



## EADPH Congress 2021 Abstract Presentations

### Introduction

Because this year's EADPH took place solely online the arrangements for the presentation of abstracts were different to those in a normal year. No posters were required and apart from the four abstracts whose presenters were competing on 4 September for the two GSK research prizes for graduates, all abstract presentations were given as 5 minute Powerpoint presentations, followed by 2 minutes for any questions on 3 September.

Thirty nine abstracts were presented in four parallel sessions (groups) on 3 September and the four finalists for the two GSK research prizes for graduates presented their abstracts on 4 September. Thus a total of 43 abstracts were presented during the 2021 EADPH congress.

The schedule for the abstract presentations was as follows:

### Group 1 (A) Education and Oral Epidemiology

*Co-chairs: Ana Vukovic and Gitana Rederiene*

- 11.05 Abstract 3 – Jurgita Andruskiene
- 11.12 Abstract 13 – Julijana Nikolovska
- 11.19 Abstract 17 – Gitana Rederiene
- 11.26 Abstract 25 Popie Damaskinos
- 11.33 Abstract 32 – Siri Rødseth
- 11.40 Five minute buffer to allow for any over-run
- 11.45 Abstract 43 – Victoria Niven
- 11.52 Abstract 47 – Ana Vulovic
- 11.59 Abstract 52 – Megan Clark
- 12.06 Abstract 55 – Priya Harsh
- 12.13 Abstract 40 – Ellen Bol-van den Hil
- 12.20 Any general questions
- 12.30 Finish

### Group 2 (B) Oral Health Promotion

*Co-chairs: Barbara Janssens and Jenny Gallagher*

- 11.05 Abstract 29 - John Skinner
- 11.12 Abstract 5 – Nicolas Bonnici
- 11.19 Abstract 7 – Cornelia Melinda Adi Santoso
- 11.26 Abstract 8 – Indre Stankeviciene
- 11.33 Abstract 14 – Bahareh Tahani
- 11.40 Abstract 15 – Vesna Ambarkova
- 11.47 Abstract 16 – Ali Kazemiana
- 11.54 Abstract 37 – Alexander Gormley
- 12.01 Abstract 46 – Aditi Mondkar
- 12.08 Abstract 49 – Andrés Celis
- 12.22 Any general questions
- 12.30 Finish

### **Group 3 (C) Health Services Research**

**Co-chairs: *Paul Tramini and Roxanna Oancea***

- 11.05 Abstract 18 – Robert Witton
- 11.12 Abstract 23- Mariana Caramida
- 11.19 Abstract 30 – Natasa Pejic Barac
- 11.26 Abstract 33 - Celjana Toti
- 11.33 Abstract 36 – Yoann Maitre
- 11.40 Abstract 39 – Ryan Grocock
- 11.47 Abstract 41 – Reena Patel
- 11.54 Abstract 43- Helen Fegan
- 12.01 Abstract 50 – Cécile Hvostoff
- 12.08 Any general questions
- 12.30 Finish

### **Group 4 (D) COVID-19 and Other Topics**

**Co-chairs: *Dorjan Hysi and Ruxandra Sava Rosianu***

- 11.05 Abstract 19 – Betul Kargul
- 11.12 Abstract 20 – Ecem Akbeyaz Sivet
- 11.19 Abstract 21 – Melinda Székely
- 11.26 Abstract 22 - Octavia Iulia Balean
- 11.33 Abstract 24 – Anton Lukin
- 11.40 Five minute buffer for any over-run
- 11.45 Abstract 28 – Daniel Kules Joint winner of the GSK research prize for undergraduates
- 11.52 Abstract 34 – Dorjan Hysi
- 11.59 Abstract 44 – Anton Lukin
- 12.06 Abstract 54 – Saskia Huylebroek Joint winner of GSK prize for undergraduates
- 12.13 Abstract 56 – Rebecca, Toner
- 12.20 Any general questions
- 12.30 Finish

### **GSK Research Awards Competition Presentations on Saturday, 4 September**

These presentation each lasted for 12 minutes and was followed by 3 minutes for any questions to the presenter

- 10.30 Abstract 35 – Ryan Stewart
- 10.45 Abstract 38 – Egle Petrauskiene – Second prize
- 11.00 Abstract 45 – Zainab Alassmi
- 11.15 Abstract 51 – Clare Grainger - Winner

All the abstracts which were presented follow this introduction. Readers should note that because some abstracts were either not accepted or withdrawn after their acceptance, the abstract numbers run from 3 – 56 and not 1 – 43.

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## ABSTRACT 3 GROUP A – EDUCATION AND ORAL EPIDEMIOLOGY

### Nutrition Knowledge Survey: Are Future Dental Hygienists Literate Enough in Food?

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**Aim:** The aim of the study was to assess Dental Hygiene students' knowledge of nutrition.

**Methods:** In April 2019, a Nutrition Survey Questionnaire was distributed to all 428 Klaipeda State University of Applied Sciences students, in residence at that time. Ninety two percent of whom were girls, mean age 22.9 years. Within the sample, 189 (44.2%) were first year students, 114 (26.6%) second year and 125 (29.2%) third year. Sixty one (14.3%) were studying Dental Hygiene, 27 (6.3%) Dental Assisting, 79 (18.5%) Physiotherapy, 58 (13.6%) Dietetics, 141 (32.9) General Nursing, and 62 (14.5%) Beauty Therapy. The study was approved by the University's Bioethics Committee. Mean scores from each group were calculated. Data were analysed using IBM SPSS.20 software. The One-way ANOVA test was used to compare means.

**Results:** Response rates varied from 70.9% (Dental hygiene) to 40.3% (Beauty Therapy). Dental Hygiene students (6.41, SD=1.16) achieved a higher mean score in the dietary recommendations section (maximum score 11) than Physiotherapy students (5.76, SD=1.55,  $p<0.05$ ), but lower than Dietetics Students (7.78, SD=1.19,  $p<0.001$ ). Dental Hygienist students (38.85, SD=6.51) achieved higher score in the sources of food section (max score 69) than Physiotherapy students (34.90, SD=8.08,  $p<0.05$ ), but lower than Dietetics students (43.62, SD=8.06,  $p<0.001$ ). In the daily food choices section (maximum score 10), Dental Hygienist students achieved a higher score (5.87, SD=1.61) than General Practice Nursing students (5.04, SD=1.96,  $p<0.05$ ). In the relationship between diet and disease section (maximum score 20), Dental Hygienist students achieved a lower score (6.10, SD=3.27) than Dietetics students (8.90, SD=3.45,  $p<0.001$ ), but higher than Physiotherapy students (4.58, SD=2.81,  $p<0.05$ ).

**Conclusions:** The future Dental Hygienists, who took part in this investigation, had higher food literacy than future physiotherapists. However, additional education in nutrition is recommended for them.

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## ABSTRACT 5 GROUP B - ORAL HEALTH PROMOTION

### Awareness and Knowledge of the Maltese Public on Fluoride

*Nicholas Bonnici,\* Ethel Vento Zahra, Anne-Marie Agius, Paula Vassallo  
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The most effective way to prevent caries is through controlled and frequent exposure to fluoride.

**Aims:** This study investigated if a convenience sample of Maltese were knowledgeable on the reasons why fluoride is beneficial in preventing dental caries and if they are exposed to it regularly through their oral hygiene practices. Their stance on community water fluoridation was also investigated.

**Methods:** A cross-sectional descriptive survey, using a convenience sample of 309 Maltese was performed. This sampling method was employed due to time and financial constraints. Data were gathered between December 2018 and January 2019. Participants, had to be Maltese and 18-years or older to participate. Respondents answered a piloted self-administered questionnaire, which apart from questions on fluoride also asked about participants' age, place or residence, educational level and dental attendance. One hundred and seventy two answered an online version distributed via social media and 137 were gathered by approaching every fifth eligible person in two busy areas. The University of Malta Ethical Research Committee approved the study.

**Results:** Two hundred and fifty (81%) respondents were aware that most toothpastes contain fluoride and 232 (75%) knew its intended purpose. Eighty (26%) knew the recommended concentration of fluoride in toothpaste, 105 (34%) used a fluoridated toothpaste, twice per day and said they brushed for at least two minutes and only 62 (20%) used mouthwash more than once a week. One hundred and sixty seven (54%) were in favour of water fluoridation.

**Conclusion:** In the population studied, the majority were aware of the presence and the benefits of fluoride but knowledge on its use was poor. They were exposed to fluoride regularly through toothpastes. However, their use of mouthwash was poor. More education on the effective use of fluoridated products is required.

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## ABSTRACT 7 GROUP B – ORAL HEALTH PROMOTION

### Prevalence and associated factors of tooth brushing among in-school Vietnamese adolescents

Cornelia Melinda Adi Santoso,<sup>1\*</sup> Cam Tran Thi Ngoc,<sup>2</sup> Attila Nagy<sup>1</sup>

<sup>1</sup>Faculty of Public Health, University of Debrecen, Hungary

<sup>2</sup>Department of Medicine, Hue Medical College, Vietnam

**Aim:** Irregular tooth brushing could be considered as the main indicator of poor oral hygiene, which may negatively affect oral and general health. This study aimed to investigate the prevalence and factors associated with tooth-brushing frequency among school-going adolescents in Vietnam.

**Methods:** Cross-sectional nationally representative data from the 2013 Vietnam GSHS (Global School-based Health Survey) were analysed. The data included 3,331 students aged 11-18 years. Bivariate and multivariate logistic regressions were performed to investigate associations of demographic, health-related behaviours, and psycho-social factors with tooth-brushing frequency. The results presented were obtained using weighted analyses to adjust for complex study design, non-response, and population distribution by grade and sex.

**Results:** A total of 764 (23.2%) students brushed their teeth less than twice daily. Female (OR=1.43; 95% CI 1.16-1.75), healthy dietary practice (OR=1.47; 95% CI 1.20-1.80), peer support (OR=1.42; 95% CI 1.12-1.79), and parental support (OR=1.54; 95% CI 1.19-2.00) were associated with frequent tooth brushing, while sedentary behaviour (OR=0.66; 95% CI 0.55-0.81) was associated with infrequent tooth brushing. Other factors were not found to be significantly associated with tooth-brushing frequency in multivariate logistic model.

