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State of Nevada

Department of Health and Human Services

Oral Health: a Maternal and Child Health Priority

Division of Public and Behavioral Health

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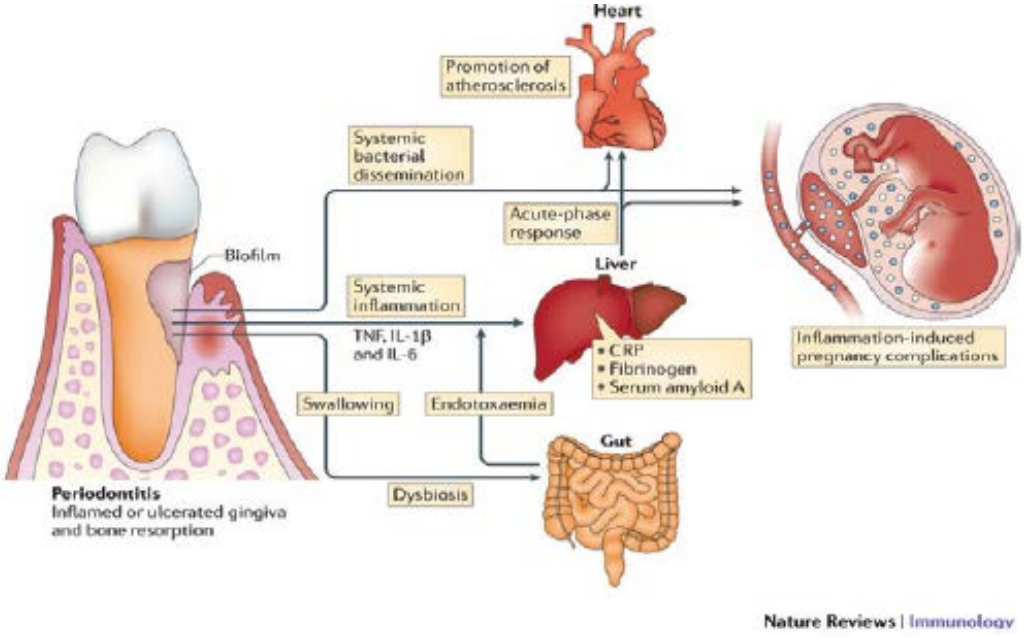
2/5/2021

Helping people. It's who we are and what we do.

Agenda

1. Prenatal Oral Health
2. Periodontal Disease During Pregnancy
3. Is Dental Treatment Safe During Pregnancy
4. Current Maternal Child Health Projects Spearheaded by the Nevada Oral Health Program

Does Oral Health Matter for Pregnant Women?



Oral health affects overall health and is important for everyone.

- Diabetes Type II
- Atherosclerotic conditions
- Respiratory disease and aspiration pneumonia

Interprofessional Solutions for Improving Oral Health in Older Adults. Gerontological Society of America, July 2017.

How Pregnancy Affects Oral Health

- Cavities (dental caries)
- Periodontal disease
  - Gingivitis (early stage)
  - Periodontitis (serious form)
- Pregnancy tumors
- Tooth erosion

"To potentiate general health and well-being, women should routinely be counseled about the maintenance of good oral health habits throughout their lives as well as the safety and importance of oral health care during pregnancy." (American College of Obstetricians and Gynecologists, Committee on Health Care for Underserved Women, August, 2013)

Oral Health During Pregnancy

Old Wives Tale: You lose a tooth with every pregnancy

40% of pregnant women in the U.S. suffer from some form of oral disease during pregnancy from periodontitis, gingivitis, or active decay. (American College of Obstetricians and Gynecologists).

According to the Centers for Disease Control and Prevention (CDC):

- 1 in 4 women of childbearing age have untreated cavities.
- Children of mothers who have high levels of untreated cavities or tooth loss are more than 3 times more likely to have cavities as a child.
- Children with poor oral health status are nearly 3 times more likely to miss school because of dental pain.

