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slides

handout

sheet

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DOCTOR :
Hawazen

DONE BY :
1st part:Esraa Nawafleh
2nd part:Bara Sadeq

CORRECTED BY :
1st part by: Batool AlSa'aydeh

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هاتف :

0797121818

06/5336475

Contact Us:



Ljneh Asnan

Dental.c2013@gmail.com



Dental Correctionn

D.correction2013@gmail.com

We're going to talk about caries risk assessment, which the factor we consider when we want to decide caries risk of the patient and the preventive therapy .

Caries risk assessment(CRA) it's a diagnostic tool which help you as a dentist for a better individualized oral health care for the pt. so we need to have an idea about the frequency and the type of provisional oral health which can be provided to patient depending on How is it possible that he develops the disease (caries) , to prevent farther diseases .

When we should decide the caries risk assessment ,to quantify the person's Susceptibility to disease.

Caries risk assessment levels:

1-**communitiy level:** we can do (CRA) for the community by dental health promotions and programs showing the caries risk and by schools supervision.

2- **Individual level**

3- **Tooth level**

4- **Surface level:** sometimes we do (CRA) for a specific tooth surface!

Individually, we consider more than one aspect to determine (CRA) :

1 - **A behavioral aspect:** like the diet and oral hygiene methods (brushing). The high amount of sugar you used to add for your coffee is a habit, so you need to change it to be able to have a lower caries risk. CRA does not stay the same, it can change according to the circumstances, so it is always important to ask the patient about his habits, his Medical history (it's of importance) and assess the caries risk every time we see the pt. to plan for recall appointments.

CRA levels are : high, moderate or low.

2- **Past caries experience:** experience is simply when you look at the pt's mouth and you see multiple restorations and carious lesions, which would be a sign that he is at a higher risk to have caries in the future. Therefore, if it's a primary dentition then once the 6's start to erupt we will need fissure sealant along with OH instructions and fluoride application.

When you see small white lesion in teeth “incipient caries” that is an indication of **high caries risk** .

We use **DMFT** which is a count of the number of: *Decayed, Missing, Filled Teeth* in a person's mouth



3- Economic status : people in lower social classes usually have a higher risk of Diseases and caries maybe Because of the stress ,low level of education and Lack of awareness .

4- Medical history: The diseases or the drugs may cause an increased risk, like Xerostomia which increases caries prevalence, or if the patient had undergone an orofacial surgery. Medically compromised or disabled children may be uncooperative and harder to maintain a good OH. Also those who're on long term medications, sometimes their whole life, the sugar added to these medications increases the risk of caries .

Hemophilia Patients who need extraction “that is going to be an emergency and a life threatening procedure” so what we want to do is preserve the dentation and oral health so patients would not need extraction .

5- Oral hygiene: plaque is an important factor because it is where bacteria lives. In pedo examination sheet, we should measure the plaque index which gives an indication for caries risk.

6- Diet: Combining diet sheet and OH maintenance will give you better association to caries risk than what each would do individually.

7-fluoride: the sources of fluoride are water , tooth pastes and the fluoride application by dentists .

7- Microbiology and saliva

For saliva if we can't sometimes know what is causing the risk of caries and we suspect that it is from a problem in the saliva we refer the patient to oral medicine .

As for bacteria (S.Mutans “initiation”, lactobacilli “Progression”) Keep in mind the early the mouth is being colonized by these bacteria the higher chance that the caries will develop and that's the basis of mutocorporally !!? (13:32 min) to the oral health care and we want to limit the transfer of cariogenic bacteria from mother to the child.



Acquisition of *S. mutans*

- Mutans streptococci are undetectable in pre-dentate infants
- Most children become infected around the age of 2 years
- The principal source of infection appears to be the mother
- Mothers who carry high levels of *S. mutans* are more likely to infect their children
- Reducing mutans levels in mothers can delay infection of their child

(The Early the colonization the higher risk for a child to develop caries)

Now As Microbiological Markers they use these bacteria to identify numbers of (*S. Mutans*, Lactobacilli and sometimes Yeast)

Yeasts aren't involved in the caries process but because if you have viruses and candida it means that the environment is acidic, so a lot of acidity will increase yeasts in the mouth.