**Conclusions:** Tooth-brushing behaviours among Vietnamese adolescents could be improved. Tooth-brushing frequency was associated with some other health-related behaviours and psychosocial factors, such as dietary practice, sedentary time, peer, and parental support. Incorporating oral health into general health promotion, involving family and social environment, may help improve healthier habits of adolescents.

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## ABSTRACT 8 GROUP B – ORAL HEALTH PROMOTION

### Xerostomia and Dental Conditions in Lithuanian Adults

Indre Stankeviciene\*, Alina Puriene, Jolanta Aleksejuniene, Lina Stangvaltaite-Mouhat,  
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**Aim:** To examine possible associations 1) between xerostomia and erosive tooth wear, and 2) between xerostomia and dental caries experience.

**Methods:** Data from a nationally representative stratified random sample of 35 to 74-year-olds from 15 Lithuanian geographical areas was included were collected from 2017 to 2019. The participants were randomly selected from primary health care institution's records. Dental caries experience, as DMFS scores, and the number of teeth with signs of erosive tooth wear were assessed clinically, by one examiner, following the WHO (2013) criteria. Xerostomia was identified by self-reported experience of dry mouth. Association of xerostomia with DMFS scores and the number of teeth with signs of erosive tooth wear was assessed using the Spearman correlation test. The study was approved by Vilnius Regional Bioethics Committee.

**Results:** One thousand four hundred and four adult Lithuanians, 51.7% of those invited to participate, were clinically assessed. Their median DMFS score was 75 (IQR 49-106), and the mean number of teeth with signs of erosive tooth wear was 8.6 (s.d.8.6). The frequency of xerostomia was as follows: 76.6% "never" (n=1076), 15.4% (n=216) "sometimes", 5.8% (n=81) "often" and 2.2% (n=310) "always". There was a significant correlation between DMFS scores and xerostomia [ $r=0.097$ ,  $p<0.001$ ]. Xerostomia and the total numbers of teeth with signs of erosive tooth wear were not correlated.

**Conclusions:** Dental caries experience was higher in patients with xerostomia. There was no association between the number of teeth with erosive tooth wear and xerostomia.

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## ABSTRACT 13 GROUP A – EDUCATION AND ORAL EPIDEMIOLOGY

### Dental Students' Perception of the Medical Ethics Course at a Macedonian Faculty of Dental Medicine

*Julijana Nikolovska\**

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**Aim:** The aim of the study was to investigate dental students' perceptions of medical ethics and improving the quality of lectures and the dental curriculum.

**Methods:** The study consisted of quantitative and qualitative investigations. All first year undergraduate dental students at the Faculty of Dental Medicine Ss. Cyril and Methodius University were invited to take part in the study, which involved completing the questionnaire of the American Dental Association Continuing Education Recognition Program (ADA CERP). The questionnaire facilitates an assessment of the content of lectures in medical ethics through seven Likert scale questions (poor-excellent). After the quantitative analysis, the qualitative investigation was conducted by interviewing 23 students who were asked to give answers to three questions about improving the quality of lectures: What were your expectations? What are your suggestions about how we can improve the content of this course? Which topics are missing?

**Results:** Out of a maximum possible number of 85 students, 76 agreed to participate and completed the questionnaire (31 males and 45 females). The response rate was 89.4%. Regarding the question "How would you rate this course overall?" the mean value was 3.86 (SD=0.87), regarding the question "The content fulfils the overall purpose of the course" 4.29 (SD=0.79) and regarding the question "The content fulfils each of the course objectives" mean value was 4.44 (SD=0.79). The mean values for the rest of the questions were more than four. Regarding the interviews, the results showed that students would like to have fewer lectures with medical ethical examples, they preferred ethical examples in dentistry and would like the course to be renamed as "ethics in dentistry."

**Conclusions:** This study reported satisfactory results for the course overall but some changes in the content of the lectures was indicated.

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## ABSTRACT 14 GROUP B – ORAL HEALTH PROMOTION

### Effectiveness of community-based fissure sealants in deprived regions provided by dental students in Isfahan, Iran

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**Aim:** The aim of this study was to evaluate the effectiveness of fissure sealant therapy as part of a community-based programme, in socio-economically deprived areas of Isfahan, using portable equipment and provided by dental students.

**Methods:** A split-mouth randomized clinical trial was conducted from April 2016 to May 2017. It was registered in the World Health Organization Registry Network (IRCT2016082229476N). At baseline, 124 schoolchildren aged 7 – 8 years, who had 185 paired permanent teeth with deep pits and fissures either healthy or at early stages of enamel decay (International Caries Detection and Assessment System 0-2), were randomly allocated to receive fissure sealant or acted as control. They were recruited from 4 schools in deprived areas (City of Golpayegan in the Province of Isfahan). Parental consent for them to take part was obtained. The treatment providers were ten senior dental students. After a one-year follow-up, the incidence of new caries (ICDAS code 3–6) and the sealant's retention status were evaluated. The chi-square test was used to calculate the risk ratio (RR) and the Number Needed to Treat (NNT) to prevent new caries.

**Results:** After one year, 109 children with 163 paired teeth were reviewed. 67(41.4%) teeth had fully retained sealants and 44 (27.2%) partially retained sealants. The risk of caries incidence in non-sealed teeth was almost three times that of the sealed teeth (RR=2.88, 95% CI: 1.4-5.97, p= 0.002) and the NNT was 10 (95% CI: 6-26). A significant correlation was observed between the sealant retention and the incidence of new caries (p<0.001).

**Conclusion:** The findings of the present study further support the importance of community-based programmes for fissure sealant therapy among high-risk children with difficulties in access to dental care.

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## ABSTRACT 15 GROUP B – ORAL HEALTH PROMOTION AND ORAL EPIDEMIOLOGY

### Dental caries experience of 12 year old children from Resen municipality of Northern Macedonia

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**Introduction:** In the Republic of North Macedonia, since 2007, a National Strategy for Prevention of Oral Diseases in Children has been implemented. However, existing data on dental caries experience of children are outdated and inadequate.

**Aim:** This study therefore aimed to establish the dental caries experience of 12-year-old children in Resen, Republic of Macedonia.

**Methods:** In this cross-sectional study, primary school children from sixth grades (n=158 ) were recruited from five primary school from the Resen municipality. The ethics committee of the Faculty of Dental Medicine at the University of St. Cyril and Methodius approved the study and parental consent was obtained for each child. The dental status of the children was evaluated using the 2013 World Health Organization caries diagnostic criteria for Decayed, Missing and Filled Teeth (DMFT) by two calibrated examiners. Data obtained during the survey were stored in a database and statistically analysed with SPSS v.21(IBM). Using the t-test, the data were tested for possible statistical differences,  $p < 0.05$ . The dental examinations were conducted during 2020.

**Results:** The total number of children (158) in the sample comprised 71 (45% ) females and 87 (55%) males. The mean DMFT score of the whole sample was  $1.82 \pm 1.82$ . It was  $1.70 \pm 2.03$  for female children and  $1.92 \pm 1.64$  for male children. There was no statistically significant difference between them. The prevalence of caries free children was 36%.

**Conclusions:** The severity of dental caries was relatively low in the 12-year-old children who were recruited to this study.

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## ABSTRACT 16 GROUP B – ORAL HEALTH PROMOTION AND ORAL EPIDEMIOLOGY

### Encouraging by Social Norms versus Intimidating by Undesirable Outcomes; A Quasi-experimental Study in Iran

*Ali Kazemian,\* Aylin Sohrabi*

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**Aim:** Behavioural economists suggest making a message 'social', that is harnessing social pressure by showing desired behaviours are supported by others. The aim of this study was to test this idea by comparing different oral health promotion strategies.

**Methods:** This quasi-experimental study was carried out in 2018 among 145 elementary third-grade students in Mashhad, Iran. Three primary schools with similar mid-level socio-economic status were selected. In the pre-test phase, students were examined and their plaque index (Ramfjord 1959) was recorded by two trained dental students. In the intervention phase, the main researcher distributed an oral health package including toothpaste and toothbrush to all students. Different educational strategies were randomly used in the schools:

School-SN: Presentation of a lecture and short movie using messages based on positive Social Norms

School-AO: Presentation of a lecture and short movie using messages based on the perceived risk of Adverse Outcomes

School-C: No educational intervention (Control group)

The mean plaque index was evaluated in two subsequent occasions (after two weeks and after two months). Ethical approval was obtained from the Review Institutional Board of Mashhad University of Medical Sciences and the Heads of the three schools gave consent for the children to take part.

**Results:** There was a significant difference between the pattern of mean plaque index changes in the schools ( $p < 0.0001$ ). Mean plaque index in the school-AO decreased from 1.7 (0.3) to 1.4 (0.5) after two weeks and 1.3 (0.4) after two months. In the school-SN, the plaque index had a more significant decrease in the first two weeks, from 1.9 (0.3) to 1.3 (0.4), but increased to 1.5 (0.4) by the 2-month follow-up. The plaque index did not decrease significantly in the school-C ( $p = 0.754$ )

**Conclusions:** The findings of this study suggest that in the group messages based on the perceived risk of undesirable outcomes have a continuous positive effect on oral health. Nevertheless, messages based on social norms could decrease plaque index more substantially in the short-term with an unsustainable effect in the mid-term.

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## ABSTRACT 17 GROUP A – EDUCATION AND ORAL EPIDEMIOLOGY

### Self-perceived work-related physical, psychological disorders and job satisfaction among Lithuanian dental hygienists

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*<sup>2</sup>Vilnius University Faculty of Medicine Institute of Dentistry, Vilnius, Lithuania*

**Aim:** To evaluate self-perceived work-related general and mental health disorders and job satisfaction among Lithuanian dental hygienists.

**Methods:** The request for ethical approval was sent to the Lithuanian Bioethics Committee and was followed by the answer, that ethical approval is not required for surveys within closed organizations. However, the study followed the guidelines of the ethical board of the Central Committee on Research Involving Human Subjects. A questionnaire was sent to all Lithuanian Dental Hygienists Association members (N=328) by email three times. It comprised 5-point Likert scale structured questions which were developed according to the Nordic Musculoskeletal Questionnaire and the Dentists Satisfaction Survey.