Photo:https://www.cdc.gov/oralhealth/publications/features/pregnancy-and-oral-health.html

How Does the Oral Health of the Mother Affect Her Children

Horizontal transmission of cavities:
Transmission of microbes between members of a group (i.e., students in a classroom)

Vertical transmission of cavities:
Mothers can pass cavity causing bacteria to her child
"Window of infectivity" has been researched to occur between months 19 and 31 of pregnancy.

Saliva is the primary tool for transfer of bacterial strains.

Pregnancy presents a teachable moment

Photo: https://www.themomcreative.com/2014/01/10-tips-for-taking-adorable-baby-kiss-photos.html

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Maternal Periodontal Disease

- 60-75% of pregnant women experience gingivitis
- Occur as a result of poor oral hygiene, local irritants(plaque), and are exaggerated by hormonal changes.
- Reversible
- Pregnancy gingivitis:

Photo: https://eumundidental.com.au/gum-disease/

Maternal Periodontal Disease

- Periodontitis is diagnosed by the presence of gingival inflammation and a loss of bone structure surrounding the tooth.
- 40% of pregnant women experience destructive periodontal disease and the rate is higher among racial and ethnic minorities and women of low socioeconomic status.
- Irreversible

2011
Age 35

2012
Age 36

2016
Age 41

Periodontal Disease and Pregnancy Outcomes

Offenbacher, 1996 study first reported that "periodontal diseases represent a previously unrecognized and clinically significant risk factor for preterm low birth weight as a consequence of either preterm labor or preterm premature rupture of membranes".

- Case-control study
- 124 pregnant or postpartum mothers
- Clinical periodontal examination
- Controlled for other risk factors

Offenbacher, S., Katz, V., Fertik, G., Collins, J., Boyd, D., Maynor, G., . . . Beck, J. (1996). Periodontal Infection as a Possible Risk Factor for Preterm Low Birth Weight. *Journal of Periodontology, 67*(10), 1103-1113. doi:10.1902/jop.1996.67.10.1103

Periodontal Disease and Pregnancy Outcomes

Xiong, 2007

- Meta-analysis of 44 studies
- 26 case-control, 13 cohort, and 5 controlled trials
- Multiple pregnancy outcomes were included
- 29 studies suggested an association between periodontal disease and increased risk of adverse pregnancy outcome
- 15 found no evidence of an association

Xiong, X., Buekens, P., Vastardis, S., & Yu, S. M. (2007). Periodontal disease and pregnancy outcomes: state-of-the-science. *Obstetrical & gynecological survey*, *62*(9), 605–615. https://doi.org/10.1097/01.ogx.0000279292.63435.40

