Preventive dentistry sheet 9

**Perinatal and infant oral health care**

Most of the things we will talk about today are things we already know. Things such as the preventive measures are the same as for the children however we will look at the subject from a different perspective.

What is the perinatal period?

Perinatal period is the period immediately before and after birth. According to the WHO it commences at 22 completed weeks (154 days) of gestation and ends 7 completed days after birth. Some people consider it to be more than this and others consider it to be less.

Toddler: a child up to 2/3 years of age

Today’s lecture is about pregnant ladies and children up to 3 years of age.

**Why is perinatal and infant oral health care important?**

The maternal health during pregnancy is closely associated with the perinatal oral health.

We will see during the lecture how the oral health of the mother will affect the birthing process and the health of the infant’s teeth.

Early childhood caries begins soon after tooth eruption and progresses rapidly. Within six month of the eruption of primary teeth, we could see major changes in them such as the beginning of a carious lesion. Therefore if we ignore the patient till they are 1-1.5 years old, it may be too late. (We need good prevention during this period)

ECC is 32 times more likely to occur in infants who are of low socioeconomic status, who consume a diet high in sugar, and whose mothers have a low education level (this group is usually our focus). However this doesn’t mean that those are our only target for preventive measures; all expectant mothers should receive appropriate oral health care and education.

Patients identified as high risk must be given extra preventive measures.

**The most important risk factor is the maternal education.**

We might see a pregnant woman in our clinic, however, all pregnant women will visit doctors and nurses therefore they have more exposure and should be educated and be fully capable of giving those preventive measures.

The Dr is currently doing research with expectant mothers visiting the obstetrics department, and even though the research isn’t over yet, the results are very clear that the expectant mothers have no idea on how to take care of their infant’s teeth.

**PERINATAL ORAL HEALTH CARE**

Untreated dental disease in pregnancy may be associated with pre-term and low birth weight infants, especially periodontal diseases because they are associated with gram –ve bacteria that release endotoxins. Circulating periodontal bacteria induce activation of maternal immune responses leading to cytokine production, release of prostaglandins, and leading to uterine contractions.

The fact that a pregnant woman presented to you with tooth decay, indicates that she is a high risk patient which means that her child will be a high risk patient as well.

If left untreated, the MS will be vertically transmitted to the child.

DNA analysis shows same sequence in maternal and infant strep mutans, which means that the same bacteria was transmitted from the mother to the child through feeding, kissing, sharing utensils (spoons) etc.

Teachable moment: “Naturally occurring health events thought to motivate individuals to spontaneously adopt risk-reducing health behaviors”.

Basically there are moments in our lives where we are more willing to accept advice. This may be a smoker coming in for cancer screening (regardless of whether or not he has cancer), or a child with multiple carious lesions (10-15) undergoing general anesthesia.

During pregnancy, expectant mothers are more willing to accept our advice and act upon it.

**WHAT DO WE NEED TO DO?**

**1. Dietary advice:**

Dietary advice can be split into 2 parts:

A) Advise adequate quality and quantity of nutrients for the mother-to-be and the unborn child (Healthy diet). This is the same advice we give everyone in addition to taking supplements.

B) Reduce the consumption of cariogenic foods; this reduces the risk of caries and at the same time, this food is not beneficial for the fetus development.

**2. Oral hygiene instructions:**

Patient judged to be at high risk may be given a toothpaste with a fluoride content up to 2800 ppm.

**3. Xylitol chewing gum:**

The chewing process (saliva) enhances the caries inhibitory effect, which may be a significant confounding factor for the efficacy of xylitol gum.

However,

•A recent Cochrane review concluded that there isn’t sufficient evidence behind the practice (Riley et al., 2015). (It is logical but not evidence based)

•Studies used large doses and high frequencies of xylitol that may be unrealistic. (4-5 times per day, doses up to 20 g per day, patients here are not compliant)

•Xylitol is known to cause possible side effects such as bloating, wind and diarrhea.

**4. Provision of dental treatment.**

It is important to eliminate the infection especially in pregnant women.

**5. Anticipatory guidance on infant oral health care:**

All what we already talked about was advice for the mother’s oral healthcare, here we are talking about the infant’s oral health care.

**INFANT ORAL HEALTH**

We don’t give advice to high risk patient only because our sensitivity and specificity aren’t 100%, there will always be patients who are at high risk that we will not notice. Therefore the establishment of a dental home is important for all children regardless of their caries risk.

The dental history of the child should include the parents’ as well.

**WHAT DO WE NEED TO DO?**

**1. Dietary advice:**

**A- Saliva-sharing behaviors:**

Vertical transmission: from mother to infant

Horizontal transmission: From siblings

**B- Breastfeeding:**

Usually breastfeeding is carried out up to 1.5 years of age, however, the important part is the frequency.

Breast feeding has not been epidemiologically associated with caries however there are exceptions such as breast feeding a child along with providing a high carbohydrate diet (synergistic effect on tooth decay).

Ad libitum: whenever the child wants.

Breastfeeding greater than seven times daily after 12 months of age is associated with increased risk for ECC because the children start consuming carbohydrates from other sources.

Avoid Ad libitum breast-feeding after the first primary tooth begins to erupt and other dietary carbohydrates are introduced. (We don’t ask the mother to stop completely)

**C- Bottle-feeding:**

High-sugar dietary practices appear to be established early, by 12 months of age, and are maintained throughout early childhood. (These habits should be stopped early)

Stop baby bottle use after 12-18 months. First switch from baby bottle to sippy cup, then to a no spill cup, then finally to a normal cup.

**2. Oral hygiene instructions:**

We start as soon as the first tooth erupts.

Use a smear of toothpaste for children under the age of 3.

**3- Fluoride:**

Professionally-applied topical fluoride, such as fluoride varnish are applied twice a year for low risk patients, and four times a year for high risk patients.

Fluoride supplements are not widely used anymore.

**4- Advice on teething:**

Usually there are no symptoms

Treatment of symptoms includes oral analgesics (especially if we have systemic effects) and chilled rings for the child to gum.

**5- Injury prevention advice:**

Children should be given soft toys, kept away from sharp objects, and should be monitored while playing.

**6- Non-nutritive habits advice:**

The problem with thumb sucking arises when the permanent teeth start erupting (6 years of age)

**Discussion**

**First step is caries risk assessment. These are the factors we look at:**

- DMFT

- Condition of the gingiva

- Dental health of siblings

- Oral hygiene habits

- Diet

- And most importantly, the **socioeconomic status of the mother**.

**Advice on how to take care of the infant’s teeth:**

- Avoid vertical transmission of bacterial by sharing utensils etc.

- Diet; don’t add sugar to bottled milk, child shouldn’t sleep while drinking from bottle, stop bottle feeding at 12-18 months etc.

- Regular dental appointments

- O.H.I: brushing as soon as the first tooth erupts

Smear of toothpaste while younger than 3 years of age

Fluoride; 1000 ppm for low risk, 1450 ppm for high risk

- Teething: analgesics if needed

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