Oral Health Status and Salivary Interleukin- 6 among Preterm Postpartum Women in Relation to Baby Birth Weight

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Abstract

There is a possible relationship between periodontal alteration in pregnant women and their delivery of low birth weight (<2500g) and preterm (<37 weeks) infants.

The purpose of this study were to investigate the relation between salivary interleukin – 6 and baby birth weight, also the relation between salivary interleukin – 6 and baby birth weight with decayed, missing and filled surface index, severity of dental caries (D_{1-4}), plaque, gingival, calculus Indices and probing pocket depth among postpartum women. The study group consisted of 33 preterm postpartum women and control group consisted of 33 full term postpartum women. All women aged 20 – 25 years were selected from the different Maternity Wards in Baghdad. Dental caries was recording using decayed, missing and filled surfaces Index according to the criteria described by world heath organization (1987) and D_{1-4} criteria by Muhelmman (1976) to assess the decayed lesion by severity. Plaque, calculus and gingival Indices were used for recording the oral hygien (dental plaque, calculus) and gingival health condition according to Silness and Löe (1964), periodontal disease index by Ramfjord (1967) and Löe and Silness (1963) respectively. Also probing pocket depth was recorded. Salivary samples were taken from all subjects to estimate salivary interleukin – 6 levels. Babies' birth weight also was measured.

Data of the present study showed a higher caries experience among study group (14.70 ± 14.02) compared to control group (11.79 ± 10.46) with no statistically significant difference (P>0.05). For both groups the initial decayed surface D_2 was a highest value (3.82 ± 3.17) in study group and (3.15 ± 2.75) in control group. While the deep frank cavitation D_4 was the lowest (0.18 ± 0.77) in study group with no data recording

among control group. Concerning gingivitis, a highly significant difference was observed in the gingival Index mean value between study and control groups (1.31 ± 0.27 and 1.08 ± 0.18 respectively). No significant difference was found in salivary interleukin – 6 between both groups (P>0.05). The result revealed highly significant difference in BBW between the two groups (1848.48 ± 371.75 and 3284.85 ± 324.39 respectively). The correlation between DS and salivary interleukin – 6 was highly significant, and a significant correlation noticed between D_3 and salivary interleukin – 6 in study group. In control group, a highly significant positive correlation was detected between baby birth weight and DMFS, and a significant correlation was observed between baby birth weight with decayed surface, also a significant correlation was found between salivary interleukin – 6 and decayed surface in the same group. Negative not significant correlations were seen between salivary interleukin – 6 with plaque, gingival, calculus Indices and probing pocket depth in study group and with plaque index, gingival index and calculus index in control group. Also a negative not significant correlation was observed between baby birth weight and plaque index in study group. On the other hand, a positive not significant correlation was noticed between salivary interleukin – 6 and probing pocket depth in control group.

It is concluded that pregnant women during pregnancy required preventive programs directed for improvement of oral health and especially periodontal diseases to prevent any pregnancy out comes such as preterm delivery and low birth weight.