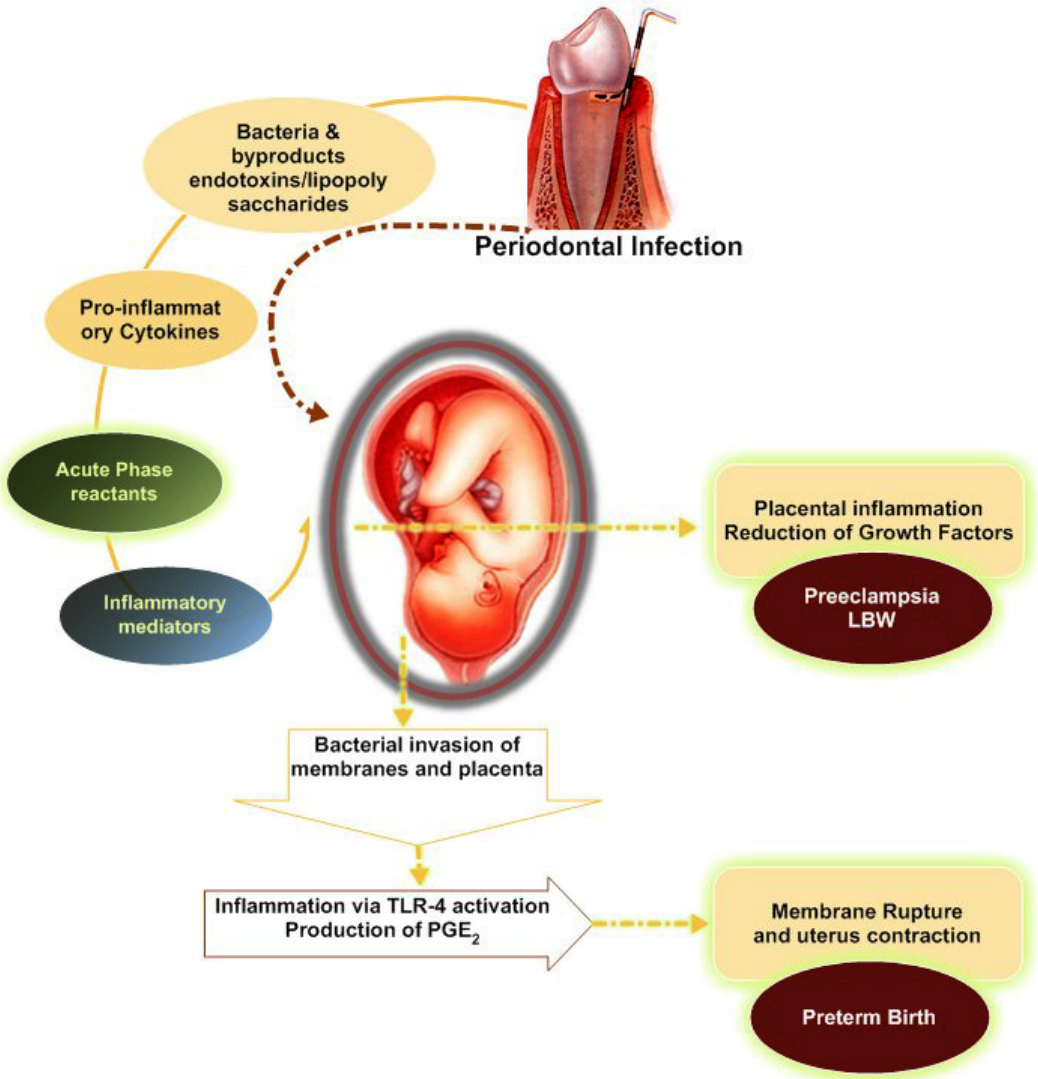
Periodontal Disease and Pregnancy Outcomes

Teshome, 2016

- Systematic literature review
- 10 studies met inclusion criteria
- Studies focused on preterm birth, low birth weight and/or preterm low birth weight
- 9 studies suggested an association between periodontal disease and increased risk of adverse pregnancy outcome
- 1 found no evidence of an association

Teshome, A., & Yitayeh, A. (2016). Relationship between periodontal disease and preterm low birth weight: systematic review. *The Pan African medical journal*, *24*, 215. https://doi.org/10.11604/pamj.2016.24.215.8727

Possible Mechanisms Leading to Preterm Birth



Anil, S., Chalisserry, E., Chalisserry, V., AlMoharib, H., & Al-Sulaimani, A. (2015). Oral Health and Adverse Pregnancy Outcomes. In 1156612610 868966306 R. Alrowis (Ed.), *Emerging Trends in Oral Health Sciences and Dentistry*(pp. 631-662). Licensee InTech. doi:10.5772/59517

Periodontal Disease and Pregnancy Outcomes

Research shows an **association** between periodontal disease and adverse pregnancy outcomes, such as premature delivery and low birth weight.

Shared risk factors

- Increased age
- Smoking
- Nutritional status
- Diabetes
- Stress
- Lack of medical and dental care