There are actually commercial packets by which u can measure the amount of bacterial colonies in the mouth by taking a swap and put it in a medium and incubate it for 24hrs, and this will give u the number of colonies (the lower the number the less caries risk) , they're very expensive and certainly they aren't for the daily use and it is not available for every dentist .

So For Caries Risk Assessment we don't use one or two of those, usually we depend on several Factors so by using a combination of them this will give you a higher sensitivity.

What is interesting that they found the intuition of the dentist is the best predicting factor for future caries risk.

The Dentist intuition is based on the above factors in you revise it in head and check it quickly and this becomes an experience for you.



Therefore, in terms of the tooth being at high caries risk we have examples:

1- Partially erupted tooth

- Tooth that is out of occlusion that is not participating in mastication so we are going to have food stagnating around it + it is difficult to clean.

2- Orthodontic appliance in case of a bad OH Patient we will have a decalcified enamel around the brackets and some cases we can find cavities lesions.

So to make it easier the doctor will give us the AAPD Guidelines for (Caries Risk Assessments) which are the table that are found in Article 2

In these Guidelines, they split them into categories (Biological Factors, Protective Factors, and Clinical Findings)

Example:

Table 2. Caries-risk Assessment Form for 0-5 Year Olds^{59,60}
(For Dental Providers)

Factors	High Risk	Moderate Risk	Low Risk
Biological			
Mother/primary caregiver has active caries	Yes		
Parent/caregiver has low socioeconomic status	Yes		
Child has >3 between meal sugar-containing snacks or beverages per day	Yes		
Child is put to bed with a bottle containing natural or added sugar	Yes		
Child has special health care needs		Yes	
Child is a recent immigrant		Yes	
Protective			
Child receives optimally-fluoridated drinking water or fluoride supplements			Yes
Child has teeth brushed daily with fluoridated toothpaste			Yes
Child receives topical fluoride from health professional			Yes
Child has dental home/regular dental care			Yes
Clinical Findings			
Child has >1 decayed/missing/filled surfaces	Yes		
Child has active white spot lesions or enamel defects	Yes		
Child has elevated mutans streptococci levels	Yes		
Child has plaque on teeth		Yes	

Circle those conditions that apply to a specific patient helps the practitioner and parent understand the factors that contribute to or protect from caries. Risk assessment categorization of low, moderate, or high is based on preponderance of factors for the individual. However, clinical judgment may justify the use of one factor (eg, frequent exposure to sugar-containing snacks or beverages, more than one dmfs) in determining overall risk.

Overall assessment of the child's dental caries risk: High Moderate Low

The Doctor just read about this table so you have to read all the tables

Notes:

1- The child should establish a dental home (dental home means



that your child sees the dentist regularly) **by the age of 12 months so the first visit should be before the 12 month of age.**

2- According to these tables or guidelines and through your examination you could tell if the patient is at high, low, or moderate caries risk.

Prevention basically is:

- 1- Fluoride
- 2- Plaque Control.

So depending on the caries risk of your patient you will give the standard advice and the standard intervention.

Sometimes you want to identify whether the patient is at risk, why?

Therefore, you want to look at the relative important factors that we considered for example :

A. Plaque Control:

(Is he brushing or not) you could check for plaque also by a **disclosing agents** (it can determine that if the plaque is the problem or not).

B. Fluoride:

We also ask if they are living in a fluoridated area?

Dose the toothpaste have enough fluoride in it or not?

You can apply fluoride varnishes for your Patients.

THEREFORE, the basic advice is to tell your patients to brush twice daily

C. Diet History: by using a diet sheet analysis
so for high caries risk pt. :

- Fluoride
- OHI & use of disclosing agent to help u in giving the instruction.
- Recall interval 3 month.
- Diet advice

