| **Author, Year, Title** | **Randomization Adequate?**  | **Allocation Concealment Adequate?** | **Groups Similar at Baseline?** | **Eligibility Criteria Specified?** | **Outcome Assessors Masked?** | **Care Provider Masked?** | **Patient Masked?** | **Reporting of Attrition, Crossovers, Adherence, and Contamination** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Alamoudi et al., 201274*Effects of xylitol on salivary mutans streptococcus, plaque level, and caries activity in a group of Saudi mother-child pairs* | Unclear | Yes | Unclear | Yes | Unclear | No | No | Yes |
| Chu et al., 200269*Effectiveness of silver diamine fluoride and sodium fluoride varnish in arresting dentin carries in Chinese pre-school children*  | No | No | Unclear | Yes | Yes | No | Unclear | Yes |
| Davies et al., 200744 *Challenges associated with the evaluation of a dental health promotion programme in a deprived urban area*Davies et al., 200543*A staged intervention dental health promotion programme to reduce early childhood caries* | Not randomized | Unclear | Yes | Yes | Unclear | Unclear | Unclear | No |
| Du et al., 200654*A two-year randomized clinical trial of chlorhexidine varnish on dental caries in Chinese preschool children* | Unclear | Unclear | Unclear | Yes | Yes | Yes | Yes | Yes |
| Jiang et al., 200570*The effect of a bi-annual professional application of APF foam on dental caries increment in primary teeth: 24-month clinical trial*  | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Kovari et al., 200351*Use of xylitol chewing gum in daycare centers: a follow-up study in Savonlinna, Finland* | NR | NR | Unclear | Yes | Unclear | No | No | Yes |
| Kressin et al., 200945*Pediatric clinicians can help reduce rates of early childhood caries: Effects of a practice based intervention* | Not randomized | Yes | Yes | Yes | No | No | Yes | Yes |
| Lawrence et al., 200847*A 2-year community-randomized controlled trial of fluoride varnish to prevent early childhood caries in Aboriginal children* | Yes | Unclear | Yes | Yes | Yes | No | No | Yes |
| Milgrom et al., 200973*Xylitol pediatric topical oral syrup to prevent dental caries* | Yes | Unclear | No (age) | Yes | Yes | Yes | Yes | Yes |
| Oscarson et al., 200652*Influence of a low xylitol-dose on mutans streptococci colonisation and caries development in preschool children* | NR | NR | Yes | Yes | Yes | No | No | Yes |
| Seki et al., 201153*Effect of xylitol gum on the level of oral mutans streptococci of preschoolers: block-randomized trial* | No | No | Unclear (dfs index) | Yes | Yes | No | No | Yes |
| Slade et al., 201148*Effect of health promotion and fluoride varnish on dental caries among Australian Aboriginal children: results from a community-randomized controlled trial* | Yes | Yes | Yes; some difference in fluoridation status | Yes | No | No | No | Yes |
| Weinstein et al., 200171*Equivalence between massive versus standard fluoride varnish treatments in high caries children aged 3-5 years* | Yes | Unclear | Unclear | Yes | Unclear | Unclear | Unclear | Yes |
| Weinstein et al., 200972*Randomized equivalence trial of intensive and semiannual applications of fluoride varnish in the primary dentition* | Yes | Unclear | No; mean dmfs were not balanced | Yes | Yes | Unclear | Unclear | Yes |
| Weintraub et al., 200649*Fluoride varnish efficacy in preventing early childhood caries* | Yes | Yes | Yes; stated no imbalances apparent | Yes | Yes | No | Yes | Yes |
| Zhan et al., 201250*Effects of xylitol wipes on carcinogenic bacteria and caries in young children*  | Yes | Unclear | Yes | Yes | Yes | Yes | Yes | Yes |

| **Author, Year, Title** | **Loss to Followup: Differential/High** | **Intention-To-Treat (ITT) Analysis** | **Post-Randomization Exclusions** | **OutcomesPre-Specified** | **Funding Source** | **External Validity** | **Quality Rating**  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Alamoudi et al., 201274*Effects of xylitol on salivary mutans streptococcus, plaque level, and caries activity in a group of Saudi mother-child pairs* | Yes (very high) | Yes | Yes  | Yes | The Deanship of Scientific Research, King Abdulaziz University, Jeddah, Saudi Arabia (Project No. 429/011-9) | Fair | Poor |
| Chu et al., 200269*Effectiveness of silver diamine fluoride and sodium fluoride varnish in arresting dentin carries in Chinese pre-school children* | No//No | Yes | No | Yes | A research grant from The University of Hong Kong (CRCG) | Limited: Chinese fluoridated water, 73% used fluoridated toothpaste | Poor |
