Issue Brief

Preventive Dental Care During Pregnancy, 2012-2015, Rhode Island PRAMS

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Definition and Significance

Access to dental care during pregnancy is influenced by situational barriers.[1] According to studies utilizing data from the Centers for Disease Control's (CDC) Pregnancy Risk Assessment Monitoring System (PRAMS), many women do not receive dental care during pregnancy.[2] Preventive dental services are important during pregnancy due to a woman's increased risk of both periodontal disease and tooth decay. Bacterial plaque causes gingival inflammation which is exacerbated by increased plasma sex steroid hormone levels in pregnant women.[3,4] An acidic oral environment from vomiting and/or gastric reflux and more frequent snacking increases a woman's risk of cavities. The Perinatal and Infant Oral Health Quality Improvement (PIOHQI) initiative aims to reduce the prevalence of oral disease in pregnant women and infants through improved access to high-quality oral healthcare.[5]

This report uses 2012–2015 Rhode Island PRAMS data to explore potential target areas for the improvement of preventive dental care use during pregnancy. Women who had their teeth cleaned by a dentist or dental hygienist during their most recent pregnancy were defined as having preventive dental care.

PIOHQI Target

By 2019, increase the percentage of pregnant women who have received oral healthcare to 60%.

Recommendations for Obstetricians

- Provide an oral health risk assessment for all pregnant women.
- Review potential pregnancy-related oral problems related to teeth and inflamed periodontal tissue and recommend prevention strategies.
- Advise women that oral healthcare improves a woman's general health through her lifespan and may also reduce the transmission of oral bacteria that can cause cavities from mothers to their infants.
- Provide a referral to a dental provider for a comprehensive examination, preventive care, and assistance in the establishment of a dental home for mother and infant.[6]

Recommendations for the Dental Team

- Perform routine dental prophylaxis and care as required for oral health. Review the safety and importance of care and contact the obstetrician if there are questions or concerns.
- Provide anticipatory guidance regarding increased risk of gingivitis, tooth mobility, and periodontal swelling during pregnancy and the importance of effective removal of plaque bacteria.
- Review strategies to prevent harm to teeth from acidity of mouth due to vomiting or gastric reflux, including rinsing prior to brushing. Discuss importance of rinsing and brushing after sugary snacks.
- Reinforce need for Age 1 dental visit for baby, and facilitate obtaining dental home.[7,8]

Rhode Island PRAMS

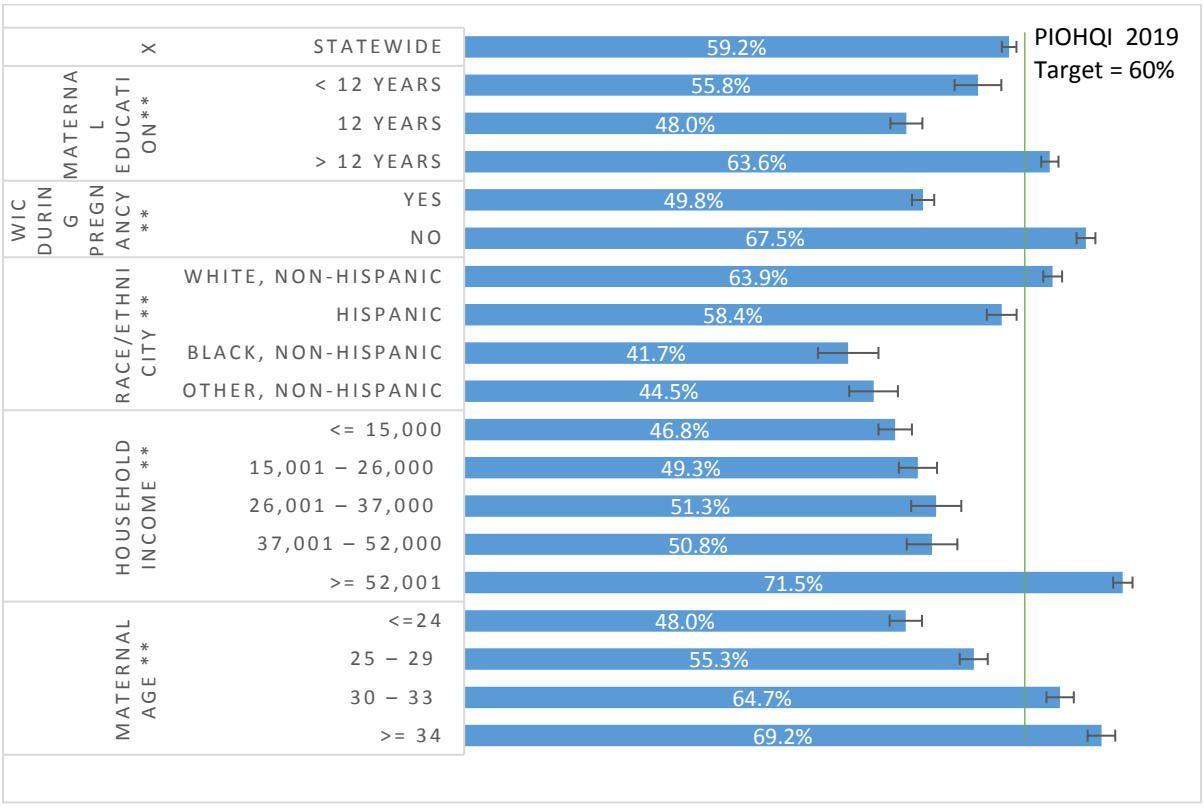
The goal of the Rhode Island PRAMS survey is to improve the health of mothers and infants by providing accurate data to a wide audience. The Rhode Island PRAMS program is conducted through a collaboration between the Rhode Island Department of Health (RIDOH) and CDC and surveys about 1,900 recent mothers per year. Responses are weighted to be representative of women who delivered a live infant in Rhode Island from 2012-2015. More information is available on the PRAMS website.[10, 11] During 2012-2015, Rhode Island PRAMS asked several questions about dental care and barriers to dental care during pregnancy, and a total of 4,687 mothers responded to the survey.