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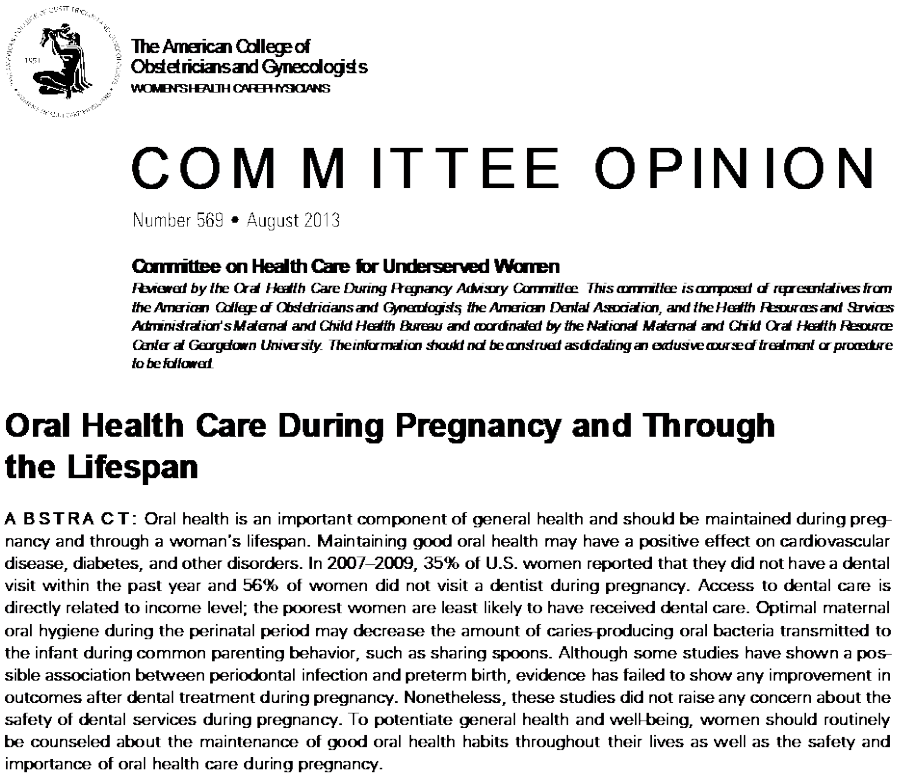
Dental Care Is Safe and Good for Pregnant Women



The American College of Obstetricians and Gynecologists
WOMEN'S HEALTH CARE PHYSICIANS

COMMITTEE OPINION

Number 569 • August 2013

Committee on Health Care for Underserved Women

Reviewed by the Oral Health Care During Pregnancy Advisory Committee. This committee is composed of representatives from the American College of Obstetricians and Gynecologists, the American Dental Association, and the Health Resources and Services Administration's Maternal and Child Health Bureau and coordinated by the National Maternal and Child Oral Health Resource Center at Georgetown University. The information should not be construed as dictating an exclusive course of treatment or procedure to be followed.

Oral Health Care During Pregnancy and Through the Lifespan

ABSTRACT: Oral health is an important component of general health and should be maintained during pregnancy and through a woman's lifespan. Maintaining good oral health may have a positive effect on cardiovascular disease, diabetes, and other disorders. In 2007–2009, 35% of U.S. women reported that they did not have a dental visit within the past year and 56% of women did not visit a dentist during pregnancy. Access to dental care is directly related to income level; the poorest women are least likely to have received dental care. Optimal maternal oral hygiene during the perinatal period may decrease the amount of caries-producing oral bacteria transmitted to the infant during common parenting behavior, such as sharing spoons. Although some studies have shown a possible association between periodontal infection and preterm birth, evidence has failed to show any improvement in outcomes after dental treatment during pregnancy. Nonetheless, these studies did not raise any concern about the safety of dental services during pregnancy. To potentiate general health and well-being, women should routinely be counseled about the maintenance of good oral health habits throughout their lives as well as the safety and importance of oral health care during pregnancy.

Dental Treatment During Pregnancy
(Trans.2014:508)

- Resolved, that the ADA acknowledges that preventive, diagnostic and restorative dental treatment to promote health and eliminate disease is safe throughout pregnancy and is effective in improving and maintaining the oral health of the mother and her child.
- American Dental Association Adopted 2014