**Results:** The final response rate was 52,4% (N=172). The vast majority of dental hygienists (58.7%, N=101) additionally worked as dental assistants and 36.6% (N=63) of respondents worked only as dental hygienists. The level of overall work-related physical health among Lithuanian hygienists was  $3,76 \pm 0,65$  out of 5 on the Likert scale, the most common physical health disorder was upper back pain ( $\bar{x}=3,17$ ); the mean value of overall work-related psychological health was  $3,84 \pm 0,64$  out of 5, the most common disorder was stress ( $\bar{x}=3,52$ ). The mean of overall job satisfaction was  $3,87 \pm 0,62$ , the most satisfying areas were relations with colleagues ( $\bar{x}=4,22$ ), dentists ( $\bar{x}=4,02$ ) and working conditions (equipment, work environment) ( $\bar{x}=3,89$ ); the least satisfying practice areas were income ( $\bar{x}=3,05$ ), work-related physical and psychological health ( $\bar{x}=3,2$ ) and social security ( $\bar{x}=3,33$ ).

**Conclusions:** Lithuanian dental hygienists experience higher than average work-related physical, psychological health, and job satisfaction. Further research is needed to fully understand the relations between work-related physical, psychological disorders and job satisfaction of Lithuanian dental hygienists.

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## ABSTRACT 18 GROUP C - HEALTH SERVICES RESEARCH

### Oral health behaviours and dental care access for asylum seekers and refugees.

*Robert Witton\* and Martha Paisi*

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**Aims:** To investigate the factors influencing oral health behaviours, access to and provision of dental care for asylum seekers and refugees.

**Methods:** A qualitative research study. Purposeful sampling was used. On-line semi-structured interviews with stakeholders working with, or supporting asylum seekers and/or refugees in Plymouth, a city in the South West England were conducted. Inductive thematic analysis was adopted. A University of Plymouth ethics committee approved the study.

**Results:** Twelve participants providing support to asylum seekers and or refugees in various capacities took part in the study. Two of the interviewees had personal experience of displacement and the asylum process in the UK. Key themes were identified and grouped within six key parent themes including: i) the perceived importance of oral health; ii) barriers to preventive dental care; iii) motivations for accessing dental/oral health services; iv) barriers to accessing dental/oral health services; v) suggested ways to improve dental/oral health services and vi) consideration of mainstream or dedicated Asylum Seekers and Refugees (ASR) service design. Basic safety and survival, awareness, communication, service access and availability, were identified as key factors influencing oral health behaviours and service utilisation.

**Conclusions:** This is the first study in the UK to have identified the barriers to oral health promoting behaviours activities and dental care access pertinent to ASR. Some of the barriers are also experienced by the general population but to a lesser extent. Considering the compounding challenges of vulnerable groups in accessing care and their greater burden of disease, ensuring equitable access to health services and appropriate language support is important. The facilitators identified could inform the development of oral health promotion programmes and services targeting this group. Future research is needed to explore the views and experiences of ASR on accessing and receiving dental care in the UK, as well as on optimising oral health promotion and provision of care.

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## ABSTRACT 19 GROUP D – COVID AND OTHER TOPICS

### COVID-19 Pandemic and Career Choice of First-Year Dental Students

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<sup>1</sup>*Undergraduate Student; Dental School, Marmara University, Istanbul, Turkey*

<sup>2</sup>*Department of Paediatric Dentistry, Dental School, Marmara University, Istanbul, Turkey*

**Aim:** The aim of this study were to investigate whether dental students' career choice and expected employment after graduating were affected by the COVID-19 pandemic.

**Methods:** The study was reviewed and approved by The Human Research Ethics Committee of Marmara University, School of Medicine. (protocol number of 09.2021.589). An anonymous online survey consisting of 42 questions was emailed to first-year dental students at the Dental School, Marmara University, Istanbul, Turkey. Simple descriptive analysis of the results was undertaken using Microsoft Excel.

**Results:** A total of 150 first year students were invited to participate in the study, of whom 115 responded [74(64.3% female), 41(35.7% male)] (response rate 77%). Thirty four (29.6%) reported that their plans for future dental practice have changed since the COVID-19 outbreak and 81(70.4%) reported no change to their career plans. The majority of the students 60 (52.2%) were self-motivated to choose dentistry as a career. One hundred and twelve (97.4%) reported that they did not have relatives in the medical or dental professions. For 97(84.3%) the choice of dentistry was their own decision. For 88(76.5%), health problems were a serious reason for interrupting their education. Fourteen (12.2%) reported that they would try to transfer to another university.

**Conclusion:** Amongst this group of first year dental students COVID-19 did not affect their career choice in a negative way. These findings may not be generalisable nationally as students sampled were enrolled in a single faculty. Additional longitudinal research is needed to assess if change in career intentions during the COVID-19 pandemic corresponds with actual change post-pandemic and affects the dental profession.

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## ABSTRACT 20 GROUP D – COVID AND OTHER TOPICS

### Influence of COVID-19 pandemic on oral hygiene practices and eating habits in a group of children in İstanbul, Turkey: A pilot study

*Deniz Berber, Ecem Akbeyaz Sivet,\* Betul Kargul*

**Aim:** The aim of this study was to analyse the daily lifestyle of a group of Turkish families, during the lockdown due to the COVID-19 pandemic, to evaluate its possible impact on the oral hygiene practices and eating habits of their children.



**Methods:** The study was approved by The Research Ethics Committee of Marmara University(protocol number of 221-583). It involved a convenience sample of children aged 5 to 14 years whose parents completed a questionnaire regarding demographic characteristics, eating and brushing habits before the pandemic, compared to the period during lockdown. The methods recommended by WHO (2013) were used to describe the children's dental caries status. All patients were examined in the Department of Paediatric Dentistry, Marmara University Dental School. Data were collected by two researchers (EAS &DB).

**Results:** The sample consisted of 113 children (55 (48,7%)girls; 58 (51,3%)boys). Their mean age was 10 ±1,41years. Overall,111 (98,2 %) of the children had visible dental caries. During this period, 92 (81%) of the mothers and 16 (14,2%) of the fathers were not working. Most parents 58(51,3%) reported that their child's routine brushing habits had changed due to lockdown. A total of 51(44,2%) parents reported that their child needed dental treatment during lockdown. The majority reported that this was due to toothache. Fifty four (47,8%) parents reported that their child/children consumed increased amounts of cariogenic food and 10 (8,8%) of parents made dietary changes using probiotics in their child's diet during the lockdown.

**Conclusions:** This study provided insights into the changes in family routines and increased parental presence at home, in a group of Istanbul children, during the COVID-19 pandemic lockdown. These changes were associated with impaired oral hygiene practices and eating habits of the children.

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## ABSTRACT 21 GROUP D – COVID AND OTHER TOPICS

### Dental emergency activity during the COVID-19 pandemic in Targu-Mures, Romania

*Melinda Székely,\* DÖRNER K., KIS M., MOLNAR-VARLAM C., BORȘ A.*

*Faculty of Dental Medicine, George Emil Palade University of Medicine, Pharmacy, Science and Technology, Targu-Mures, Romania*

**Aim:** On 16th of March 2020, in Romania all nonessential medical activities were suspended, and no dental services were provided for two months, except in the emergency dental office of each county's emergency hospital. This study aimed to assess the impact of COVID-19 pandemic on the numbers of patients attending the Emergency Dental Office of Mures County Emergency Hospital (EDOMCEH) in Targu-Mures, Romania.

**Methods:** The three-year retrospective study was based on the analysis of the dental records of patients who received emergency treatment in the EDOMCEH between 1st of January 2018 and 31st of December 2020. This is a single dental office providing 24 hour publicly funded emergency dental care for Mures county. Ethical approval was obtained from Mures County Emergency Hospital ethics committee. Data were assessed using Student t-test and  $p < 0.05$  was considered statistically significant.

**Results:** During the investigated period a total of 15,984 patients attended for emergency dental services. The highest rate of emergency dental visits was observed prior to the onset of COVID-19 pandemic 5,932 (37.1%). In 2020 the proportion of emergency dental visits was significantly lower 4,281 (26.7%). Significantly fewer patients attended for emergency dental care from the rural area during the COVID-19 pandemic ( $p < 0.05$ ).

**Conclusions:** The results suggest that COVID-19 pandemic created unexpected circumstances in which the number of patients attending for emergency dental care was lower. However, it may have been expected that the demand for emergency dental care in the EDOMCEH would have increase during the lockdown when dental services were suspended or restricted in other dental offices. The most likely explanation may have been related to the enforced community discipline, which limited travel.

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## ABSTRACT 22 GROUP D - COVID AND OTHER TOPICS

### **Innovative perspectives – Ozone protective action on gingival fibroblasts exposed to bisphosphonates – an *in vitro* study**

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**Aim:** to test cytotoxicity of oral bisphosphonates on human gingival fibroblasts after counteraction by ozone exposure.

**Methods:** The study used human gingival fibroblasts (HGF), purchased from a research laboratory, therefore no ethical approval was required. Two bisphosphonates, Actonel (Risedronic acid) and Fosamax (Alendronate sodium), were added in different concentrations (1.5; 2.5; 5; 10  $\mu$ M), and dissolved in Dimethyl Sulfoxide to obtain 10 mM stock solutions. Fibroblasts were counted using the Countess™ II Counter Cell Automated, in the presence of Trypan blue. The Alamar blue test was applied to verify the potential toxicity of the test compounds to HGF. To determine the effect of ozone (O<sub>3</sub> saline - 80  $\mu$ g / ml) on cell viability and its impact on the ability of cells to regenerate after the toxicity of test compounds, HGF cells were stimulated with Actonel and Fosamax for 24 hours. The old medium was then removed and 100  $\mu$ L of fresh medium and 100  $\mu$ L of ozone saline were added for 24 hours, followed by application of the Alamar blue test.

**Results:** Dose-dependent toxicity was observed for Fosamax, with the lowest percentage of viable cells being 10  $\mu$ M (67%). Actonel-A was found to be toxic even at the lowest tested concentrations (1.5 and 2.5  $\mu$ M: 78% and 79%), the percentage of viable cells being close to the higher concentrations (5 and 10  $\mu$ M: 72% and 72%). A significant increase in viable HGF percentages was also observed in cells stimulated with the Fosamax-F and Actonel-A test compounds, followed by the addition of O<sub>3</sub> solution for 24 hours.

**Conclusions:** Results show that O<sub>3</sub> solution not only suppressed the toxic effects of the bisphosphonates but also improved HGF ability to recover and stimulate growth and proliferation. This finding may help to improve the care of patients with bone necrosis after the administration of bisphosphonates and reduce the costs of their treatment.

