, 2 Harel Levi, 3 Noam Yarom 1

Moore S. E., Collinson A. C., Tamba N'Gom P., Aspinall R., Prentice A. M. Early immunological development and mortality from infectious disease in later life. *Proc Nutr*

Soc. 2006; 65: 311-318.

Oral Surgery, Oral Medicine, Oral Pathology, Oral Radiology and Endodontics
Volume 109,

Issue 6, Pages e60–e66, June 2010

"Result Filters." *National Center for Biotechnology Information*. U.S. National
Library of

Medicine, n.d. Web. 05 Aug. 2014.

"Result Filters." *National Center for Biotechnology Information*. U.S. National
Library of

Medicine, n.d. Web. 10 Aug. 2014.

"The 50 Best Quotes About Health & Nutrition." *Natural Health Organic Living
Blog*. Global

Healing Center, 14 July 2011. Web. 06 July 2014.

Varol, Gihan. Personal interview. 10 July 2014.