

Health promotion and early childhood caries

Aims: The purpose of the study was to test the efficacy of an oral health promotion program (OHPP) for the parents of infants, starting with pregnant women, using a randomised controlled trial. The OHPP used anticipatory guidance to focus on the needs of each child during the first 18 months of life.

Method: In total 649 nulliparous women were enrolled in the study. During the enrolment they were randomised into test and control groups, using Zelen's design. Mothers in the test group (n = 327) received the first round of oral health promotion information at their enrolment in the study. They received the second round of information when their child was 6 months old and the third round when their child reached 12 months of age. This written oral health promoting material was mailed to their home address. After the second round of information test group mothers were randomised on the test A and test B groups. In test group A the oral health promotion information was reinforced through a phone interview, in contrast to test group B where no reinforcement took place. There was no contact with mothers (n = 322) in the control group from the time of their enrolment. At the age of 18 months, all children were examined by a dentist. Baseline data at the enrolment to the study, refusal to participate in the study, retention of participants in the study according to the socio-economic factors, data from two questionnaires (First Maternal Oral Health Survey, second Child's Oral Health Survey), medical history, dental examination, and responses of participants to the oral health promotion information were analysed. The differences in outcomes between the test and control groups, and the test A and test B groups were calculated.

Findings: From a total of 649 nulliparous women enrolled in the study, after exclusions and losses to the study since enrolment, 441 children were examined at the age of 20 ± 2.5 sd months. The number of examined children in the test group was 232 and 209 in the control group. There were no statistically significant differences between the test and control groups at baseline and follow-up according to socio-economic characteristics. Using a case definition of severe early childhood caries (S-ECC) as one or more maxillary anterior teeth carious, the incidence of S-ECC in the test group was 1.7% and in the control group 9.6%. The overall incidence of S-ECC was 5.4%. The difference in the caries incidence between test and control group was statistically significant at $p < 0.001$. The phone call counselling to mothers in test

group A received between six and 12 months of their child's age did not influence the incidence of S-ECC (group A 1.6%, group B 1.8%). The first-time mothers proved to be a group receptive to health information.

Conclusion: The statistically significant difference in the incidence of S-ECC between the test and control groups indicates high efficacy of the oral health promoting intervention provided in the form of anticipatory guidance periodically mailed to the mother's home address.