

Commentary on “Relationship between maternal periodontal disease and Apgar score of newborns”

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To the editor:

It was with interest that we read the case-control study by Shirmohammadi et al. [1] on an Iranian population published in your esteemed journal. We would like to raise a methodological issue that concerned us. The study classified cases and controls based on the periodontal disease status and reached a conclusion that there is a relationship between periodontal disease and low birth weights. The authors discussed various studies [2-4], and it became clear that they wanted to estimate the risk of maternal periodontal disease leading to low birth weights or abnormal Apgar scores in newborn babies. However, the methodology of the study seemed aimed at Apgar scores and birth weights being considered as risk factors (independent variables) for maternal periodontitis. Pregnant women with periodontal disease were cases while those without periodontal disease were controls. Thus the risk estimates determined were for developing periodontal disease and not adverse pregnancy outcomes. The aim of the study also states that it was “to determine whether the mother’s periodontal disease can have an effect on the infant or not.” To achieve the stated aim, the study should have classified the comparison groups based on the pregnancy outcomes rather than periodontal disease.

We would also like to raise the issue of the study having an arbitrary sample size without a correct estimation. This definitely affects the validity as well as the reliability of the study. In addition, any case-control study is an analytical study and never a ‘descriptive’ one, and as such requires a valid sample

size calculation.

One more issue is the inclusion of women with a previous pregnancy. The lack of clarity whether previous pregnancy was defined as including stillbirth, normal term or preterm low birth weight delivery and thus including all introduces a selection bias. Having a history of previous adverse pregnancy outcomes can itself be a risk factor for the low birth weight of infants [4] and should have been excluded from the study. However, it should also be noted that it is generally believed that pregnancy outcomes are more favourable for multiparous [2,3]. To summarize, we would like to point out that the methodology was wrong for the aim of this published study.

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