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## ABSTRACT 23 GROUP C – HEALTH SERVICES RESEARCH

### **Romanian patients' attitude to lack of public health insurance for dental treatment**

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**Aim:** The aim of the study was to assess knowledge of and opinions on dental treatment coverage by public health insurance among Romanian patients who have never benefited from it.

**Methods:** The study was conducted in January and February 2021, on a convenience sample of 178 adults, 136 (76%) females, with a mean age of 29 ( $\pm$ 8.12) years, who attended a private clinic in Bucharest. Inclusion criteria: having public health insurance; exclusion criteria: history of dental treatment reimbursement from public health insurance. This was an anonymous, self-administered on-line questionnaire, patient survey.

**Results:** Only 86 (48%) declared they knew about the possibility of using their public health insurance for reimbursement of dental treatment costs. The main reasons for not using the public dental coverage were lack of information [87 (49)], unavailability of this option in their usual dental office [63 (35%)], lack of concern about dental treatments costs [29 (16%)] and ineligibility of their previous dental treatments for reimbursement [21 (12%)]. Regarding their opinion on fair public coverage, 144 (81 %) consider that children should benefit from full public coverage, while for adults partial coverage was considered fair by 77 (43%) vs full coverage by 56 (31%) ; 45 (25%) were undecided. The most frequently mentioned dental procedures considered eligible for reimbursement were: regular check-ups {95(53%)}, dental emergency treatment [89 (50%)], preventive procedures [79 (44%)] and strictly functional treatments [57 (32%)]. In the future, 170 (96 %) would opt to be treated in a private dental office and 102 (57%) would not replace their usual dental office with another that offers public health insurance funded care. **Conclusion:** In the population studied, there was a lack of information regarding publicly funded dental care and most agreed on partial reimbursement for adults, mostly for basic dental treatments, preferably in private dental offices.

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## ABSTRACT 24 GROUP D – COVID AND OTHER TOPICS

### Evaluation of the autofluorescence diagnostics method to identify malignant transformation of precancerous forms of lichen planus.

*Yulia Belyaeva, Galina Lukina Anton Lukin\**

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The most common oral potentially malignant disorders (OPMD) are related to certain forms of lichen planus (LP). To avoid invasive histological examination methods, new non-invasive express methods for confirming the diagnosis can be used. Such methods include autofluorescence stomatoscopy (AFS).

**Aims:** Assessment of AFS to identify the malignant transformation of precancerous forms of lichen planus.

**Methods:** Forty-two patients, aged 40 – 75 years, who attended the Evdokimov Clinical and Diagnostic Centre of Moscow State University of Medicine and Dentistry, between October 2020 and April 2021 with an LP diagnosis of various forms, were included in the study. They all signed a consent form and underwent clinical examination and stomatoscopy using the AFS method. Interuniversity Ethics Committee approval was obtained for this study. At the site of epithelium degeneration, there is a sharp decrease in the radiation intensity against the background of surrounding healthy tissue (the “dark spot” effect), since the epithelium of precancerous and malignant formations emits a luminescence of lower intensity than the epithelium of normal mucous membrane.

**Results:** Erosions and ulcers which bled had a dark brown colour. In 5 (12%) of patients, a decrease in radiation intensity (dark spot effect) with a diagnosis of the erosive-ulcerative form of LP was found. They were sent for histological examination of the oral mucosa lesions, as a result of which malignancy was confirmed in 2 of the 5 (40%) patients.

**Conclusions:** The advantages of the AFS method are ease of use, low cost, speed, non-invasiveness and the ability to detect hidden lesions, which contributes to the prevention and early diagnosis of OPMD and its use in screening diagnostics. However, the method has low specificity, because reactive and inflammatory lesions can produce changes similar to dysplasia. Nevertheless, it can be used to improve the provision of oral medicine services.

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## ABSTRACT 25 GROUP A EDUCATION AND ORAL EPIDEMIOLOGY

### Subjective social status: predictor of overall oral health and overall health

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**Aims:** Previous studies have examined subjective social status and found associations with overall health and overall oral health, objective socioeconomic status (SES), and psychosocial factors. The aim of the present study was to explore associations of overall oral and overall health and subjective social status (SSS), in adults 65 years and over. Furthermore, to examine the relationship of oral health behaviour and SSS.

**Methods:** A cross sectional study was performed in a sample of 743 community-dwelling elders ( males 354(47.6%) and females 389 (52.4%). aged 65-94 years, living in Attica Prefecture and visiting day centres. Multiple cluster methods were used for sample selection with response rate of 78.5%. The study received ethical approval from the Ethics Committee School of Dentistry Athens and informed consent was obtained from the participants. SSS was measured using the MacArthur scale and overall oral and overall health were recorded with a single question. SES was measured using objective measures (income, occupation (ISCO-08) and education (ISCED-97), and SSS) as the subjective measure. Statistical analysis (SPSS v24) included descriptive statistics, Spearman’s correlation and Pearson bivariate correlation, logistic regression and multivariate analysis.

**Results:** Overall oral health and overall health were related to SSS, income, education, satisfaction with life and social participation ( $p<0.05$ ). SSS was a predictor of overall oral and overall health ( $p<0.001$ ) and frequency of tooth brushing ( $p<0.05$ ).

**Conclusions:** In the population studied there were positive associations between participant’s SSS and their oral and global health, overall. The better the health, the higher their SSS. Those with lower SSS were more likely to brush their teeth less frequently. SSS is a useful and cost-effective predictor of perceived health, especially when resources are limited.

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**ABSTRACT 28 GROUP D - COVID AND OTHER TOPICS JOINT WINNER OF GSK  
RESEARCH AWARD FOR UNDERGRADUATES**

**Relationship between tooth loss and mandibular bone mineral density**

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**Aim:** To evaluate the relationship between tooth loss and mandibular bone mineral density (BMD) in Lithuanian middle-aged and older adults.

**Methods:** A total of 462 randomly selected anonymised panoramic radiographs of female (n=231) and male (n=231) patients treated in Zalgiris Clinic of Vilnius University Hospital, aged 50-90, mean age 62 (+ 9.3) years, were analysed by a single calibrated operator (DK) between February 2021 and June 2021. The representative sample size was calculated according to the prevalence of osteoporosis in Lithuania. The number of missing teeth (total, anterior and posterior, excluding third molars) in the mandible and maxilla, the mandibular cortical width (MCW) and the mandibular cortical index (MCI) were retrospectively evaluated using image analysis software. Statistical analysis of the data was performed using independent samples Student's t-test, Mann-Whitney U test, Pearson's correlation coefficient, Spearman's correlation coefficient. Statistical significance was set at  $p < 0.05$ . The study protocol was approved by the Vilnius Regional Biomedical Research Ethics Committee.

**Results:** 272 (58.9%) of all analysed panoramic radiographs were classified as MCI Class 1, 141 (30.5%) as Class 2 and 49 (10.6%) as Class 3. The mean number of missing teeth in the investigated population was 10.1 and the mean MCW was 3.9 mm. There was a weak significant correlation between number of total and posterior missing teeth and MCW in males ( $r = -0.28$ ,  $p = 0.031$ ) and a strong significant correlation in females ( $r = -0.78$ ,  $p = 0.017$ ). Moreover, there was observed a weak significant correlation between total number of missing teeth and MCI in males ( $r = 0.21$ ,  $p = 0.041$ ) and a moderate significant correlation between posterior missing teeth and MCI in females ( $r = 0.41$ ,  $p = 0.038$ ).

**Conclusion:** In the population studied tooth loss may be associated with reduced mandibular BMD, the assessment of which from panoramic radiographs may help to screen patients for osteoporosis.

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**ABSTRACT 29 GROUP B – ORAL HEALTH PROMOTION**

**Assessing Fluoride Varnish Programmes for Australian Children For  
National Scale-up**

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**Aims:** There is good evidence that fluoride varnish programmes are effective in preventing dental caries. While national and state oral health plans recommend expanded fluoride varnish programmes, to date expansion in Australia has been limited. The aim of the present study was to explore whether fluoride varnish programmes are suitable for scale up based on evidence from health translation using the Intervention Scalability Assessment Tool (ISAT).

**Methods:** Fluoride varnish programmes were assessed using the ISAT which evaluates how programmes rate on a range of evidence-based criteria related to scale up. The assessment was completed over two one-day virtual workshops in late 2020 and early 2021 facilitated by the authors. A diverse group of key informants participated, including national and international experts and indigenous academics.

**Results:** The workshops found that dental caries is a condition that warrants scale up and there was strong support for programme expansion in oral health plans. There is strong evidence for the effectiveness of fluoride varnish although the number of applications may need to be four annually. There was evidence that programmes were cost effective and that fluoride varnish was acceptable to patients. However, there were several barriers including professional culture, workforce and funding.

**Conclusions:** The workshops found that fluoride varnish programmes are suitable for national scale up in Australia and could have a significant impact on dental caries in indigenous children. However, there are a number of hard institutional barriers which need to be overcome before programmes can be expanded.

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## ABSTRACT 30 GROUP C – HEALTH SERVICES RESEARCH

### Prevalence of work related musculoskeletal pain among Serbian dentists

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**Aim:** Work related musculoskeletal disorders occur frequently in the dental profession. Musculoskeletal pain is one of the earliest symptom associated with development and presence of work related musculoskeletal disorders among dentists. Accordingly this study research aimed to identify the prevalence of musculoskeletal pain among Serbian dentists.

**Methods:** Self-administrated questionnaires were sent to dentists working in both the private and public sectors in Serbia. They were distributed via emails to a random selection of actively working dentists in Serbia, who were asked to report pain or discomfort during their work. The questionnaire included questions on: demographic factors, methods and organization of work, job satisfaction, general health status, occurrence and location of musculoskeletal pain, preventive activities and treatment. A total of 500 questionnaires were distributed. The study was approved by the Ethics Committee of the Dentistry School, University of Belgrade.

**Results:** The responses rate was 71% (356 out of 500 dentists). During dental work the most common complaint was musculoskeletal pain reported by 294 (83%) of dentists. The musculoskeletal pain mainly occurred in the region of neck 176 (49.5%) and the lumbar spine 164 (46%). A total of 81 (22.8%) dentists reported symptoms of carpal tunnel syndrome.