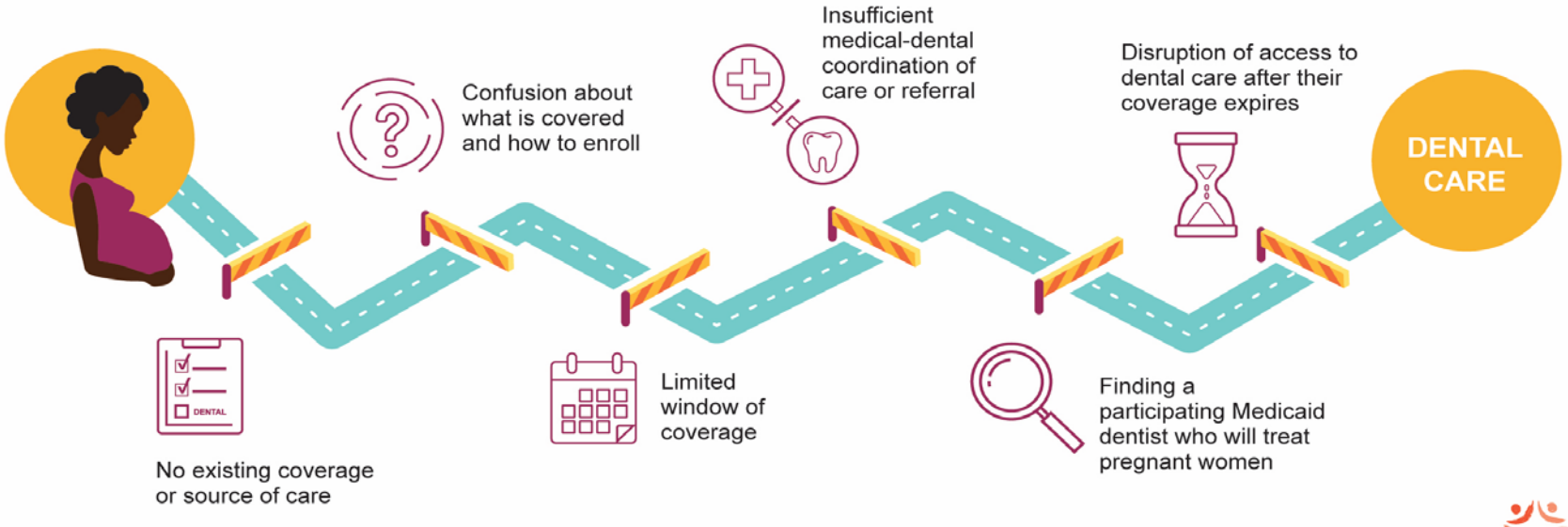
Oral Health Care During Pregnancy

Pregnancy is NOT a reason to defer dental cleaning or treatment for oral health problems

	First Trimester	Second Trimester	Third Trimester
Dental Treatment	Limited to emergency and urgent needs	Ideal time for dental treatment	Patient treated using left uterine displacement
Periodontal Treatment	Periodontal prophylaxis if clinically indicated	Preferred time to perform periodontal treatment	Periodontal prophylaxis if clinically indicated
Radiographs	Limited for immediate treatment	Select radiographs as needed	Select radiographs as needed
Emergency Treatment	Emergency and urgent dental treatment should be performed promptly at any time during pregnancy		
Patient Education	Provide oral hygiene instructions, education on oral changes during pregnancy, provide nutritional education		

(Ninan, D. (2018). Dentistry and the pregnant patient. Berlin: Quintessence Publishing.)

Barriers to Dental Care



Produced for the Children's Dental Health Project. For more info, visit cdhp.org

children's dental health project

Nevada Medicaid

In 2016, Nevada Medicaid financed **64% of births** in the state, ranking Nevada's Medicaid birth rate as the 5th in the nation.

During the 2018-2019 school year, **51% of students** were enrolled in Medicaid.

Medicaid provides medical and dental services during pregnancy.

- Treatment plan must receive prior authorization during pregnancy
- Covered dental services include:
  Routine exams, teeth cleanings (periodontal scaling and root planning or prophylaxis), preventive treatments, restorations, prosthetics, oral surgery,
  and emergency dental care.

