



0350

Parental Impact on Children's Caries Risk Following Oral Health InterventionM. Reda¹, A. Sen^{2,3}, A. K. Åstrøm^{4,1}, K. M. Jensen¹, M. Mustafa¹

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Objectives To assess the influence of immigrant parents' oral health behaviours on their children's feeding-oral hygiene habits, and risk of Early Childhood Caries (ECC) following oral health intervention.

Methods Immigrant parents (N=345) with newborns from 7 health centres in Bergen, Norway, were cluster-randomized into intervention (n=4) and control (n=3) groups. Intervention group received oral health educational program, while control group received standard healthcare information. Structured Questionnaires on parental oral hygiene behaviours (POH) and parental dietary habits (PDH) were collected at baseline and follow-up (after 18-24 months). Child feeding habits (CFH) (night-time breastfeeding, sweetened bottles), oral hygiene practices (CBH) (brushing, fluoride toothpaste use), and clinical examination of primary teeth were assessed at follow-up. Multiple logistic regression models estimating odds ratios (OR) with 95%CI were used to assess the association of parental behaviours (POH, PDH) on their children's feeding and hygiene habits (CFH, CBH) and ECC risk. Structural equation modelling (SEM) was used to investigate the association between the parental behaviours, children's oral hygiene-feeding habits and ECC risk.

Results No significant differences were found between intervention and control groups regarding parental hygiene-dietary behaviours, children's oral health habits, or ECC. Consequently, the groups were merged into a single cohort for comprehensive assessment of parental behaviours' impact on children's oral health habits and ECC risk. POH, unlike PDH, was associated with CFH (OR 0.5, 95%CI: 0.3,0.9). Negative CFH increased ECC risk (OR 3.7, 95%CI:1.6,8.4). CBH and POH slightly reduced the ECC risk with ORs 0.55 (95%CI: 0.25,1.24) and 0.6 (95%CI: 0.29,1.26) respectively, nevertheless, PDH showed no significant impact. SEM analysis confirmed earlier findings, identifying CFH as the sole factor influencing ECC risk.

Conclusions The oral health intervention had no impact on parental hygiene-dietary behaviours, children's oral health habits, or ECC risk. Child feeding habits are the key determinant influencing ECC risk.