Sheet no.: 1

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Prevention of oral disease would be our reference book the dr will give us the exact chapters for each lecture plus some given articles.

By the end of this course you should have an understanding of what prevention of oral disease is, when we talk about patient management it's not only surgical anymore, it's how to deal with your patient with the understanding of how to prevent all the dental diseases and utilize this evidence based knowledge in our patient management and treatment planning .

as we said we are depending on evidence based practices which means researches have been done on this practice or other modality, so there should be evidence supporting its use. So we are going to look at cochrane database systematic reviews

**Aims of the lecture:**

* Definition of prevention
* Oral diseases that can be prevented.
* Terminology :primary,secondary,tertiary
* Overview of dental caries prevention

**Dental caries :**

* In the etiology of dental caries we are going to talk about the role of diet and nutrition, the classification of sugars.
* In the prevention of dental caries we are going to talk about the four pillars of prevention which is diet, fluoride – which it has been evident that it works very well- , plaque control – oral hygiene instructions- and fissure sealants
* Also we are going to talk about the early management of dental caries ; if we diagnosed it early enough we can arrest the caries without having to remove the tooth structure

If you look at the history of dentistry as a profession it stated very invasive with extraction of teeth then with the invention of local anesthesia and handpieces it evolved where you remove the diseased structures and replace them with a restoration and now we are talking about the prevention of progression of an actual disease – for example using fissure sealants to prevent occlusal caries.

**Why has it changed ?**

* Because we know now what's happening with carious process, we know it's an infectious disease caused by bacteria, we know the specific causing bacteria, how is it transmitted to the mouth;

as the baby is born with no bacteria in his mouth and bacteria is transmitted to him by his mother and that's the main way for the bacteria to get colonized in the mouth –and that’s another field in prevention called prenatal oral health where you try to limit the transmission of bacteria into the child mouth so you prevent early onset of caries

* also we know now the cycle of demineralization and remineralization, so we want to benefit from the remineralization stage to stop caries from occurring and from there came the role of fluoride application to speed up the remineralization
* Production of new adhesive materials that would help making our restoration conservative and adhesive materials that contain fluoride like :

\* glass ionomer cements which has the property of fluoride release **and they are rechargeable materials** .  
\*resin-based materials for the fissure sealants ;minimal intervention dentistry-with these materials you don't have to remove so much of the tooth structure.

So the statement: extension for prevention is no longer acceptable now we are talking about prevention of disease to extend the life time of tooth

**What does prevention mean?**  
Stopping the disease from happening by either avoiding the reoccurrence of disease or by avoiding things known to cause the disease . by eliminating the causative factor or putting a barrier to prevent the causative factor to do any damage.

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# What oral diseases are preventable? 1-Caries

# 2-periodontal diseases and decrease the chance of tooth loss.

# 3-tooth wear; dental erosions and loss of tooth structures

# 4-oral cancer like advising patients to stop smoking.

# 5-mucosal diseases

# 6- Dental trauma like constructing a mouth guard

# 7-malocclusion which is called "interseptive orthodontics"

oral cancers (leukoplakia and speckled leukoplakia there are things that patients do that can increase risk of cancer eg :smoking or non smoking . Mucosal diseases ,denture stomatitis are preventable with adequate instructions of hygiene , dental trauma with adequate instructions and playground supervision , wearing mouth guard during sports can be prevented , malocclusion (interceptive ortho) are preventable .

**Why prevent oral disease ?**

complications from the clinical disease or medically compromised patients could be life threatening for those with medical condition , **pain** is a big factor , esthetics , function ,time for the patient , cost.

Basically Failure to prevent dental disease is Giving your patient 2nd class dental care , dentists do not just treat teeth they should prevent any damage .

**Terminology of prevention (primary , secondary , tertiary ) .**

Primary prevention : is protecting the individual from diseases by removing etiological agent or placing a barrier between agent causing disease and the host .example : fissure sealant a barrier between plaque , bacteria and the fissure . giving an advice , removing one of the factors causing the disease “sugars” .