Are Women Utilizing Medicaid Dental Services

- Data is unclear and more information is needed
- Preliminary data seems to indicate that between 7/1/2017 to 12/31/2018, 4% of women that received dental care had treatment related to periodontitis.
- Preliminary data seems to indicate that between 7/1/2017 to 12/31/2018, pregnant women represent 15% of the total number of adults (21 years of age and older) that utilized Medicaid dental services.

Data Source: Nevada Medicaid Data Warehouse

Maternal Oral Health Goals

Reach National Health Standards

- **Healthy People 2020-OH-7—**Increase the proportion of children, adolescents, and adults who use the oral health care system in the past year.
- **Title V National Performance Measures-NPM 13B—**Increase the number of pregnant women who have a dental visit during pregnancy.
- **MOMMA Act 2019** —aims to improve maternal health and reduce mortality rates. Establishes national obstetric emergency protocols, expands Medicaid and CHIP coverage of dental services for pregnant women, and extends eligibility period for the WIC program.

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Rural Nevada Expectant Mother Medicaid Dental Access Program

- The Oral Health Program provided education seminars to local physicians, community health workers, community health nurses, and expectant mothers to discuss the importance of oral health during pregnancy, provide oral health resources, highlight Medicaid dental benefits during pregnancy, and create a case management system to connect women to a dental home.
- Funding was received through the Maternal and Child Health Block Grant
- Occurred in Fall 2019 throughout Esmeralda, Lincoln, Nye, and White Pine Counties.

Licensed Childcare Oral Health Education and Basic Screening Survey

- The Oral Health Program, in partnership with the Nevada Department of Education, is conducting an open-mouth basic screening survey, creating educational webinars, and building classroom toothbrush stations and protocols for licensed childcare centers.
- The data collected as a part of this project will be compared to the 2017 Head Start BSS to identify oral health disparities and educational opportunities that exist in rural Nevada.
- Funding was received through the Nevada Department of Education.
- Currently underway throughout all areas of rural Nevada.

Nevada Action Network

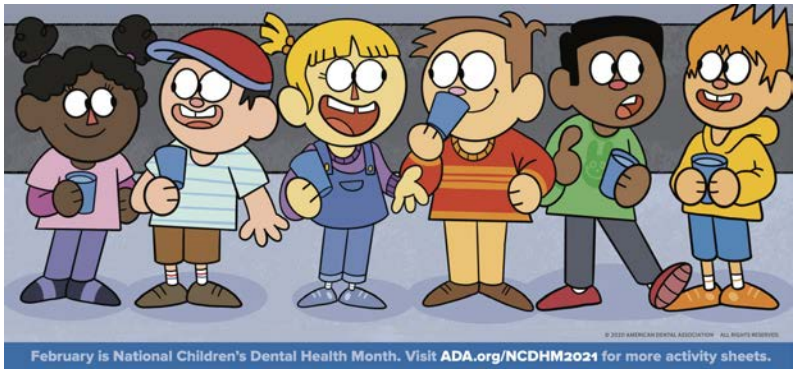
- The Oral Health Program has partnered with Liberty Dental Plan to reach school-age children at home with virtual check-up with a dental professional and parent applied fluoride varnish applications.
- Mission: to maximizing Medicaid's potential to close the disparities gap and improve health equity experienced by school age children unable school health services.
- Parents and children receive education and the parent is engaged in the oral health of their child.
- To sign-up or learn more, visit: **NevadaOralHealth.org** or scan this QR:

oral health at home

On Your Way To Oral Health For Life!

Children's Dental Health Month

- Begins February 1st
- This year's theme is "Water, Nature's Drink"
- Social media campaign to promote oral health, healthy nutritional choices, and create a dialogue
- **#sipNflip4NVkids**
- The Nevada Oral Health Program challenges Nevadans to swap out these types of drinks with "Water, Nature's Drink!"



#sipNflip4NVkids

#sipNflip4NVkids

Challenge:

Step #1: Create a video of you, your team, and/or your family taking a sip of water

Step #2: State why you are choosing water over a sugary beverage

Step #3: Then flip the water bottle or cup upside down – the more creative the better!

