

A randomised controlled trial to measure the effects and costs of a dental caries prevention regime for young children attending primary care dental services: the Northern Ireland Caries Prevention In Practice (NIC-PIP) trial

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Plain English summary

The Northern Ireland Caries Prevention In Practice (NIC-PIP) trial

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Plain English summary

Tooth decay in primary (milk) teeth is the most common disease affecting young children and is preventable. Decay can progress rapidly and common outcomes include pain and tooth extractions. Treatment of decay in young children is costly to the NHS.

In this trial we tested a preventative package delivered in dental practice to see if it could keep 2- to 3-year-old children free from decay. The preventative package consisted of applying fluoride-containing varnish to the child's teeth, and giving their parents fluoride-containing toothpaste and toothbrushes for the child's use.

The trial recruited 1248 children in dental practices in Northern Ireland, UK. These children were divided, at random, into two equal groups. The test group received the preventative package, the control group did not. Both groups received standardised preventative advice at all visits.

At the end of the 3 years, 1096 children were examined. Overall, 87% of children in the test group and 85% of the children in the control group attended every 6-monthly appointment.

In total, 34% of children in the test group developed decay, compared with 39% in the control group, but the difference was not statistically significant. On average, children with decay in the test group experienced less severe decay. There were no important differences between the groups on the other outcomes measured including pain and extractions.

The costs of avoiding one decayed tooth surface, as a result of the preventative package, was £251 and the estimated mean cost per child of keeping children decay free over the 3-year period was £2093.

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