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Objectives: To conduct a case-control study of digit sucking behaviour in a sample of 4-to-12-year-olds in Australia, with a special interest in the effect of non-orthodontic intervention on cessation of the oral habit and correction of the consequent anterior open bite.

Methods: With appropriate ethics approval, patient records from a local clinic were de-identified and screened. Children aged 4 to 12 years and having displayed digit sucking behaviour were included. A 3-month non-orthodontic intervention programme containing daily placement of a stomahesive wafer on the incisive papilla, behaviour shaping, reward charts and supportive phone calls was carried out. Data collected included age, gender, digit sucking behaviour, anterior open bite and overjet. A paired-samples t-test was used to examine the occurrence of digit sucking behaviour as well as anterior open bite and the scale of overjet over the 3-month course.

Results: Forty-three (75.4%) girls and 14 (24.6%) boys completed the programme. There was no gender difference in the original distribution of anterior open bite (chi-square=0.004, df=1, p=0.948) and overjet (t=0.595, df=19, p=0.559) in this sample. Upon completion, forty-four out of 57 children (77.2%) gave up digit sucking behaviour (t=13.767, df=56, p<0.001). Occurrence of anterior open bite reduced from 33 patients (57.9%) to 7 patients (12.3%) (t=6.415, df=56, p<0.001). Excluding 3 cases having missing data of overjet, those children that have never reported an anterior open bite showed a decrease in overjet after completion of the programme (t=4.166, df=20, p<0.001).

Conclusions: The 3-month programme of non-orthodontic intervention is effective in cessation of digit sucking behaviour, correction of digit-sucking-related anterior open bite, and reduction of overjet. Future investigation is indicated.

Keywords: Children, Digit sucking, Malocclusion and Pedodontics

Presenting author's disclosure statement: ** MISSING DISCLOSURE **

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