

Aim: To investigate the caries inhibitory effect of fluoride containing varnish(F), fluoride/ tricalciumphosphate containing varnish (FTCP), chlorhexidine containing varnish (CHX) on enamel surfaces subjected to fixed orthodontic appliances when assessed by laser fluorescence (LF).

Material-method: 408 teeth in 17 patients (aged 14–22) wearing fixed orthodontic appliances are included in the study. Split-mouth design was used for each patient (1 quadrant/each application); Group1:Fluoride varnish(FluorProtector); Group2;F/TCP varnish (Clinpro TCP Varnish), Group3; CHX; (Cervitec Plus), Group4: no treatment(control). Each applications were performed at every 3 months during the orthodontic treatment. All patients were instructed to use a standard-fluoride containing toothpaste (1450 ppm NaF) and informed about their basic oral hygiene routines. Bracket-bonded buccal enamel surfaces were measured at the four surrounding side by laser fluorescence device; DIAGNOdent (Kavo) by two calibrated examiners at the baseline, 3.6–12 months and after 24 months. The mean reading value was calculated for each tooth and the LF changes between the time intervals were evaluated. LF changes between the groups were analyzed by Friedman Variance Analysis Test while Kruskal Wallis test revealed the changes due to time intervals.

Results: LF readings increased with time in all groups especially in the control and CHX group when compared to F and FTCP ($p < 0.001$). Both F and FTCP group showed less LF difference in treatment duration ($p \geq 0.05$) except when compared between baseline and 24-months ($p < 0.001$). The findings of this in vivo study indicated that fluoride containing varnishes are recommended during the fixed orthodontic treatments to inhibit the enamel demineralization assessed by LF.

Theme: Preventive Dentistry: Public Health

PD013

Work Engagement Among Dutch Dental Hygienists

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Objectives: The aim of this study was to investigate the level of work engagement among Dutch dental hygienists.

Methods: Fifteen hundred and twenty questionnaires were randomly administrated to members of the Dutch Dental Hygienists' Association (Nederlandse Vereniging van Mondhygiënist(en); NVM). The questionnaire consisted of the short form Utrecht Work Engagement Scale (UWES-9): a hypothesized three-factor structure of work engagement (Vigor, Dedication and Absorption). Statements about how one feels at work were answered on 7-point rating scales (0 = never to 6 = always).

Results: A convenient sample of 490 dental hygienists (32%), with a mean age of 38.2 years (SD = 10.1) responded and a level of work engagement of 4.77 (SD = 0.90) was found. They had a

mean score on the dimensions Vigor of 4.74 (SD = 0.74), Dedication 5.08 (SD = 0.89), Absorption 4.48 (SD = 1.12). A significant correlation of the subscale Absorption with mean age was found ($r = -0.11$, $p < 0.05$).

Conclusions: Dutch dental hygienists reported a (very) high level of work engagement. A lot of dental hygienists experienced at least once a week to daily a high level of well-being at their work. Just a very small amount of the dental hygienists reported to experience (very) low level of well-being at their work. On work engagement and on the three dimensions, dental hygienists reported not only extremely higher mean scores compared with the manual norms, based upon a variety of professions, but also in comparison with the mean scores among Dutch dentists.

Theme: Preventive Dentistry: Public Health

PD014

Evaluation of an Oral Health Improvement Programme in a Prison Setting

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Aim: To evaluate the effectiveness of a three-year oral health improvement programme which was designed using a whole settings approach to improve the oral health of prisoners, their families and prison staff in a local prison in Lanarkshire, Scotland.

Methods: A controlled questionnaire-based survey was used to measure the oral health knowledge, attitudes and behaviours of two groups of prisoners, including intervention and control groups. Focus groups were carried out among selected prisoners and prison staff. Interviews were also conducted among prison staff and stakeholders to investigate the process, challenges and sustainability.

Results: A total of 107 prisoner questionnaires were completed. The intervention group consisted of 58 prisoners while the control group had 49 prisoners. The intervention group showed statistically significant differences in oral health knowledge and attitudes compared with the control group. However, there was no statistically significant difference in oral health behaviours between these two groups. A convenience sample of 14 prisoners and 20 staff participated in focus groups. Qualitative data suggested improvement in the oral health knowledge and behaviours of the prisoners, but little change in environment, culture and policy for the whole prison. Other initiatives such as father-child activities were assessed as having worked well. Eight stakeholders were interviewed and completed the Nuffield Partnership Assessment Tool. Scores indicated that partners were working well together.

Conclusions: The three-year oral health improvement programme was successful in improving oral health knowledge and attitudes of prisoners, but change in behaviours was only indicated in qualitative data.