Comparison of caries-related risk between human breast milk and infant formulas

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Abstract: -

Early child hood caries (ECC) is a serious oral condition that affects many children. Baby bottle tooth decay, as a manifestation of ECC, is associated with prolonged and frequent daytime, naptime and night time bottle feedings. Prolonged and excessive breast-feeding also has been suspected as a causative factor in ECC because human breast milk (HEM) has higher carbohydrate content than bovine milk.

Infant milk formulas (IMF) have been implicated in the development of baby bottle tooth decay as the carbohydrate present in the formula may facilitate the adherence of cariogenic microorganism, or serve as metabolites in the production of organic acid. However, controversy still exists regarding the relative cariogenicity of both HBM&HvlF.

The objective of this study was to estimate and compare the caries related risk factors associated with infant milk formulas (IMF) as well as in human breast milk (HBM) feeding infants.

50 lactated children their age ranges from 16 - 22 months were selected in this study having sound erupting teeth. They were divided into two equal groups human breast-feed (group I) and infant milk formulas feed (group II). Dental plaque pH changes before & one hour after feeding with HBM & IMF was calculated compared from supra-gingjval plaque was sampled from maxillary buccal surface. Streptococcus mutans growth & buffering capacity of The staIldardized suspension of Streptococcus mutans was incubated with either HBrv1 or IMF for 3 hours & the number of streptococcus mutai'1S colony forming units was counted & compareq between tvvo QTOUDS.

The present finding revealed that: -

1- HIHv1 does not cause significant drops of plaque pH, while IMF was able to reduce the pH significant.

2- I-rnrv1 supports I.noderate bacterial growth, where IMF supports significant bacterial 8rowth.

3-The buHerin8 capacity of HI3M is poor, while IMF is unable to buffer the oddition of acid.

4-The plaque p11 ond buffer capacily varied ore different in infant formulas.