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ЗАБОЛЕВАНИЯ ПОЛОСТИ РТА: ПРЕНАТАЛЬНЫЕ И ПОСТНАТАЛЬНЫЕ ПРИЧИНЫ И МЕРЫ ПРОФИЛАКТИКИ

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THE ORAL CAVITY DISEASES: POSTNATAL AND PRENATAL CAUSES AND PREVENTIVE MEASURES

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Резюме. Воздействие лекарственных препаратов в период внутриутробного развития и детства влияет на структуру зубов и состояние десен, требуя защитных мер. В этом исследовании рассматриваются связанные с этим риски и предлагаются решения для минимизации вреда. Повышение осведомленности и обеспечение междисциплинарного подхода укрепляют здоровье полости рта в долгосрочной перспективе.

Ключевые слова: пренатальное развитие, воздействие лекарственных препаратов, гигиена полости рта, профилактика заболеваний.

Resume. Medication exposure during prenatal development and childhood affects dental structure and gum condition, necessitating protective measures. This research examines associated risks while proposing solutions to minimize harm. Raising awareness and ensuring interdisciplinary care strengthen long-term oral health.

Keywords: prenatal development, pharmaceutical exposure**,** oral hygiene**,** disease prevention.

Relevance. The child's dentition formation is deeply influenced by maternal health, nutrition, and pharmaceutical exposure during pregnancy. Essential nutrients such as calcium, phosphorus, and vitamin D play a critical role in the teeth mineralization and structural integrity. Deficiencies in these elements can lead to weakened enamel, increasing susceptibility to decay and structural abnormalities. Additionally, hormonal fluctuations during pregnancy affect bone metabolism and tissue development, further influencing dental health.

Pharmacological exposure is a significant risk factor, as numerous medications can cross the placental barrier and directly impact fetal tissues. Antihistamines, frequently used to manage allergic reactions, can reduce saliva production and impair calcium absorption, contributing to the dental fragility. Hormonal medications, prescribed for various conditions during pregnancy, may also affect gum health, enamel formation, and overall oral sensitivity.

Beyond the prenatal period, childhood exposure to medications further influences oral health. Survey data indicate that the substantial proportion of individuals who took antibiotics in early life experienced increased gum sensitivity and the carious diseaseshigher prevalence. Similarly, antihistamine use was linked to reduced calcium levels in bone tissues and frequent gum bleeding. Despite existing knowledge of

basic oral hygiene practices, awareness of medication-related dental risks remains insufficient, with 50% of respondents unaware of drugs detrimental effects.

Objectives:

1. To consider the drugs groups having a negative effect on mother and child and compile the dangerous and safe treatment methods list.

2. To analyze the survey statistics about taking medications and the morbidity cases number.

3. To make the preventive measures list for dental diseases.

Materials and methods. This study is based on a structured survey conducted among individuals aged 18-30, aimed at identifying the impact of prenatal and childhood pharmaceutical exposure on oral health. Participants provided information regarding their mothers' medication use during pregnancy, their own history of antibiotic, antihistamine, and hormonal treatments, and any observed dental issues.

Collected data was analyzed to establish correlations between early medication exposure and dental health outcomes, including enamel fragility, gum sensitivity, and caries prevalence. Additionally, historical cases of tetracycline-induced dental abnormalities were examined to contextualize findings.

A literature review was conducted to examine existing research on thepharmaceutical agents effects on dental and maxillofacial development. Studies on prenatal drug exposure, mineral metabolism, and oral disease prevention were integrated into the analysis, providing a broader scientific context for evaluating medication risks and protective strategies.

The study further explores preventive approaches, assessing dietary modifications, optimal mineral intake, and safe pharmacological alternatives. Clinical recommendations are drawn based on existing research and survey findings to minimize the long-term impact of medication exposure on oral health.

Results and their discussion. The respondents' age group is 18-30 years old. Most of the respondents noted their mother not to take antibiotics or antihistamines during pregnancy. The majority answered positively to the question "did you take antibiotics in childhood".Of these, 64.4 percent figured out dental deterioration, carious diseases and increased gum sensitivity. Also, according to the survey results, 44.6 percent of people took antihistamines in childhood due to allergic reactions. The 17.2 reported bleeding gums and oral diseases. To the next question, "have you taken hormonal medications" the respondents 24.3 percent answered positively, 30.2 of them noted sensitivity and the gums bleeding, including enamel fragility. Most of the people taking part in the survey are aware of the preventive measures and the need to visit a dentist at least twice a year. However, 50percent of people were unaware of the tetracycline antibiotics dangers during thepregnancy. As the study progressed, it became clear that dentists in 1960th faced a problem with children's teeth whose mother had taken tetracycline during the pregnancy. All the teeth in the mouth had a brown color. Later, some patients developed diseases related to the bone and dental fragility. Also, after the baby teeth replacement with permanent teeth, the same anomaly was recorded. Subsequently, this phenomenon was called "Tetracycline teeth". This antibiotic affects not only the tooth enamel color, but also the dentine color, causing enamel hypoplasia. Penicillin antibiotics, cephalosporins, and erythromycin do not

lead to the such critical abnormalities and deformities. Antihistamines also cause the saliva production decrease and calcium amount decrease in the bone tissue, as well as the teeth structure violation. So, during pregnancy, there is the cortisol increased content, so allergic reactions often occur quite rarely. Relatively safe antihistamines are Claritin and Zyrtek.Hormonal pills can also be prescribed only after a thorough examination.

Conclusions. Taking prescription medications during pregnancy requires informing the dentist, as treatment plans and preventive care may be influenced by drug interactions. Some medications, such as tetracycline antibiotics and certain antihistamines, can affect enamel formation, gum health, and overall dental structure, making professional guidance essential.

In addition to discussing medication risks, pregnant individuals should consult a doctor regarding vitamin and mineral intake. Calcium, phosphorus, and vitamin D are critical for fetal bone and enamel development, and deficiencies in these nutrients can lead to weakened teeth and increased susceptibility to caries. Proper nutrition, including dietary adjustments that limit potentially harmful substances while ensuring mineral sufficiency, plays a vital role in maintaining oral and systemic health.

Hydration also supports oral health by promoting saliva production, which helps neutralize acids and prevent bacterial accumulation. Regular brushing after meals and before sleep is crucial to maintaining enamel strength and reducing plaque buildup. Additionally, excessive sugar intake should be minimized, as it contributes to acid production, enamel erosion, and an increased risk of cavities.

Since oral health impacts overall well-being–affecting digestion, posture, and even internal organ function–routine dental visits at least twice a year are necessary for monitoring and preventing complications. Professional examinations are required for early detection of medication-induced dental changes, enabling timely interventions to preserve long-term oral integrity.

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