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ABSTRACT BOOK

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ven, Belgium. **Results:** Analyses were performed on the data of 949 participants (90%). Maternal education level and age had a significant effect on the three oral health related behaviours. Positive parental attitudes towards oral health related behaviours increased between birth and age three ($p < 0.001$), whereas the scores for subjective norms and intentions decreased ($p < 0.001$). Scores remained stable in the following years. Mothers educated to a high level scored significantly higher for attitudes, perceived behavioural control and intentions compared with mothers educated to a low level ($p < 0.05$). **Conclusion:** Parental determinants of oral health behaviour, change over time and differ according to maternal education level. Health promotion campaigns aiming to change parental oral health behaviours should take these natural and differential alterations in dental beliefs into account when developing and evaluating interventions.

Methods of funding: Study supported by GABA International.

No. 1803 - Bayesian analysis of zero-inflated regression model with application to dental caries

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Aims: DMFT (Decayed, Missing, Filled, Teeth) is an important indicator of oral health status. To obtain unbiased estimates of the regression coefficients in the presence of an excess of DMFT=0, we adopted a Bayesian approach to estimate the zero DMFT index. **Methods:** We developed a Bayesian model using Oral Health data from the Italian Pathfinder survey. This secondary analysis did not require ethical approval. A sample of 4,407 twelve-year-old children was used. Zero-inflated Poisson (ZIP) and Negative-Binomial (ZINB) Bayesian Regression Models were fitted to the DMFT index as dependent variable and gender, parents' education, breastfeeding, sweet intake and fluoride intake as explanatory variables. Two models were considered, one making use of explanatory variables to predict the mixture proportion, the other assuming constant inflation. Finally, Poisson, NB, ZIP and ZINB models were also fitted to the data to compare their performance with the Bayesian one. **Results:** All models revealed significant association between caries experience and risk factors only for gender, parents' educational levels, sweet intake, sweet beverage drinking and fluoride intake. Poisson and NB regressions showed a poor fit with respect to zero-inflated models. The best-fit model was the Bayesian ZIP model with constant inflation, whose estimated coefficients with their equal-tail 95% credible interval estimates were respectively 0.224[0.149; 0.294] for gender, -0.412[-0.489; -0.338] for mother's education, -0.253[-0.334; -0.17] for father's education, 0.128 [0.054; 0.199] for sweet intake, for sweet beverage 0.380 [0.211; 0.545] and -0.183[-0.255; -0.113] for fluoride intake. The posterior mean estimate of DMFT=0 was 0.57[0.129; 1.000], close to the empirical percentage of zero-DMFT, which is 0.57. **Conclusion:** Zero-inflated models have been shown to be useful for DMFT index especially when there is an excess of zeros. Bayesian and frequentist estimates of the parameters performed well and the difference between the two approaches was almost negligible. However, the Bayesian proposed method performed better in estimating the Probability (DMFT=0).

No. 1804 - Clinical evaluation of dental restorations during preventive agents applications

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Aim: To evaluate the influence of preventive agents on light-cure composite restorations in the oral cavity. **Methods:** The study was approved by the Ethics Committee of Moscow State University of Medicine and Dentistry. All the participants signed informed consent. «Ceram X mono» restorations were placed in premolars and molars of 70 patients randomly divided into 2 groups. In the test group (33 patients, 110 restorations) preventive care including oral hygiene agents (toothpaste, toothbrush, mouth rinse and dental floss) and professional oral hygiene was provided, while in the control group (37 patients, 80 restorations) special prevention wasn't given. The restorations were clinically evaluated according to Ryge-criteria 12 months after placement. **Results:** After 12 months, a slight crevice along the marginal interface was scored as Bravo in 4.5% (N=5) and 12.5% (N=10) of restorations in the test and control groups respectively. A slight roughness (Bravo score) was found in 9.0% (N=10) restorations in the test group, while in the control group 18.7% (N=15) were scored as Bravo and 3.7% (N=3) as Charlie; severe rough surface. 99% (N=109) of the restorations had good occlusal anatomy in the test group and only 1.0% (N=1) was undercontoured (Bravo score). In the control group 9.0% (N=7) demonstrated Bravo, 2.5% (N=2) - Charlie score which indicated missing restorative material and exposed dentine. Cavosurface marginal discoloration was scored on the occlusal surface of 5.4% (N=6) and 16.2% (N=13) restorations in the test and control groups respectively. During 12 months caries developed in 2.5% (N=2) restorations only in the control group. **Conclusion:** The application of preventive oral hygiene agents enhanced the restorations' longevity and reduced the risk of caries development.

No. 1805 - Needs assessment for care home residents and staff in Lanarkshire, Scotland

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Aims: To assess oral health needs for residents and training needs for staff in a care home setting. **Methods:** Of 94 care homes in Lanarkshire, seven were randomly selected for baseline oral health screening. Dental officers from the Salaried Primary Care Dental Service carried out an assessment of the residents' oral health needs. Verbal consent was obtained from residents before screening took place. Questionnaires were given to care home staff to identify any gaps in oral health knowledge and attitudes. The needs assessment was carried out as service evaluation therefore no ethics approval was required. **Results:** Out of 400 residents screened, 84% (n=336) had full or partial dentures; 74% (n=296) had no natural teeth; and among those with natural teeth 73% (n=76) had decayed teeth. Among 49 care home staff who completed questionnaires, 71% (n=35) were not aware that poor oral health can affect general health; 57% (n=29) reported there were no screening tools available; and 89% (n=44) requested oral health training. Subsequently, an oral health assessment tool was developed through partnership working with NHS Lanarkshire nursing staff from the Older People's Directorate. A training programme called 'Mouth Matters' for care home staff was developed. The programme included: a one-hour theory-based presentation on oral health and the impact poor oral health may have on general health; 30-minute demonstration on skills to carry out mouth care; and