Secondary prevention : is aiming to limit the progression and effect of the disease at an **early** stage , this is where early detection comes in , if I have early signs of disease I need to limit the progression of disease. Example: when there are caries within enamel , I can limit this from progression , but there is no need to always remove tooth structure e.g :in white spots lesion there is no need to hold the headpiece and do a cavity ,you can arrest the lesion with fluoride and good oral hygiene and make it stop . the main idea in secondary prevention is EARLY detection .

2ndry prevention includes primary prevention .

Tertiary prevention: is limiting the extent of disability from diseases once the it occurred , want to assure that there is no functional limitations from the disease . give treatment to minimize impact of the disease . example: if there is caries , and it was treated properly , it should not progress , do not wait for it to progress ,Treat it early enough , being treated in clinic is better that having the tooth extracted .

Tertiary prevention include primary and secondary prevention .

**Prevention** : doesn’t only talk about dental caries , it can be about other diseases eg: skin cancer .

Primary prevention in this case : stay away from sun and apply sun screen to prevent occurrence

Secondary prevention : early detection , if a mole was detected early that’s better the patient could be protected .

Tertiary prevention : in case of skin cancer giving various treatment options , proper plastic surgery to make sure there is no difficulty for the patient .

So prevention is not only about oral diseases it applies on other diseases .

Dental caries are not part of growing up , we can have patients with no caries . but unfortunately in Jordan we have an increased level of dental caries , children in Jordan suffer from huge amount of caries in the latest research it was found that 74-75% of 6 year old have caries , we know the causes of caries , basically its caused by acid from sugar fermented by bacteria which causes destruction .

Prevention works, there are researches that prove that , eg: UK national health surveys , 10 years survey of dental caries of 5 , 12 ,14 years old (1973,1983,1993) , with introduction of prevention measures such as simple fluoride paste they noticed a decrease in the level of dental caries 45%

As a results of UK surveys we know that levels of dental caries decreased over the past 20 years , but the problem is (50%) of population still have caries .

But Its becoming “colder” meaning that less children have more of the disease

We still have a problem that’s why there something **called “ caries risk assessment “** , you need to assess if the patient on dental chair is one of the 50% who have high risk of caries or who have lower risk .

There is risk assessment tools to identify the patient and ways to prevent .

We also knew from the study that Occlusal surfaces are the worst affected because fluoride works best on proximal surfaces , so there is a decrease in level of proximal caries but relative increase in num. of caries in occlusal surfaces (lots of class 1caries ).

Also found that the **Level of caries are influenced by geography and social class.**

In some UK areas (Scotland ) they found more caries , so they implemented a very strong preventive program in Scotland and have seen improvement of dental caries .

**Dental public health : where they target prevention to a geographic area including large population ( identified that this population is at high caries risk) so they do public health measures to prevent dental caries .**

In Jordan there is an increased level of dental caries .

**DMF ( is the caries index )**

**D: decayed component.**

**M: missing(or extracted due to caries ) component.**

**F : filled component .**

When comparing Jordan to England (children) , more D component in Jordan ,so untreated decays are higher in Jordan population .

Also when Jordanian kids get treatment , they have more extraction done (M component is higher also ). So when they get treated they undergo drastic measures of extraction rather than filling .

**Dental caries is a major dental health problem .**

We can actually prevent it ,but why is it so difficult ?

1. Because it’s a habit , diet is a habit very difficult to change , it involves behavior modification , the older the person the harder to change the habit , so pediatric is where we want to give all the advice .
2. Etiology of caries involves more than one factor that we have to control , controlling etiology is difficult because we have to control bacteria , remove plaque , by brushing properly , control sugar consumption ,control diet , and prepare to see dentist , control is difficult .

**Prevention :**1-Diet. 2-fissure sealant .

3- fluoride. 4- plaque control.