Post the video to your organization and personal social media accounts with messaging to promote drinking water to support a health smile and the hashtag* #sipNflip4NVkids

(Sample Post: *"February is National Children's Dental Health Month. Help support a health smile by swapping out your sugary beverages with water – nature's drink!"*)

Tag at least three other organizations or friends/family members challenging them to take the challenge and share with their network.

Can we count on you to help spread the word to Nevada's children about the importance of drinking water to support a health smile?

Questions?

Contact Information

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Acronyms

- ADA - American Dental Association
- BRFSS - Behavioral Risk Factor Surveillance Survey
- BSS - Basic Screening Survey
- CDC - Centers for Disease Control and Prevention
- HP 2020- Healthy People 2020
- MCH - Maternal and Child Health
- OH - Oral Health
- OHN - Oral Health Nevada
- OHP - Nevada Oral Health Program

References

- Anil, S., Chalisserry, E., Chalisserry, V., AlMoharib, H., & Al-Sulaimani, A. (2015). Oral Health and Adverse Pregnancy Outcomes. In 1156612610 868966306 R. Alrowis (Ed.), Emerging Trends in Oral Health Sciences and Dentistry(pp. 631-662). Licensee InTech. doi:10.5772/59517
- California HealthCare Foundation. (2010). Oral Health During Pregnancy and Early Childhood: Evidence-Based Guidelines for Health Professionals (Rep.). CA. doi:https://www.cdafoundation.org/Portals/0/pdfs/poh_guidelines.pdf
- Department of Health and Human Services U.S. Public Health Service. (2000). Oral Health in America: A Report of the Surgeon General. Rockville, MD: National Institute of Dental and Craniofacial Research.
- Eke, C., Mask, A., Reusch, C., Vishnevsky, D., Quinonez, R.B. (2019) Data brief: Improving oral health coverage in pregnancy in the U.S. Children's Dental Health Project.
- Fisher-Owens SA, Barker JC, Adams S, et al. (2008). Giving policy some teeth: Routes to reducing disparities in oral health. Health Aff (Millwood). 27(2):404-12.
- Gracy D, Fabian A, Basch CH, Scigliano M, MacLean SA, MacKenzie RK, et al. (2018) Missed opportunities: Do states require screening of children for health conditions that interfere with learning? PLoS ONE 13(1): e0190254. Retrieved from https://doi.org/10.1371/journal.pone.0190254
- Gracy D, Fabian A, Roncaglione V, Savage K, Redlener I. (2017). Health Barriers to Learning: The Prevalence and Educational Consequences in Disadvantaged Children [Internet]. Children's Health Fund. Retrieved from: https://www.childrenshealthfund.org/hbl-literature-review/

References

- Kumar, J., Samelson, R., Burakoff, R., & Minkoff, H. (2006). Oral Health Care during Pregnancy and Early Childhood Practice Guidelines (Rep.). Retrieved https://www.health.ny.gov/publications/0824.pdf
- Kwan, S., & Petersen, P. E. (2003). Oral health promotion: An essential element of a health-promoting school.In: World Health Organization Information Series on School Health. . Geneva: WHO.
- Michael SL, Merlo CL, Basch CE, Wentzel KR, Wechsler H. (2015). Critical connections: health and academics. J Sch Health. 2015;85: 740–758. doi: 10.1111/josh.12309
- Offenbacher, S., Katz, V., Fertik, G., Collins, J., Boyd, D., Maynor, G., . . . Beck, J. (1996). Periodontal Infection as a Possible Risk Factor for Preterm Low Birth Weight. Journal of Periodontology, 67(10), 1103-1113. doi:10.1902/jop.1996.67.10.1103
- Teshome, A., & Yitayeh, A. (2016). Relationship between periodontal disease and preterm low birth weight: systematic review. The Pan African medical journal, 24, 215. https://doi.org/10.11604/pamj.2016.24.215.8727
- Xiong, X., Buekens, P., Vastardis, S., & Yu, S. M. (2007). Periodontal disease and pregnancy outcomes: state-of-the-science. Obstetrical & gynecological survey, 62(9), 605-615. https://doi.org/10.1097/01.ogx.0000279292.63435.40