Demographic characteristics, 2012 - 2015

Demographic characteristics were significantly associated with receipt of preventive dental care during pregnancy. As shown in Figure 1, lower prevalence of preventive dental care was reported among women who:

- had 12 years of education (48.0%);
- received WIC during pregnancy (49.8%);
- were other, non-Hispanic (44.5%) or Black, non-Hispanic (41.7%);
- had household incomes less than $52,001 annually; and/or
- were younger than 25 (48.0%).

Figure 1: Percent of Women Who Received Preventive Dental Care During Pregnancy by Demographic Characteristics in Rhode Island, 2012 – 2015



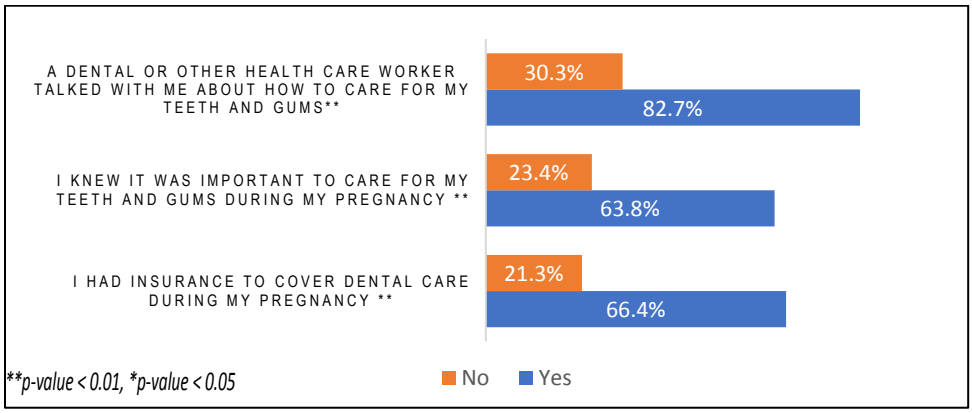
***p-value < 0.01: Statistical analysis calculated using chi-squared test to detect the difference between the groups using STATA SE 14. Survey procedures account for complex survey design.*

Receipt of Preventive Dental Care During Pregnancy by Situational Factors, Rhode Island, 2012-2015

Figure 2 shows that situational variables were strongly associated with the receipt of preventive dental care during pregnancy in 2012-2015.

- 82.7% of women who talked with a dental or other healthcare worker about how to care for teeth and gums received preventive dental care during pregnancy, while only 30.3% of women who did not talk to a healthcare provider received preventive dental care.
- 63.8% of women who knew the importance of dental care during pregnancy received preventive dental care, compared to 23.4% of women who did not know the importance of dental care received preventive dental care.
- 66.4% of women who had dental insurance to cover dental care received preventive dental care during pregnancy, while 21.3% of women who did not have dental insurance received preventive dental care.

