

A STUDY OF ASSOCIATION BETWEEN MATERNAL PERIODONTITIS AND LOW BIRTH WEIGHT INFANTS AMONG MALAY WOMEN IN KOTA BHARU, KELANTAN

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Introduction

Worldwide, low birth weight (LBW) is a significant risk factor for neonatal and infant mortality. The adverse consequences of LBW, which include a variety of chronic medical conditions and neurodevelopmental disorders that may lead to long term health problems for the infants, not only cause a tremendous impact on the family but also on the health care system. Current studies have suggested maternal periodontal infection as a risk factor for LBW.

Objective

The objectives of this prospective cohort study were to determine the incidence of LBW infants among pregnant women with periodontitis and the association between maternal periodontitis and LBW.

Methodology

Screening periodontal examinations were carried out on all pregnant women attending Klinik Kesihatan Ibu dan Anak (KKIA) Bandar Kota Bharu and KKIA Wakaf Che Yeh for antenatal health care during the study period of December 2003 to June 2004 who fit the inclusion and exclusion criteria. Systematic random sampling was utilized for selection of 250 study subjects for each study group. Of 500 women enrolled in the study, 28 (5.6%) were either lost to follow-up or excluded. Of the remaining subjects, 240 women had healthy periodontium while another 232 had periodontitis.

Results

The incidence of LBW was 14.2% (95% CI: 9.7-18.8) in women with periodontitis, and 3.3% (95% CI: 1.1-5.6) in women without periodontitis. The relative risk of having LBW infants was 4.27 times for women with periodontitis than for those without periodontitis (RR=4.27, 95% CI: 2.01-9.04). Significant association was found between maternal periodontitis and LBW at both univariable (OR=4.81, 95% CI: 2.17-10.65) and multivariable level analyses (OR=3.84, 95% CI: 1.34-11.05).

Conclusion

The results of this study provide additional evidence that pregnant women with periodontitis are at a significantly higher risk of delivering LBW infants. It is hoped that this study would stimulate and motivate further research that explores the role of oral diseases in human health. Ultimately, it should help to establish the groundwork for better communication between the medical and dental colleagues to improve the quality of antenatal health care in Malaysia.