**An international Delphi Study of Fluoride-based Caries Prevention in Nursery and Primary Schools**

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**Aim:**The aim of this study was to develop an international expert consensus on fluoride-based interventions in early-years education settings (nursery and primary schools) for reducing Early Childhood Caries (ECC), a recognised global public health challenge which has substantial impact on child wellbeing and healthcare system expenditure.

**Methods:**A systematic overview of systematic reviews, trials, and observational studies was performed to identify and critically appraise the available evidence on the effectiveness and cost-effectiveness of fluoride-based interventions in early-years education settings to prevent ECC. This was followed by a three stage Delphi panel study (n= 21) consisting of round 1, an online survey to gather opinion on overview findings, round 2 an online survey to present collated group opinion and gather feedback and round 3 an online workshop with presentations and facilitated in-depth, recorded group discussions.

**Results:**There was high consensus that supervised toothbrushing delivered in nurseries (kindergartens) or primary schools should be supported, it shows greater benefit to most disadvantaged children, helps child social development, and is feasible in low/middle-income countries. There was more moderate support for fluoride varnish application in this setting in terms of preventive effectiveness (especially where fluoride toothbrushing is in place) and cost-effectiveness. It was agreed that policy makers should target at-risk groups where resources are limited, and that systemic fluoride interventions in this setting are no longer a priority.

**Conclusion:**In the population studied, toothbrushing with fluoridated toothpaste is internationally agreed as the most effective and cost-effective caries-prevention measure for children, providing the opportunity for universal population coverage including in low/middle-income countries.

Keywords: Early Childhood Caries, Fluoride based interventions, Delphi methods, Early years education

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