**Conclusions:** In the population studied, musculoskeletal pain had high prevalence and it was the most common symptom of work related disorders among Serbian dentists. There is a need for more emphasis on ergonomic principles in dental educational programmes. Furthermore, the results showed that dentists need to be informed better about the effects of work related risk factors and possible measures to prevent developing musculoskeletal pain during dental work.

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## ABSTRACT 32 GROUP A – EDUCATION AND ORAL EPIDEMIOLOGY

### Dental caries prevalence and trends among adults in Central Norway, The HUNT4 Study.

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**Aims:** To describe dental caries prevalence amongst adults (19 years+) in Central Norway and to assess changes over the last 25 years.

**Methods:** Data were collected as part of the fourth population-based health survey in Central Norway (HUNT 4: Nord-Trøndelag Health Study). The HUNT 4 Study was a cross-sectional study, conducted from September 2017 to February 2019. A random sub-sample of 7,720 were invited to a clinical oral examination. Approval was obtained from the SE-Norway Research Ethics Committee and written informed consent from the participants. Data collection was performed by 19 trained and calibrated dentists and dental hygienists, using self-administered questionnaires and standardised clinical and radiographic examinations. Dental caries was registered using a 5-grade scale and recorded as decayed, missing and filled surfaces/teeth (DMFS/DMFT). Data were analysed using SPSS Statistics 26.

**Results:** 4,913 individuals (response rate 64%) participated in the study. Among the 4880 dentate individuals, mean DMFT was 15.0 (95%CI 14.7,15.1), varying from a mean of 5.9 (95%CI 5.4,6.4) in the youngest (19-24 years) to a mean of 21.5 (95%CI 21.1,21.9) in the oldest (75+ years). The mean number of decayed teeth (DT) was 1.4 (95%CI 1.32,1.42). Preliminary comparisons with previously published data from Trøndelag (1994) showed that mean DMFT for 34-45-year-olds had declined from 20.2 to 10.8, while DT did not improve (0.6 in 1994 and 1.4 in the present study). In 1994, 2.7% of 45-54-year-olds and 10.2% of 55-64-year-olds were edentulous. In the HUNT4 study edentulousness was found in 0.7% (95%CI 0.69,0.71) of the study population and only in individuals older than 65 years.

**Conclusions:** In the population studied, during the last 25 years, there has been an improvement in oral health with respect to DMFT and edentulousness, while DT did not improve.

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## ABSTRACT 33 GROUP C - HEALTH SERVICES RESEARCH

### Benefits of Orthodontic Treatment for Patients Aged 17 – 21 Years

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**Aims:** There are several studies about the benefits of orthodontic treatment concerning patients' quality of life. No similar studies have been performed in Albania. The aim of this study was therefore to evaluate the effects of orthodontic treatment on patient's oral health related quality of life (OHRQoL) in a population aged 17-21 years.

**Methods:** One hundred and eight patients, aged 17 – 21 years, who attended the Faculty of Dental Medicine's Orthodontic Clinic during 2020, were enrolled. Each completed a questionnaire (OHIP-14) before treatment and after 12 months into treatment. The severity of the initial malocclusion was evaluated through the Index of Orthodontic Treatment Need (IOTN). The resulting data were entered into SPSS 20 and statistical analysis was performed to assess the difference in OHRQoL score before and after treatment, and the influence of gender and IOTN score on the observed outcomes. The Ethics Committee of the University of Tirana approved the study. Consent was obtained from each participant.

**Results:** There was a statistically significant difference between assessments before and after twelve months of treatment for all questions in the survey ( $p < 0.05$ ). There were no statistically significant differences related to gender, regarding the perception of how malocclusion affects the quality of life before and after twelve months orthodontic treatment. A statistically significant relationship between OHIP and IOTN was found ( $r = 0.182$ ,  $p = 0.006$ ). For both male and female participants, the greater the degree of malocclusion, the greater the difference in OHIP scores. There was no statistically significant difference for this finding between males and females.

**Conclusions:** Oral Health Impact Profile (OHIP)-14 can be a valuable instrument to assess the perceptions and the expectations of patients towards orthodontic treatment. Further studies can be conducted on larger samples and in other age groups. Their findings may improve treatment.

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## ABSTRACT 34 GROUP D – COVID AND OTHER TOPICS

### Albanian dentists' socio-economic and psychological status during the first months of the Covid-19 pandemic

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**Aim:** The aim of this study was to investigate Albanian dentists' socio-economic and psychological status during first months of the Covid-19 pandemic.

**Methods:** Between 25 April and 15 May 2020, an online anonymous questionnaire was sent three times by email to all 1313 dentists registered with the Albanian Dental Association. Its 26 questions were focused on demographic, economic, dental practice and psychological considerations. The resulting data were entered into SPSS 22 and analysed, using descriptive statistics and ordinal logistic regression tests.

**Results:** A total of 308 dentists, age 25-65 years, of whom 173 (56%) were female and 135 (44%) male, participated in the study. They reported: 288 (94%) had closed their practices, 274 (89%) predicted a difficult future for the dental practice and 105 (34%) as experiencing a great impact on their family income. One hundred and ninety-nine (65%) reported being nervous or anxious on at least some days, with females being more likely than males ( $p < 0.05$ ) to have this experience. One hundred and fifty seven (51%) experienced depression or lack of hope on some days and 219 (71%) experienced sleeping disorders with no significant difference between genders. Anxiousness related to financial issues was more likely in the 25 -35 year old age group when compared with 56-65 year olds ( $p < 0.05$ ).

**Conclusions:** Amongst those Albanian dentists, who participated in this study, the majority predicted a difficult future for dental practice. This was accompanied with psychological changes (nervousness, anxiousness, lack of hope, sleeping disorders).

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**ABSTRACT 35 – PRESENTED IN THE GSK GRADUATE RESEARCH AWARDS FINAL**

**Obesity and dental caries in children in Scotland: population-based data linkage analysis**

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**Aims:** To explore trends and inequalities in co-existing caries and obesity in Scottish children.

**Methods:** A population-level repeated cross-sectional data linkage and secondary analysis of pseudonymised, individual-level National Health Service data on caries experience and obesity, from multiple cohorts of 5-year-old children in Scotland, between 2011/12 and 2017/18 (n=335,361) was performed. Area-based deprivation (Scottish Index of Multiple Deprivation) was assessed from each child's home postcode.

**Results:** The prevalence of caries experience in 5-year-olds has been reducing overall in Scotland from 32.9% in 2011/12 to 29.5% in 2017/18, although absolute inequalities remain large and consistent, with a difference in prevalence between the most and least deprived, which was 37.5% in 2011/12 and 34.1% in 2017/18. The prevalence of obesity has plateaued overall (9.8% in 2011/12 and 10.1% in 2017/18). However, this has masked a small but steady rise in prevalence in the 10% most deprived areas (11.8% in 2011/12 to 12.9% in 2017/18). Between 2011/12 and 2017/18, 3.4% (n=11,494) children experienced both caries and obesity simultaneously. In children from the 20% most deprived areas, 5.6% (n=4,350) had co-existing conditions in contrast with 1.4% (n=887) from the 20% least deprived areas (Risk Ratio=6.0; 95% confidence interval=[5.6 to 6.4]).

**Conclusions:** Recent improvements in caries prevalence in 5-year-old children have been attributed to the Childsmile programme. However, more work is needed to reduce inequalities. Over the same period inequalities in the prevalence of obesity in 5-year-old children increased. Despite relatively low prevalence of co-existing caries and obesity, inequalities are stark and persistent and more targeted interventions that focus on the common risk factors are needed to support this particularly disadvantaged group. Current work is ongoing to ensure that the Childsmile programme reaches this group.

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**ABSTRACT 36 GROUP C – HEALTH SERVICES RESEARCH**

**Periodontal diseases management by general dentists in France: A national survey**

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Because the specialty of periodontology is not officially recognized in France, most periodontal treatment in France is provided by general dental practitioners (GDPs).

**Aim:** The aim of this study was to explore the diagnosis and management of periodontal diseases (PDs) by GDPs in France.

**Methods:** A national cross-sectional survey of 1801 GDPs from metropolitan France was conducted between October 2018 and February 2019, with the approval of the French Dental Council (Association). The sample was drawn from the national register of health professionals by stratified simple random sampling, based on regional administrative division and departmental numbers of dentists. The EADPH periodontal Special Interest Working Group self-administered questionnaire was emailed to the selected dentists with a participant information sheet, which invited them to complete the questionnaire. The questions were on the GDPs' socio-demographic characteristics and their practice and knowledge of periodontology. A reminder was emailed to those who did not initially respond. A power calculation indicated that a response from 381 dentists was required for a 95% confidence level and a 0.05 confidence interval.

**Results:** 385 GDPs completed the questionnaire. Three hundred and sixty three (93%) reported taking a medical and dental history for all their patients but only 181 (47%) performed systematic oral examinations for all their patients and only 21 (6%) systematic periodontal examinations. For diagnosis of PDs, radiographs were used by 374 (97%) of the respondents. Full-mouth periodontal probing was reported by 124 (32%). Root surface debridement and periodontal surgical procedures were respectively performed by 341 (86%) and 132 (34%) of respondents. Only 244 (63%) considered their knowledge and their skills to be sufficient for the implementation of periodontal treatment.

**Conclusion:** The French GDPs who took part in this study showed different patterns in their management of PDs and a need for continuing education in periodontology.

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## ABSTRACT 37 GROUP B - ORAL HEALTH PROMOTION

### Fluoride Prescribing by General Medical Practitioners in England a Cross Sectional Study

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**Aims:** National Health Service (NHS) General Medical Practitioners (GMPs) in England are not routinely commissioned to prescribe fluoride preparations by local Clinical Commissioning Groups (CCGs). This study aimed to establish the incidence of fluoride prescribing in the NHS by GMPs through item and cost analysis, and to investigate the practice-level factors associated with prescribing.

**Methods:** Practice-level prescribing data for any preparation of Sodium Fluoride was extracted from the NHS Business Services Authority (NHSBSA) monthly publication. Data were aggregated from each month for the 2019/2020 financial year. Practice demographic indices including Index of Multiple Deprivation scores from 2019 (IMD) and the annual Quality and Outcome Framework (QOF) score for each practice were also obtained. A multivariate mixed-effects Poisson regression model was used with rate of fluoride prescribing per 1000 patients as the dependent variable, and the above indices as fixed-effect independent variables.

