

Concurrent Stream: II)

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Abstract Title: Challenges in research into links between periodontal and systemic health.

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Background: The Murrumbidgee Local Health District population has higher levels of major health risk behaviours such as smoking, body mass, and poor diet. This increases the chance of developing conditions such as cardiovascular disease, diabetes, cancer and respiratory disease.

Approach: We have shown associations between poor oral health and systemic conditions such as CVD, diabetes, sleep apnoea, cognitive decline and onset of dementia. Such observational studies do not prove whether the relationship is casual or causal.

We therefore then conducted two clinical trials to determine whether treatment of periodontal disease, the most common infection in humans, could cause a change in systemic levels of inflammatory and haemostatic markers of cardiovascular risk. These markers had already been linked to the incidence of acute coronary syndromes, such as heart attack and thrombosis. Medical and dental examinations and blood tests were carried out at three timepoints in both studies: on the day of enrolment, two weeks later, and after three months.

Our first study had a longitudinal cohort design and involved eradication of severe periodontal disease. We enrolled 76 subjects and 67 of them completed the study. We then conducted a prospective randomized controlled clinical trial involving conventional non-surgical treatment of less severe periodontal disease. A total of 136 subjects were enrolled for this second study and 125 people completed it.

Outcomes/Results: Both studies showed that periodontal treatment had a systemic effect, causing statistically significant changes in levels of various cardiovascular risk markers. The direction of these changes indicated that periodontal treatment had a beneficial effect on cardiovascular risk in these particular study populations.

Take Home Message: The conduct of clinical trials, and the subsequent translation of research findings into policy and practice in rural Australia, present interesting challenges and can provide a rational basis for health service policy, planning and delivery.