

## COMMENT

# Oral health care during pregnancy: four aims may be too many

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## Dear Editor

We read the article, 'Oral health status during pregnancy: rural urban comparisons of oral disease burden among antenatal women in Sri Lanka' by Karunachandra et al with interest<sup>1</sup>. Pregnant women in rural Sri Lanka were found to have more dental or periodontal disease than those in urban areas but they used oral healthcare services less frequently due to concerns about the safety of oral care during pregnancy.

According to Karunachandra et al, oral health care during pregnancy may reduce oral/periodontal diseases during pregnancy, the incidence of adverse pregnancy outcomes attributed to them, and the risk of mother–baby transmission of bacteria that cause dental diseases. Periodontal diseases, causing systemic inflammation, may be a risk factor for diabetes mellitus and cardiovascular diseases, and thus oral healthcare may also reduce these diseases, but the authors mentioned only the former. Thus, their context is that dental/oral healthcare during pregnancy

targets the 'four aims': (i) to reduce oral diseases during the current pregnancy; (ii) to provide a good pregnancy outcome; (iii) to promote the baby's oral health; and (iv) to prevent the future occurrence of adult systemic diseases. We have two concerns.

First, the view that oral healthcare during pregnancy may reduce adverse pregnancy outcomes has not been determined: preterm delivery has been widely studied and discussed. While some previous data supported this view, recent findings do not. Recent randomized control trials with the largest study population demonstrated that periodontal care did not prevent preterm delivery, fetal growth restriction, or preeclampsia<sup>2,3</sup>. Indeed, women receiving periodontal care had a higher rate of spontaneous preterm delivery<sup>4,5</sup>; thus, periodontal care may cause systemic inflammation, leading to preterm delivery<sup>4,5</sup>. The rural women's concern about the safety of receiving dental care during pregnancy may be correct as far as the pregnancy outcome is concerned. It is unclear whether dental diseases, via systemic inflammation, cause adverse pregnancy outcome, or whether



individuals hyper-responsive to bacteria show both dental diseases and adverse pregnancy outcome. The cause-and-effect relationship between them is unclear. The same may be true for systemic diseases. The American Heart Association concluded that there is no evidence that periodontal interventions prevent atherosclerotic vascular disease<sup>6</sup>. Although some previous studies indicated that treating periodontal disease improved glycemic control in type II diabetes, they lacked the power to detect significance<sup>7</sup>. Thus, recent findings virtually negate the rationale of aims (ii) and (iv).

Second, I believe that rural populations, irrespective of whether they are pregnant or non-pregnant, may have periodontal disease more frequently than urban populations. Determinants of oral care during pregnancy, including accessibility to the dentists, socioeconomic status, and health promotion motivation, may differ between these two populations; however, it is reasonable to assume that all these may work more unfavorably in rural than urban populations. Karunachandra et al's findings<sup>1</sup> may only reflect the general, and not 'pregnancy-specific', tendency in rural versus urban areas. So, it is hoped that the incidence of periodontal disease in rural versus urban areas is not confined to pregnant women.

Oral health care during pregnancy may prevent the occurrence of periodontal diseases later in pregnancy: aim 1 is valid. Eradicating, or at least reducing, oral bacteria will surely contribute to decreasing the mother-to-baby transmission of dental diseases: aim 3 is also valid. Oral health care education is important: during-pregnancy visits may provide a good approach. We, of course, support the promotion of oral health care only for oral health. However, having 'four aims' at the same time may be too many.

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## References

1. Karunachandra NN, Perera IR, Fernando G. Oral health status during pregnancy: rural urban comparisons of oral disease burden among antenatal women in Sri Lanka. *Rural and Remote Health* 12:1902. Available: [www.rrh.org.au](http://www.rrh.org.au) (Accessed 9 July 2012).
2. Offenbacher S, Beck JD, Jared HL. Maternal Oral Therapy to Reduce Obstetric Risk (MOTOR) Investigators. Effects of periodontal therapy on rate of preterm delivery: a randomized controlled trial. *Obstetrics and Gynecology* 2009; 114(3): 551-559.
3. Newnham JP, Newnham IA, Ball CM, Wright M, Pennell CE, Swain J et al. Treatment of periodontal disease during pregnancy: a randomized controlled trial. *Obstetrics and Gynecology* 2009; 114(6): 1239-1248.
4. Boggess KA. Treatment of localized periodontal disease in pregnancy does not reduce the occurrence of preterm birth: results from the Periodontal Infections and Prematurity Study (PIPS). *American Journal of Obstetrics and Gynecology* 2010; 202(2): 101-102.
5. Macones GA, Parry S, Nelson DB, Strauss JF, Ludmir J, Cohen AW et al. Treatment of localized periodontal disease in pregnancy does not reduce the occurrence of preterm birth: results from the Periodontal Infections and Prematurity Study (PIPS). *American Journal of Obstetrics and Gynecology* 2010; 202(2): 147.
6. Lockhart PB, Bolger AF, Papapanou PN et al, American Heart Association Rheumatic Fever, Endocarditis, and Kawasaki Disease Committee of the Council on Cardiovascular Disease in the Young, Council on Epidemiology and Prevention, Council on Peripheral Vascular Disease, and Council on Clinical Cardiology. Periodontal disease and atherosclerotic vascular disease: does the evidence support an independent association? A scientific statement from the American Heart Association. *Circulation* 2012; 125(20): 2520-2544.
7. Simpson TC, Needleman I, Wild SH, Moles DR, Mills EJ. Treatment of periodontal disease for glycaemic control in people with diabetes. *Cochrane Database Systematic Review* 2010; 5: CD004714.