**Results:** In the financial year 2019-20 a total of 275,177 sodium fluoride preparations were dispensed on prescriptions by English GMPs, at a cost of £1,994,666.97. Practices with an IMD score in the most deprived quintile were prescribing at a rate of 16% more than the least deprived quintile (incident rate ratio (IRR) 1.16,  $p < 0.05$ ). The highest scoring practices on the QOF were significantly less likely to prescribe than the lowest scoring quintile (IRR 0.91,  $p < 0.001$ ).

**Conclusions:** In the population studied, nearly £2m was spent in 2019/2020 on fluoride prescribing by English GMPs in spite of a policy to refer patients to dental services. Further work should be undertaken to assess whether the prescribing of fluoride by GMPs is related to the accessibility of NHS dental care in their local areas.

**Acknowledgements:** AJG is funded by the National Institute for Health Research (NIHR). The views expressed are those of the authors and not necessarily those of the NIHR or the Department of Health and Social Care.

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## ABSTRACT 38 - PRESENTED IN GSK GRADUATE RESEARCH AWARDS FINAL

### Does oral health predict incident frailty over 13-year follow-up in ELSA study?

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**Aim:** To examine the association between oral health (OH) and incident frailty in older English adults.

**Methods:** A random representative sample of adults aged  $\geq 50$  at Wave 3 (W3) of the English Longitudinal Study of Ageing (ELSA) was analysed (response rate 73%). OH was assessed at W3 by: (1) the presence of natural teeth (dentate vs. edentate), (2) self-rated oral health (excellent, very good, good vs fair or poor) and (3) the prevalence of oral impacts (yes/no) based on the Oral Impacts on Daily Performances (OIDP) measure. Frailty outcome was evaluated by the Rockwood frailty index. Competing risks regression models assessed the association between OH at W3 (2006/7) and incident frailty up to Wave 9 (2018/19), with participants' mortality and dropout as competing risks. Models were adjusted for baseline sociodemographic characteristics and smoking. We also tested for interactions with age, sex and edentulousness. As this was secondary research assessing anonymised data, ethics approval was not required.

**Results:** From 5,760 non-frail respondents with no missing baseline information, 1395 (24.2%) became frail during the 13-years follow-up period. The risk of incident frailty was 40% higher in edentate (sub-hazard ratio (SHR) 1.40, 95% CI 1.12-1.75) compared to dentate males, whereas the respective association was not significant among females (1.04; 0.86-1.26). Respondents who rated their oral health as poor or very poor had 47% higher risk (1.47, 1.28-1.70) of incident frailty than those who rated their oral health as very good, good or average. Additionally, individuals who reported OIDP were 1.85 (1.55-2.21) times more likely to develop frailty when compared to adults who had not reported any OIDP.

**Conclusions:** Poor oral health was associated with higher risk of incident frailty over a 13-year follow-up in older adults in England. Future research should investigate pathways linking OH and frailty.

Acknowledgement of Funding: MRC research grant MR/N013867/1

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## ABSTRACT 39 GROUP C - HEALTH SERVICES RESEARCH

### Patient and public views of the dental team and English dental system

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**Aims:** To investigate patients' awareness of the roles of members of the dental team and their scope of practice. To understand patients' experience of dental care in England and how this could be improved.

**Methods:** Nine patient engagement, semi-structured, focus groups were carried out, with 69 patients between 2019 and 2021. Seven were held face-to-face in each region of England and two were national, online events. Convenience sampling was used, with patients volunteering to attend through an invitation sent via community and patient advocacy groups.

**Results:** participants had a good understanding the scope of practice of most members of the dental team. However, participants had not heard of a dental therapist and had no understating of their role. Participants were used to seeing different members of health teams in other settings and placed more importance on their competence and manner than their title. In terms of the dental health care system in England, the number one issue for patients was access to NHS dental care. This had significantly worsened during the pandemic and was a particular issue for patients with high dental need and transitory patients. Cost was also identified as significant factor that limited access to care. Overall, most participants had a good relationship with their dental team and felt they provided high quality care, which had become more holistic over time. Prevention was seen as a priority, both in the practice and in the community, as was joining up dental care with the wider health care system.

**Conclusions:** In the population studied, patients were happy to see any appropriate member of the dental team and valued clinical competence, soft skills, access to NHS care and an integrated healthcare system focused on prevention.

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## ABSTRACT 40 GROUP A - EDUCATION AND ORAL EPIDEMIOLOGY

### European Association of Dental Public Health/European Dental Hygienists Federation Survey of Dental Hygienists Employment – Interim Results

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**Aim:** The aim of this survey was to investigate the employment of dental hygienists from the 24 members countries of the European Federation of Dental Hygienists (EFDH). This abstract reports the interim results for part-time working and place of employment.

**Methods:** In May 2020, a questionnaire with 17 questions relating to Dental Hygienists' (DH) employment was designed and piloted in 6 countries, prior to its distribution by email, with an explanatory letter, to national Dental Hygienists Associations. The ethics committee of Vilnius University Medical School advised that ethics approval was not required for this survey.

**Results:** To date 19 (79%) of European national Dental Hygienists' Associations have completed the questionnaire. Sixteen (84%) reported that between 13% (Malta) and 60% (Poland) of DH were working part-time as DHs, most frequently because the dentists they work for required them to work as Dental Nurses or because of family commitments. Place of employment was reported as: private practice from 30% (Finland) to 99% (Italy). public clinics from 0% (Italy) to 60% (Finland), hospital clinics from 0% (Slovenia) to 4% (Poland), university clinics/teaching from 0.5% (Portugal) to 7% (Latvia), DH owned clinics from 0% (Malta) to 40% (Netherlands). Nine of the countries reported that DHs were working as dental company representatives.

**Conclusions:** The interim results of this survey demonstrate wide variations in part-time working and the places of employment of DHs in 19 European countries.

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## ABSTRACT 41 GROUP C – HEALTH SERVICES RESEARCH

### Developing a Geographic Information Systems mapping tool to support dental commissioning

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**Aims:** In England, Integrated care systems (ICSs) are new partnerships seeking to integrate care across the wider National Health Service, by joining up hospital and community services, physical and mental health, and public health and social care. All parts of England are now covered by one of 42 ICSs. There is a strong rationale for the involvement of oral healthcare in these new collaborative arrangements to ensure integration of oral health into general health and wellbeing, recognising most oral diseases and conditions share modifiable risk factors with the major non-communicable diseases. The aim of this work was to develop a digital mapping tool for the South West region to present key oral health, public health and dental indicators at an ICS level.

**Methods:** Routinely available data on three key indicators - dental attendance rates; General Dental Service spend per capita; and vulnerable population groups were analysed at ICS level. Geographic Information Systems mapping software was utilised to develop an interactive colour-coded map across the seven ICSs in the region.

**Results:** The analysis demonstrated stark differences across the region – identified as “hotspots” e.g. where dental access rates were low, alongside identifying priority vulnerable child and adult populations within each ICS.

**Conclusions:** Responsibilities for commissioning of dental services in England will change as ICSs develop their remit and priorities. It is therefore necessary to adapt to meet the needs of these new commissioning structures. This work, to create a dynamic oral health needs assessment tool, highlights inequality and supports commissioners to ensure an evidence-based approach in prioritising and targeting resources to promote oral health equity.

NHS England and NHS Improvement commissioned the South West Commissioning Support Unit to develop the mapping application, with dental public health expertise from Public Health

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## ABSTRACT 42 GROUP A EDUCATION AND ORAL EPIDEMIOLOGY

### Dentistry: London pupils and teachers’ perceptions of the career decision-making journey

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**Aim:** To assess London pupils and teachers’ perceptions of the career decision-making journey.

**Methods:** A mixed-methods study involving focus groups and questionnaires was conducted using a purposive sample of London schools (public/private; co-educational/girls/boys; academic achievement). A series of focus groups conducted at various types of school in the Greater London area (13 focus groups and 91 students) amongst 14–18-year-olds and a questionnaire survey of career teachers. A topic guide, informed by the literature and previous research, was used to guide discussions on the process of career decision-making, and the challenges identified by these pupils and their careers teachers at different stages of this process, and their perception of how such challenges may be reduced. Ethical approval was obtained from King’s College London Research Ethics Committee (No. 14/15-40). School, teacher, parental and pupil written informed consent was obtained. Data were analysed using Framework methodology.

**Results:** Dentistry had received little early consideration in the career decision-making process. Four distinct stages were identified: (1) the initiation of aspiration – with an aptitude for science, family/social, cultural, educational and wider influences,, promote medicine as a primary aspirational career option; (2) exposure to dentistry as a career – personal experience, work experience and motivating features of the career lead to recognition of dentistry as an alternative; (3) exploration of the career – research, university information, career departments and work experience; (4) application process. Greater representation of dental professionals within the school, access to work experience, and support in the student application process were identified by pupils and teachers as possible measures to overcome these challenges, as well as dentist involvement in initiatives to promote science-related subjects.

**Conclusions:** The population studied revealed the support young people may require from dental professionals throughout the dental career decision-making process, particularly those from under-represented groups who may face greater challenges.

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## ABSTRACT 43 GROUP C – HEALTH SERVICES RESEARCH

### Optimizing Oral Health Prior to Orthodontic Treatment: A Quality Improvement Project

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**Aims:** To ensure all patients referred to the hospital orthodontic service in N.Ireland are subject to a formal oral health assessment prior to commencing treatment.

**Methods:** Twenty five patients referred from primary care orthodontic providers were randomly selected to attend a pre-assessment clinic. At this clinic a full oral health assessment was completed, which included: plaque and bleeding indices, periodontal evaluation using the community periodontal index of treatment need (CIPTN), and a full dental charting to determine if caries was present. Targeted oral hygiene and dietary advice was given to all 25 patients. Any patient failing to meet minimum standards was subject to a four week review.

**Results:** The standard required to commence orthodontic treatment was set at a plaque and bleeding score <30%. Fourteen (56%) of patients attending for first assessment did not meet this standard of oral health. Six (22%) patients presented with active caries and gingivitis or periodontitis which required referral to their GDP for further management. At the four week review plaque and bleeding scores were reassessed and all 25 patients met the standard required to commence treatment.

