

Abstracts on this page have been chosen and edited by Dr Trevor Watts

Dental health education

A cluster randomized controlled trial testing the effectiveness of a school-based dental health education program for adolescents

Redmond CA, Blinkhorn FA et al.
J Public Health Dent 1999; 59: 12-17

The programme increased the subjects' attention to dental matters and reduced plaque, but the authors questioned whether this type of approach justifies the resources devoted to it.

In the Greater Manchester area, in 28 secondary schools whose pupils had significant dental needs, 3,881 first-year pupils were invited to participate in the study and 2,678 (mean age 12.1 years) agreed. Children were randomized to early and late intervention groups, allowing 6 months for a comparison with untreated controls before they also received the intervention. Both groups then continued a further 6 months.

The programme involved three interactive lessons of 20 minutes over 6 months, using a method aimed at behaviour change and including toothbrushing instruction. In each school, 40 children were selected randomly for evaluation of plaque and a questionnaire on oral health knowledge and behaviour. In the early intervention group there was a 20% plaque reduction after 6 months, which increased to 30% after 12 months. The late intervention group produced a 20% reduction after 12 months. At both stages, the differences between groups were significant. The questionnaire showed a difference between groups at 6 months, which had largely disappeared by 12 months.

Implant dentistry; prosthodontics

Tooth-implant and implant supported fixed partial dentures: a 10-year report

Gunne J, Åstrand P et al.
Int J Prosthodont 1999; 12: 216-221

A prosthesis supported by one tooth and one implant is satisfactory, reliable and cost-effective.

This was a 10 year follow-up comparing two bridges in each of 23 patients with mandibular bilateral distal extension bases. In each quadrant 2 Brånemark implants were provided, often short ones because of ridge resorption and mandibular canal proximity.

After 4-5 months, on one side a fixed bridge was placed, supported by the 2 implants, and on the other side a bridge was supported by the posterior implant and the most distal tooth remaining. With 4 exceptions dictated by clinical considerations, the choice of side for the bridges was randomized. Within 2 years, 8 implants were lost.

By 10 years, 20 patients remained, of whom 19 were very satisfied

with treatment. There were no significant differences between the 2 types of bridge in respect of gingival inflammation, implant stability, marginal bone level and other factors. Four 2-implant bridges had been lost, and 2 tooth-implant bridges.

Prosthodontics

Association between the accuracy of intermaxillary relations and complete denture usage

Fenlon MR, Sherriff M et al.
J Prosthet Dent 1999; 81: 520-525

This study provided evidence validating the rules of centric registration in complete denture construction.

In a pilot study in which 57 patients were examined on 2 occasions, measurement of centric relation and rest space by Woelfel's method was found to be highly consistent in an operator who then assessed 534 patients attending a university clinic for upper and lower complete denture construction. Evaluations were made at the start of treatment and at the first post-insertion visit. After 3 months, subjects were then sent a questionnaire on their denture usage and 429 returned it.

Subjects were grouped according to whether an error of more or less than 0.5 mm was found between centric relation and the position of maximum intercuspation. Nearly one-third of those with greater errors reported they did not wear the dentures, compared with one-tenth of those with lesser errors. The latter were twice as likely to wear dentures for eating. A similar difference was found in respect of a rest space above or below 2 mm: less space meant the dentures were less likely to be worn.

Paediatric dentistry

Assessment of compomer proximal restorations in primary molars: a retrospective study in children

Mass E, Gordon M et al.
J Dent Child 1999; 66: 93-97

A resin-reinforced glass ionomer cement provided satisfactory primary molar class II restorations for up to 2 years.

Compomer cements are stronger than glass ionomers but have a variety of limitations. The present study compared their use in 63 proximal restorations in primary molars with 44 similar amalgam restorations, all of which were placed over a 3 year period in 42 children, each of whom received at least 2 restorations. Teeth were randomly assigned to each treatment.

Minor defects were identified in 6 amalgam and 12 compomer restorations during the follow-up period of up to 3 years. The commonest defects among amalgams were overhangs, and among compomers marginal radiolucent areas were ascribed to pooling of the primer. The authors did not detect any fractures or loss of restorations, but point out that their recall attendance was not total. They considered that compomer was a suitable material for restoring primary teeth which needed to last up to 2 years.