| Davies et al., 200744 *Challenges associated with the evaluation of a dental health promotion programme in a deprived urban area*Davies et al., 200543*A staged intervention dental health promotion programme to reduce early childhood caries* | Yes | No | No | Yes | National Health Service Research and Development Programme for Primary Dental Care | Fair | Poor |
| Du et al., 200654*A two-year randomized clinical trial of chlorhexidine varnish on dental caries in Chinese preschool children* | No/Unclear | Yes | No | Yes | The National Key Technologies R & D Program of the tenth Five-Year Plan, the Ministry of Science and Technology, and the National Committee for Oral Health, China | Limited: Chinese children in China, no organized oral health care programs, but access to fluoridated water  | Fair |
| Jiang et al., 200570*The effect of a bi-annual professional application of APF foam on dental caries increment in primary teeth: 24-month clinical trial* | No/No | Yes | No | Yes | National Key Technologies R & D Program of the Tenth-five Year Plan, the Ministry of Science and Technology, China (2004BA720A24) | Limited: Chinese children, fluoridated water, no organized health care programs, limited use of fluoride toothpaste | Good |
| Kovari et al., 200351*Use of xylitol chewing gum in daycare centers: a follow-up study in Savonlinna, Finland* | No | Yes | No | Yes | NR | Limited | Fair |
| Kressin et al., 200945*Pediatric clinicians can help reduce rates of early childhood caries: Effects of a practice based intervention* | No | Yes | No | Yes | NIDCR, NIH, and VA | Fair | Fair |
| Lawrence et al., 200847*A 2-year community-randomized controlled trial of fluoride varnish to prevent early childhood caries in Aboriginal children* | No/No | Yes | No | Yes | The Institute of Aboriginal Peoples’ Health of the Canadian Institutes of Health Research (Grant MOP-64215) and the Toronto Hospital for Sick Children Foundation (Grant XG 03-067) | Limited: Aboriginal communities in rural Canada | Good |
| Milgrom et al., 200973*Xylitol pediatric topical oral syrup to prevent dental caries* | No | Yes | No | Yes | The Maternal and Child Health Bureau (HRSA) and NIDCR  | Fair |  Fair |
| Oscarson et al., 200652*Influence of a low xylitol-dose on mutans streptococci colonisation and caries development in preschool children* | No | Yes | No | Yes | Grants from Count of Vasterbotten, the Patient Revenue Fund for Dental Prophylaxis and the Swedish Dental Society | Fair | Fair |
| Seki et al., 201153*Effect of xylitol gum on the level of oral mutans streptococci of preschoolers: block-randomized trial* | Yes | Yes | Yes | Yes | The Uemura Fund, Nihon University School of Dentistry | Fair | Poor |
| Slade et al., 201148*Effect of health promotion and fluoride varnish on dental caries among Australian Aboriginal children: results from a community-randomized controlled trial* | No/No | Yes | No | Yes | Project grant 320858 from the Australian National Health and Medical Research Council | Limited: Aboriginal communities in rural Australia | Good |
| Weinstein et al., 200171*Equivalence between massive versus standard fluoride varnish treatments in high caries children aged 3-5 years* | Yes/Yes | Yes | No | Yes | Grant R03 DE012138 from NIDCR, NIH | Head Start program | Fair |
| Weinstein et al., 200972*Randomized equivalence trial of intensive and semiannual applications of fluoride varnish in the primary dentition* | No/No | Yes | No | Yes | Grants R01DE14403 and U54DE14254 from NIDCR, NIH | Head Start program | Fair |
| Weintraub et al., 200649*Fluoride varnish efficacy in preventing early childhood caries* | Yes/No | Yes | No | Yes | USPHS research grants P60DE13058 and U54DE142501 from NIDCR and NCMHD, NIH; and by UCSF’s Department of Preventive and Restorative Dental Sciences | Limited: "Under- serviced" community in U.S.; all non-white | Fair |
| Zhan et al., 201250*Effects of xylitol wipes on carcinogenic bacteria and caries in young children*  | No/Yes 23% in one group | Yes | No | Yes | California Society of Pediatric Dentistry Foundation (a Graduate Scientific Research Award from AAPD) and NIH/NIDCR grant U54 DEO19285 | Single center | Fair |

**Abbreviations:** AAPD = American Academy of Pediatric Dentistry; dfs = decayed filled surfaces; dmfs = decayed missing filled surfaces; HRSA = Health Resources and Services Administration; NCMHD = National Center on Minority Health and Health Disparities; NIDCR = National Institute of Dental and Craniofacial Research; NIH = National Institutes of Health; NR = not reported; UCSF = University of California San Francisco; U.S. = United States; USPHS = U.S. Public Health Service; VA = U.S. Department of Veterans Affairs.