**Conclusions:** In the study population, fewer than 50% of patients referred to the hospital orthodontic service in January 2021 were dentally fit for treatment at presentation. The pre-assessment clinic has identified patients unsuitable for treatment, resulting in reduced waiting times.

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## ABSTRACT 44 GROUP D - COVID AND OTHER TOPICS

### Reparative dentine formation stimulated with nano-dispersed Cerium Oxide: A cost-effective procedure?

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**Aims:** Reversibility of pulp inflammation, characterised by subtle differences in histological and biochemical aspects is a key factor for avoiding endodontic treatment. Direct and Indirect pulp capping methods with calcium hydroxide  $\text{Ca}(\text{OH})_2$  or Mineral Trioxide Aggregate (MTA) are routinely used in such cases and have a significant probability of failure. This pilot, practice-based, randomized clinical study aimed to evaluate and compare the success of direct pulp capping in permanent teeth with 1) nano-dispersed cerium oxide ( $\text{CeO}_2$ ) + calcium hydroxide  $\text{Ca}(\text{OH})_2$  suspension or 2)  $\text{Ca}(\text{OH})_2$  suspension.

**Methods:** After ethics approval from Moscow State University, two dental practices in Moscow were randomized to perform direct pulp caps with either  $\text{Ca}(\text{OH})_2$  (both practices) or  $\text{CeO}_2+\text{Ca}(\text{OH})_2$  (both practices). Thirty five individuals received a direct pulp cap with  $\text{Ca}(\text{OH})_2$  (n = 17) or  $\text{CeO}_2+\text{Ca}(\text{OH})_2$  (n = 18). They were followed for up to 2 years at regular recall appointments (2 weeks, 1 month, 6 months, 12 months, 24 months) or as required by tooth symptoms. The primary outcomes were continuing pulpal vitality or the need for root canal therapy or extraction. Teeth were evaluated for pulp vitality with electric pulp-testing (EPT), and radiographs were taken.

**Results:** The failure rate at 24 months was 41.2% for  $\text{Ca}(\text{OH})_2$  vs. 22.2% for  $\text{CeO}_2+\text{Ca}(\text{OH})_2$  (p<0.1). A higher percentage of teeth retained their vitality when  $\text{CeO}_2+\text{Ca}(\text{OH})_2$  was used. Dental radiographs showed the appearance of a thicker replacement dentinal bridge over the pulp after treatment with  $\text{CeO}_2+\text{Ca}(\text{OH})_2$  suspension.

**Conclusions:** This pilot clinical trial suggests a superior continued vitality of the pulp when  $\text{CeO}_2$  based suspension +  $\text{Ca}(\text{OH})_2$  was used as a direct pulp-capping agent as compared to  $\text{Ca}(\text{OH})_2$  when evaluated in a practice-based setting for up to 2 years. If this finding is duplicated in larger trials, it has implications for the provision of clinically more effective treatment and cost saving.

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Presentation sponsored by the Borrow Foundation

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## ABSTRACT 45 - PRESENTED IN GSK GRADUATE RESEARCH AWARDS FINAL

### The association between dental caries and school performance in adolescents in Saudi

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**Aim:** This study aims to assess the relationship between dental caries and school performance in 13-15-years-old adolescents attending public schools in Saudi Arabia.

**Methods:** A cross-sectional study of second and third-grade intermediate public-school students in Riyadh, Saudi Arabia was performed. The sample was randomly selected through stratified (by gender, as schools are separate for boys and girls) probability proportional to size sampling and data were collected between January and August 2020. Ethical approval was obtained from the UCL Research Ethics Committee and King Saud University Institutional Review Board and parental consent was obtained prior to adolescents participation. Dental caries was clinically assessed using WHO (2013) criteria. School performance was measured using the students' grade point average (GPA) and their respective scores in maths, science, and English language. Response rates were 88.2% for boys schools and 68.5% for girls schools. The overall sample size was 1,343, with 51.2% boys. Multivariable linear regression analysis was used to assess the association between dental caries and the four school performance outcomes, controlling for age, gender, nationality, father's education, reason for dental attendance and oral impacts due to caries.

**Results:** In the unadjusted model, students with 4 or more teeth with active caries had significantly lower GPA scores by 3.1 (1.8, 4.4) points compared to those without caries. In the fully adjusted model, this estimate was slightly reduced to 2.7 (1.5, 3.9) points ( $p < 0.001$ ). Similarly, those with 4 or more teeth with caries had significantly lower marks in maths, science and English by 2.3 (1.1, 3.5), 1.8 (0.8, 2.8) and 1.5 (0.4, 2.6) points, respectively, compared to those without caries.

**Conclusions:** Extensive caries was associated with worse school performance, both overall and for key subjects, among adolescents in Saudi Arabia, even after accounting for demographic, socio-economic and dental attendance factors.

Acknowledgement of Funding: King Saud University and Saudi Ministry of Education

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## ABSTRACT 46 GROUP B - ORAL HEALTH PROMOTION

### Delivering better oral health: evidence-based toolkit (pre-publication V4): stakeholder engagement

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**Aim:** To obtain stakeholders' views on a pre-publication version of Delivering Better Oral Health version 4 (DBOHv4) a publication which supports oral health quality enhancement, implementation and equity.

**Methods:** An online survey was designed to capture feedback on the content of the fourth version of DBOH, its forthcoming implementation and an audit of equity. The survey was piloted and distributed to over 280 stakeholders who had participated in earlier consultations and guideline development for education, research, policy and industry. Ethical approval was not required as it was an consultation exercise conducted by an arm's-length Government agency following standard procedures. Descriptive and thematic analysis of responses were undertaken by one researcher (AM).

**Results:** Overall 84 completed online questionnaires and 21 additional email responses, yielded 795 dedicated comments. Highest numbers of responses were received for the summary guidance tables 183 (23%), followed by diet 79 (10%) and oral hygiene 71 (9%). One hundred and twenty five (16%) of responses involved supporting evidence whilst 324 (41%), did not. Additional contributions included language (184; 23%), editing (30; 4%), presentation (36; 5%), resources (18, 2%) and implementation (8, 1%). Most feedback was positive and constructive. Positive comments included the value of using the GRADE system for assessing evidence and the enhanced behaviour change material, including moving the latter to higher prominence. There were useful suggestions of improvements in relation to language, style, diagrams and presentation. Questions relating to implementation and equality provided insight and informed the dissemination and implementation plan post-publication.

**Conclusions:** The nature and volume of responses highlighted the importance of this document and its value to the profession. The useful suggestions will enhance the final publication and inform the multi-stage implementation process.

**Acknowledgements:** The authors would like to express thanks to those who have taken the time to read and provide feedback on the draft documentation

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## ABSTRACT 47 GROUP A – EDUCATION AND ORAL EPIDEMIOLOGY

### Early childhood caries – analysis of social-economic indicators of oral health in Serbia

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**Aims:** Having in mind that social-economic determinants strongly impact on the occurrence of chronic Non-Communicable Diseases, gathering information on their influence on children's oral health is beneficial. The aim of the present study was therefore to test association between social determinants and oral health in a nationally representative sample of pre-schoolers, aged from 12 to 91 months.

**Methods:** This study was approved by the Ethical Committee of University of Belgrade School of Dental Medicine, Ministry of Health Republic of Serbia and managers of primary health care centres and kindergartens. Parents of participants also gave consent. Probability sampling was performed using the stratified cluster random method. The survey was performed in 21 randomly chosen locations, both urban and non-urban, in four regions of Serbia. The differences in the means of variables were analysed using the independent t-test, Mann–Whitney U test and the logistic regression model was applied to predict the outcome.

**Results:** The sample included 3,443 children, equally distributed across the country. Dental caries in the primary dentition was present in more than half of those sampled (1,933; 56%), the vast majority of whom (1,775; 92%) had untreated caries in primary teeth. Further analysis showed a statistically significantly lower probability of caries in children living in regions where there was a higher frequency of parents working in the public sector (OR=0.6, p<0.05). Children living in regions where there was higher frequency of parents working in the private sector had a higher probability of caries (OR=1.7, p<0.05).

**Conclusions:** Upstream preventive interventions, especially targeted at population living in districts with lower economic indicators, could be a most appropriate strategy to improve the oral health of Serbian pre-schoolers.

Supported by Program for Oral Health Improvement in Serbian Children and Youth, Government of the Republic of Serbia, Ministry of Health; Program Number 1802, Project Number 4015.

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Presentation sponsored by the Borrow Foundation

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## ABSTRACT 49 GROUP B – ORAL HEALTH PROMOTION

### Evaluation of the National Child Oral Health Improvement Programme for Chile

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**Aims:** Dental caries in childhood represents a major global public health challenge. The national oral health improvement programme for Scotland, Childsmile, has developed a multifaceted population-based approach to improving child oral health and reducing associated inequalities. With poor levels of child oral health, Chile has developed a number of Childsmile-based programmes, including Sembrando Sonrisas, a daily toothbrushing and fluoride varnish application programme for nurseries. The study reported in this abstract aimed to evaluate the impact of these programmes on caries levels of Chilean children.

**Methods:** Aggregated municipality-level (n=346) data (2008-2019) were collated for: dental caries outcomes, national child oral health improvement programmes, community water fluoridation (CWF), socioeconomic-deprivation and rurality. Linear regression (adjusting for area-based deprivation, rurality, time, and weighted by population size) assessed programmes reach and the independent effect on caries experience over time. All results were expressed as differences in least square means.

**Results:** Dental examination data were available for 1,397,377 six-year-olds. Caries experience of the children significantly improved from 83% (95% CI: 82%, 85%) in 2008 to 66% (95% CI: 65%, 68%) in 2019, a 17% reduction (95% CI: -21%, -13%). Significant differences in caries experience were observed between most deprived and least deprived (-12%; 95% CI: -16%, -10%), rural and urban (-2%; 95% CI: -1%, -3%), and non-CWF and CWF exposed (-10%; 95% CI: -9%, -11%) municipalities. CWF concentration and coverage, preventive interventions in primary care public clinics, and Sembrando Sonrisas reach were associated with the decline in caries experience.

**Conclusions:** The improvement in dental health of six-year-olds that was observed in Chile was associated with the incorporation of Sembrando Sonrisas over and above CWF and clinical prevention.

