

LETTER TO THE EDITOR

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Oral health- a luxury or a necessity

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Dear Editor,

The healthy future of Pakistan depends on the health of the children of today and their mothers, who are guardians of that future. Since the old wives' tale of "the loss of tooth for every pregnancy," oral health during pregnancy has been topic of increasing curiosity and much conjecture. And thus it is postulated that dental infections like periodontal diseases may have an association with LBW.

Low birth weight (LBW) is one of the main predictors of infant mortality. The global incidence of LBW is around 17%, although estimates vary from 19% in the developing countries (countries where it is an important public health problem) to 5–7% in the developed countries [1]. The World Health Organization (WHO) defines LBW as "birth weight less than 2500 grams or 5.5 pounds". [2]. In general, risk factors in the mother that may contribute to low birth weight include young ages, multiple pregnancies, previous LBW infants, poor nutrition, heart disease or hypertension, drug addiction, alcohol abuse, and insufficient prenatal care. Environmental risk factors include smoking, lead exposure and other types of air pollutions. Periodontitis, one of the most common dental diseases in Pakistan [3] is a serious gum infection and harms the soft tissues and bones of the teeth. Although the Pakistan Dental Review elucidates that nearly 90% of the population is subjected to varying degrees of dental disease, maternal periodontal disease as a risk factor for LBW is more or less an unexplored area. So far only a few studies have been done in Pakistan which focuses only on low birth weight and maternal periodontitis.

It was first pointed out in 1996 that maternal periodontal disease results in a seven times greater risk of a preterm low birth weight infant delivery. Similarly, other studies have shown significant association between periodontitis and LBW [4,5,6]. The biological mechanism behind this association involves bacterial infiltration of

the periodontium. Bacterial toxins stimulate chronic inflammation, the periodontium is broken down and pockets are created which become infected and ultimately the teeth become loose. This triggers recurrent bacteremia, which elicits in an indirect way the hepatic acute phase response. This process produces cytokines, prostaglandins like Prostaglandin E2 and interleukins especially IL-6 and IL-8, which have an effect on pregnancy.

Thus periodontitis is found to be a highly modifiable but independent risk factor for infant mortality. There is a dire need to identify the oral health status of pregnant women in order to recommend effective preventive measures. Dentistry can be vital in improving prenatal outcome

and maternal or fetal dental health through screening, arguably it is equally imperative to improve the oral health knowledge and oral health care habits of pregnant women to reduce the incidence of LBW to some extent.

References

1. Valero de Bernabé J, Soriano T, Albaladejo R, Juarranz M, Calle ME, Martínez D, Domínguez-Rojas V. "Risk factors for low birth weight: a review". *EEur J Obstet Gynecol Reprod Biol.* 2004;116(1):3-15.
2. Wardlaw TM. Low Birthweight: Country, regional and global estimates: UNICEF; 2004
3. Harchandani N. Oral health challenges in Pakistan and approaches to these problems. *Pak Oral Dent J.* 2012;32(3):497-501.
4. Siqueira FM, Cota LO, Costa JE, Haddad JP, Lana AM, Costa FO. Intrauterine growth restriction, low birth weight, and preterm birth: adverse pregnancy outcomes and their association with maternal periodontitis. *J Periodontol* 2007;78(12):2266–76.
5. Jacob PS, Nath S. Periodontitis among poor rural Indian mothers increases the risk of low birth weight babies: a hospital-based case control study. *J Periodontal Implant Sci.* 2014;44(2):85–93.
6. Shah M, Muley A, Muley P. Effect of nonsurgical periodontal therapy during gestation period on adverse pregnancy outcome: a systematic review. *J Materna Fetal Neonatal Med.* 2013;26(17):1691–5.

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