Figure 2: Receipt of Preventive Dental Care During Pregnancy, By Situational Factors, Rhode Island, 2012–2015

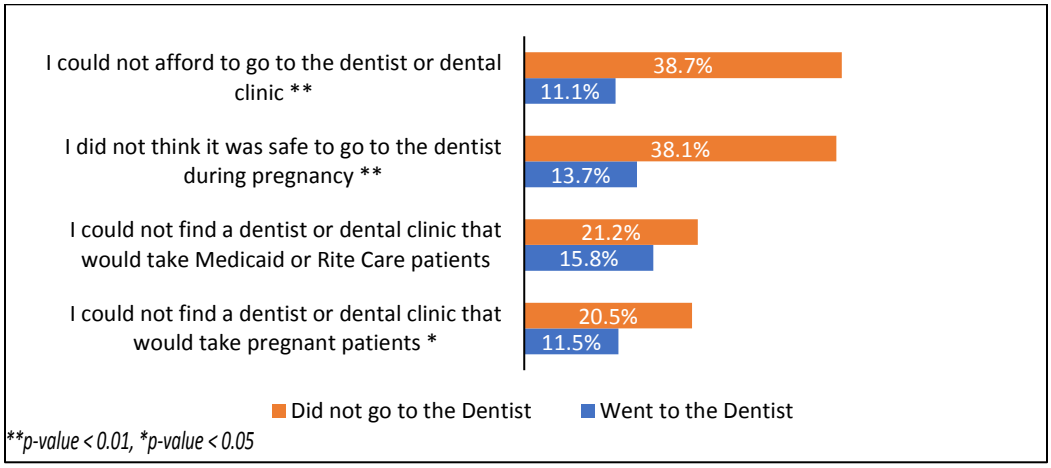


Barriers to Receipt of Dental Care Among Those Who Had a Dental Problem During Pregnancy, Rhode Island, 2012-2015

Overall, 16.1% (731 women) of new mothers needed to see a dentist for an oral health-related problem during the pregnancy. Of those, 75.9% (557 women) reported they went to a dentist or dental clinic about the problem, and 24.1% (172 women) did not go to a dentist or dental clinic. Women who did not go a dentist were more likely to report that:

- They could not afford to go to the dentist or dental clinic (38.7% versus 11.1%).
- They didn't think it was safe to go to the dentist during pregnancy (38.1% versus 13.7%).
- They could not find a dentist or dental clinic that would take pregnant patients (20.5% versus 11.5%).

Figure 3: Reported Barriers to Dental Care Receipt, Among Those Who Had a Dental Problem during Pregnancy, Rhode Island, 2012-2015



Discussion and Conclusion

- In 2012 – 2015, 59.2% of women received preventive dental care during pregnancy (95% CI: 57.6% - 60.7%).
- The only groups that are currently above the PIOHQI target were women older than 30, whose household incomes were more than $52,001, were non-Hispanic White, did not participate in the WIC program, and had more than 12 years of education.
- Ongoing educational activities for WIC staff and availability of teaching aids are intended to increase rates of preventive care for those participating in the WIC program.
- Providing dental insurance for pregnant women, counseling about oral health during prenatal provider office visits, and raising awareness of the importance of care for teeth and gums increases utilization of critical preventive dental services.

Limitations of the Study

The study could benefit from the availability of the ZIP codes of respondents in order to identify the communities that are most at risk.

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References

1. Sherman, D.K., J.A. Updegraff, and T. Mann, Improving oral health behavior: a social psychological approach. J Am Dent Assoc, 2008. 139(10): p. 1382-7.
2. Gaffield, M.L., et al., Oral health during pregnancy: an analysis of information collected by the pregnancy risk assessment monitoring system. J Am Dent Assoc, 2001. 132(7): p. 1009-16.
3. Wu, M., S.W. Chen, and S.Y. Jiang, Relationship between gingival inflammation and pregnancy. Mediators Inflamm, 2015. 2015: p. 623427.
4. Amar, S. and K.M. Chung, Influence of hormonal variation on the periodontium in women. Periodontol 2000, 1994. 6: p. 79-87.
5. National Maternal and Child Oral Health Resource Center, Perinatal and Infant Oral Health Quality Improvement Initiative. 2018.
6. Rainchuso, L., Improving oral health outcomes from pregnancy through infancy. J Dent Hyg, 2013. 87(6): p. 330-5.
7. Committee on Health Care for Underserved Women. (2017). Oral Health Care During Pregnancy and Through the Lifespan. Retrieved from https://www.acog.org/Clinical-Guidance-and-Publications/Committee-Opinions/Committee-on-Health-Care-for-Underserved-Women/Oral-Health-Care-During-Pregnancy-and-Through-the-Lifespan
8. TeethFirst! Rhode Island. https://www.teethfirstri.org/
9. Centers for Disease Control and Prevention (CDC): Pregnancy Risk Assessment Monitoring System [Internet]. Available from: https://www.cdc.gov/prams/
10. State of Rhode Island Department of Health: Pregnancy Risk Assessment Monitoring System [Internet]. [cited 2017 Dec 14]; Available from: http://health.ri.gov/programs/detail.php?pgm_id=185/