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## ABSTRACT 50 GROUP C - HEALTH SERVICES RESEARCH

### **Disability and Oral Health: the need for support in residential homes for the disabled in France**

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In France, care for disabled people is provided in Établissement et Services Medico-Sociaux (ESMS). This abstract reports a project subsidized by Agence Régionale de Santé (ARS) to improve oral health in ESMS in one French region.

**Aim:** To evaluate the oral health needs of patients resident in ESMS and the impact on their oral health when followed-up by the staff and their family after an oral health promotion action.

**Methods:** Twenty ESMS, of the 23 in the region, took part in this study. Of their 941 residents, 663, aged 5 – 71 years, were screened. A dentist carried out staff and family training, during oral brushing workshops. Screening and an online feedback questionnaire was completed in the ESMSs two months after the intervention. Data were processed using SPSS software and qualitative analysis was conducted using the SWOT matrix. Prior consent was obtained from the families / tutors and approved by the ARS.

**Results:** 66 (10%) patients refused screening. 456 (70%) residents needed periodontal care, 136 (21%) needed restorative treatment, 63 (10%) needed minor surgery, 26 (6%) needed dentures. 551 (84%) patients were referred for care, while 91 (14%) were orally healthy. 300 health professionals were trained. 596 (95%) residents had a toothbrush, but most avoided brushing because of behavioural (reported by 15 ESMS /21 (75%) and/or communication problems (reported by 18 ESMS/21(85%)) and/or lack of time (reported by 7 ESMS/21 (30%)). Prior to the action, four facilities did not record any oral health follow-up, seven recorded partial follow-up and nine recorded follow-up for all their residents. After the action, 17 facilities performed follow-up for all residents, 3 performed partial follow-up, one did not.

**Conclusion:** While the action led to a better follow-up of residents, oral health remain a concern and ESMS require long term support.

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## ABSTRACT 51- PRESENTED IN GSK GRADUATE AWARDS FINAL WON FIRST PRIZE

### **Infant oral-health behaviours: health education and psychosocial predictors- a randomised controlled trial.**

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**Aims:** Previous research has identified that oral health behaviours are ingrained at an early age, remaining significantly associated with dental health throughout the life-course. Thus, caregiver-infant oral health practices are important in establishing early positive health behaviours. This study investigated the effect of an educational intervention for caregivers of 11-month-old infants, on oral health practices at 24-months. Furthermore, it explored whether demographic and/or psychosocial caregiver characteristics predicted later infant oral health behaviours.

**Methods:** In this study, data were analysed from a volunteer sample of 141 caregiver-infant dyads from South Yorkshire (UK), randomised to receive either a dental health intervention (n=69) or a matched language development control (n=72), via educational video in the family home. Five infant oral health practices were assessed via caregiver self-report (at baseline, 24-months), compared between groups and analysed with ANCOVA and non-parametric tests. Baseline caregiver psychosocial characteristics were subject to linear, binomial or multivariate logistic regression analysis to identify significant predictors of infant oral health behaviours. The trial was approved by the University of Sheffield Psychology Sub-Ethics Committee and caregiver consent was obtained.

**Results:** No significant differences were identified in the five infant oral health behaviours at 24-months, between those who received the dental health intervention, compared to the control (all  $p > 0.05$ ). Regression analysis models identified caregiver: self-efficacy; anxiety; depression and perceived stress were significant predictors of infant tooth-brushing duration, frequency and infant dental attendance (all  $p < 0.05$ ).

**Conclusions:** In the population studied, the present dental health educational intervention did not display a significant treatment effect on any of the infant oral health practices. Significant associations were revealed between caregiver psychosocial characteristics and infant oral health practices. They necessitate further investigation. The implications of such associations on oral health education should be discussed.

Acknowledgement of Funding: British Academy (ref:SG101641), Nuffield Foundation (ref:EDU/40447).

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## ABSTRACT 52 GROUP A EDUCATION AND ORAL EPIDEMIOLOGY

### Dentist's careers – change, barriers, and facilitators

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**Aims:** This survey aimed to review the careers of dentists within the current United Kingdom workforce. It explored career satisfaction and barriers or facilitators to career progression. Its results will inform the Advancing Dental Care programme and workforce planning and retention, supporting the objectives of the NHS Long Term Plan (Smith, 2019).

**Methods:** A cross-sectional study was developed, based on a previous questionnaire used in 2004 by King's College London. Minimal risk ethics approval was gained, and the survey was distributed from February-May 2021 by the General Dental Council (GDC), British Dental Association and Local Dental Committees. The questionnaire included both qualitative and quantitative questions. Responses were analysed using Microsoft Excel.

**Results:** Of 1243 respondents, 878 had answered 96% of the questions which were analysed. The ratio of male to female respondents (367, 42%:483, 58%) was slightly lower than that for GDC registrants (51%:49%), with a relatively even spread across age groups. Both specialists (90, 10%) and generalists (788, 90%) were represented, matching the percentages on the GDC register (March, 2021). Six core themes emerged from the data as both facilitators and barriers to dentists' careers, including time, cost, family, location, availability and flexibility. 58% (509) of dentists surveyed said their career plans had changed, with 46% (405) stating they weren't where they envisaged being when they graduated with regard to their career. Of these people, 85% (346) had had a change in career plans.

**Conclusions:** In the population studied, several core themes emerged with regard to barriers and facilitators for further dental education and training. Over half of the dentists surveyed had changed their career plans over their working life. These data will be fed into the Dental Education Reform programme, with the aim of assisting with the development of improved future education and training pathways.

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## ABSTRACT 54 - GROUP B ORAL HEALTH PROMOTION – JOINT WINNER OF GSK RESEARCH PRIZE FOR UNDERGRADUATES

### Tooth Loss Patterns and Incidence Among Frail Nursing Home Residents in Flanders

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**Aims:** To assess the prevalence and incidence of tooth loss in nursing home residents and identify variables associated with tooth loss.

**Methods:** The sample consisted of residents from 34 Flemish nursing homes participating in an oral healthcare programme (Gerodent), between 2015 and 2018. Socio-demographic, dental and medical data were extracted from the dental records and all residents had died by the time of data extraction in 2020. For the analysis of tooth loss incidence, the follow-up period was at least 11 months. The explanatory variables were age, gender, increased reimbursement, care-dependency and medication intake. The study was approved by the Ghent university hospital ethics committee (BC-07682). Descriptive and bivariate analyses were conducted using SPSS Statistics 26. p-values <0.05 indicate statistical significance.

**Results:** At baseline, there were 1,570 elderly residents with a mean age of 85.5 years of whom 765 (56%) had a high care-dependency, taking a daily average of 8.7 different medications. Five hundred and sixty three (36%) were edentate and 997 (64%) were dentate. The mean number of teeth among the dentate was 12.2 of which 2.7 needed extraction. Only 147 (15%) of residents with teeth had a functional dentition of  $\geq 20$  teeth. The maxilla was four times more likely to be edentulous than the mandible. First and second maxillary premolars were most often in need of extraction (30% and 32% respectively). Among the follow-up sample of 353 dentate residents, 50% had incident tooth loss and 18% of all teeth had developed new pathology and were extracted or indicated for extraction. No explanatory variables were significantly associated with incident tooth loss.

**Conclusions:** In the population studied, edentulousness and need for extractions were high at baseline and half of the dentate residents had tooth loss at follow-up. The mean incidence of tooth loss was one tooth per resident per year.

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## ABSTRACT 55 - GROUP A EDUCATION AND ORAL EPIDEMIOLOGY

### Tobacco cessation methods among Dental Professionals: a systematic review and meta-analysis

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**Introduction:** Tobacco is the leading cause of oral cancer and related morbidities in the world. Dentists and oral health professionals have an added responsibility for recognising the early signs of oral cancer and provide adequate counselling for tobacco cessation. However, the knowledge regarding this role has been found to be deficient.

**Aim:** Hence, this Systematic Review was conducted to evaluate the global status of the knowledge, attitude and practice regarding tobacco cessation methods among dental professionals.

**Method:** The protocol was designed as per PRISMA and registered in PROSPERO (CRD42021250962). A broad-based search using text-words and MeSH terms was performed in established databases as per a predefined strategy without any limitation of language and year of publication. Studies without details of questionnaire, knowledge-score, validity and reliability were excluded. The Newcastle-Ottawa Scale (NOS) was used to assess the risk of bias. Overall knowledge, attitude and practice on tobacco cessation was reviewed and critically evaluated.

**Results:** Full text evaluation of 146 articles resulted in inclusion of 23 studies. They had been conducted from 1992 – 2021. Majority of them were from Asia (12) with few from North America, South America and Europe. Close ended, English language self-administered questionnaires had been used and the number of questions ranged from 12 – 28. The knowledge score was found to be low in majority of the studies and was proportional to educational qualification, years of experience and previous training.

**Conclusion:** The knowledge of dental health care professionals regarding the tobacco cessation was insufficient or low in the majority of studies. There was a paucity of studies from African region and many countries of Eastern Europe with wide variability in the study methods. The recommendations of this review will help in improving the clarity in this domain.

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**Evaluation of New Multidisciplinary Alveolar Bone Graft Clinic in Northern Ireland.**

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**Aim:** Northern Ireland's multidisciplinary Alveolar Bone Graft (ABG) service was established in 2018. The development of this new service, as a branch of the Regional Cleft Palate Service, was to improve the ABG care of cleft palate patients requiring this treatment. The aim of this study was to measure patient and referrer satisfaction.

**Methods:** Baseline data were collected from ABG clinics beginning in 2019. Data was collected from both referrers and patients following establishment of the new pathway via satisfaction questionnaires. The study was briefly stalled due to the COVID-19 pandemic and data collection resumed in October 2020. This abstract reports data collected between October 2020 to March 2021, assessing satisfaction. For this project approval was granted from the Quality Improvement and Audit Department in the Western Health and Social Care Trust.

**Results:** Data was collected from the 6 referrers to the service and 42 patients between October 2020 and March 2021. Results of the data collection for patient satisfaction show 43% (18 of 42) patients felt clinic locations were "unsuitable", over half of patients (24 of 42) and referrers (4 of 6) felt there was a "lack of resources" available. 66% (4 of 6) of referrers felt the service could be improved by providing ABG referral proformas electronically.

**Conclusions:** Changes have been introduced including implementation of a patient leaflet outlining the ABG procedure. Referral proformas have been made available across trusts via the Northern Ireland Electronic Care Record. Patient appointments are no made based on the patient's location.

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