

Comments about the paper “Effect of nonsurgical periodontal therapy and strict plaque control on preterm/low birth weight: a randomized controlled clinical trial”

Nestor J. Lopez

Received: 14 June 2013 / Accepted: 11 November 2013 / Published online: 22 November 2013
© Springer-Verlag Berlin Heidelberg 2013

In reading the paper from Weidlich et al. entitled “Effect of nonsurgical periodontal therapy and strict plaque control on preterm/low birth weight: a randomized controlled clinical trial” (Clin Oral Invest 2013; 17:37–44), important methodological flaws in the study design raise founded doubts on the validity of its conclusion. The objective of the study was to assess the effect of periodontal therapy in reducing the risk of preterm birth and low birth weight (PTLBW). The authors concluded that periodontal diseases may be successfully treated during pregnancy, but no beneficial effect of periodontal treatment on PTLBW was found.

The conclusion of the study cannot be trusted due to the following methodological flaws:

1. The authors did not differentiate between spontaneous preterm birth from medically indicated preterm birth. Preterm birth cannot be considered as a single entity. Preterm birth includes two main distinct clinical subtypes: (a) spontaneous preterm birth, which occurs naturally as a result of spontaneous onset of labor or preterm premature rupture of fetal membranes, and (b) indicated preterm birth in which delivery is initiated by medical intervention because of dangerous pregnancy complications. The etiologies and the initiators of these types of birth may be quite distinct [1], and each category of preterm birth may have potentially unique risk factors. The diversity of processes capable of causing preterm delivery suggests that efforts to determine the preventive effect of PT should consider each of those processes separately [2]. Approximately 20 % of preterm deliveries are the result of a physician's decision [3]. Therefore, it is important to distinguish spontaneous preterm birth and indicated

preterm birth when investigating its association with a possible risk factor [2], and this was not done in the Weidlich et al. study.

2. Definition of the exposure. In the study, there is no definition of the exposure, and this is periodontal disease. The authors described that “all pregnant women seeking prenatal care were considered eligible,” but there is no description of the periodontal inclusion criteria used for the diagnosis of periodontal disease. The only inclusion criteria used was “women seeking prenatal care,” and this condition is not an indication to administer periodontal treatment. Apparently, periodontal treatment was indiscriminately applied to all women because they were pregnant.

Moreover, the description of periodontal characteristics of participants (Table 3) clearly shows that women had mild gingivitis (mean of 32 % of gingival bleeding sites) or very mild periodontitis (mean of 11 % of sites with probing depth ≥ 4 mm and 7 % of sites with clinical attachment loss of ≥ 2 mm). Thus, the intensity or severity of the exposure in the participants of the study was probably too low to have effect on pregnancy outcomes.

3. Participants of the control group received one session of supragingival calculus removal and oral hygiene instruction. The administration of treatment to the control group is a source of performance bias because the removal of supragingival calculus and plaque affects both the amount of subgingival biofilm and its composition [4, 5] which result in decreasing periodontal inflammation [6]. Thus, participants of the control received a treatment that has been showed reduces periodontal infection.

N. J. Lopez (✉)
University of Chile, Santiago, Santiago, Chile
e-mail: nnjlopez@gmail.com

Conflict of interests The author declares that there is no conflict of interests.

References

1. Berham RE, Butler AS (eds) (2006) Preterm birth: causes, consequences and prevention. The National Academies, Washington, D.C., pp 55–134, Committee on Understanding Premature Birth and Assuring Healthy Outcomes, Board on Health Sciences Policy, National Academy of Sciences
2. Savitz DA, Blackmore CA, Thorp JM (1991) Epidemiological characteristics of preterm delivery: etiologic heterogeneity. *Am J Obstet Gynecol* 164:467–471
3. Goldeberg RL, Hauth JC, Andrews WW (2000) Intrauterine infection and preterm delivery. *N Engl J Med* 342:1500–1507
4. Smulow JB, Turesky SS, Hill RG (1983) The effect of supragingival plaque removal on anaerobic bacteria deep periodontal pockets. *JAMA* 107:737–742
5. Westfelt E, Rylander H, Dahlen G, Lindhe J (1998) The effect of supragingival plaque control on the progression of advanced periodontal disease. *J Clin Periodontol* 25:536–541
6. Hellström M-K, Ramberg P, Krok L, Lindhe J (1996) The effect of supragingival plaque control on the subgingival microflora in human periodontitis. *J Clin Periodontol* 23:934–940