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ABSTRACTS

ULTRASOUND EVALUATION OF THE SALIVARY GLANDS: CLINICAL APPLICATION IN SJÖGREN'S SYNDROME

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INTRODUCTION: Sjögren's syndrome is a systemic autoimmune disease characterised by destruction of the lacrimal and salivary glands. It presents manifestations such as xerophthalmia, xerostomia and xeroderma. Ultrasound is a non-invasive, fast and low-cost technique that is a useful tool for diagnosis in cases of early stages of the disease, as well as for monitoring cases with an established diagnosis. It also allows for the assessment of inflammatory activity by means of a Power Doppler study. **OBJECTIVE:** To present a clinical case to show the advantages and usefulness of ultrasound study of the salivary glands (parotid, submandibular and sublingual), including high specificity, sensitivity, availability, short scanning time and low cost. **CASE REPORT:** Ultrasound images of the salivary gland show the loss of structure and multicystic pattern in a patient with primary Sjögren's syndrome. We describe the homogeneity, presence of hypoechogenic areas and the clarity of the gland. **RESULTS:** There are limitations in the ultrasound study, such as the impossibility of clearly delimiting the borders of the parotid gland, but together with biopsy and serology it is key elements in the diagnosis of this autoimmune pathology. It should be noted that computed tomography and magnetic resonance imaging are techniques of choice that provide us with a great deal of information. **CONCLUSIONS:** Stan-

dardising ultrasound as a viable tool in the diagnosis of Sjögren's syndrome would help to confirm cases in which Sjögren's syndrome is suspected, allowing for the establishment of short-term monitoring of treatment and the study of the activity of the inflammatory process with Doppler. **KEY WORDS:** Sjögren's syndrome, Ultrasonography, Doppler, Salivary glands, Case report, Literature review.

ANKYLOGLOSSIA AND THE NEED FOR LINGUAL FRENECTOMY

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INTRODUCTION: Ankyloglossia is the physical restriction of anterior tongue movement due to the presence of a short or hypertrophic frenulum, which is diagnosed when the tongue cannot contact the hard palate when the mouth is open and cannot protrude more than 1-2 mm beyond the lower incisors. If it causes functional problems and alters the child's speech or feeding, a speech therapist and a paediatric dentist need to collaborate to determine whether surgical treatment is required. **OBJECTIVE:** To present a clinical case of ankyloglossia and review the treatment requirements, as well as the different pathological circumstances, depending on its size and insertion, where the frenulum can cause ankyloglossia, swallowing alterations, interincisor diastema, and misalignment of orthodontic devices, among others. **CASE REPORT:** We present a case of a short, hypertrophic frenulum, showing the genioglossus muscle and the relationship of the frenu-

lum with the Wharton's canal and the Rivinus canal, and how this anomaly causes rhotacism, with the consequence that the "double r" and the phoneme "l" cannot be pronounced and often giving the appearance of a forked tongue. We used different parameters to indicate the need for lingual frenectomy, considering local conditions and the characteristics of the frenulum. **RESULTS:** Frenulum section solves the anatomical difficulty, but correct use of the tongue requires postoperative functional rehabilitation through speech therapy. **CONCLUSIONS:** Through conservative treatment, directed by the speech therapist, we teach the child to perform exercises that allow elongation of the lingual frenulum. Surgical treatment, by means of frenectomy, must be correctly indicated. The prognosis is good, provided that the child performs the indicated exercises at home immediately after surgery. The postoperative period is sometimes slightly uncomfortable for the patient. There may be some complications in specific cases, such as tongue swelling, bleeding and infection, as well as damage to the submandibular glands, although these are rare. **KEY WORDS:** Ankyloglossia, Lingual frenum, Surgery, Oral, Case report, Literature review.

CREATION OF A PREVENTION MODEL FOR INTERPROFESSIONAL ORAL HEALTH CARE IN A UNIVERSITY CLINIC

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INTRODUCTION: Prevention consists of actions aimed at avoiding an event before

it happens. Oral health is essential for general health. The creation of a real prevention model for patients in a dental clinic does not exist in practice. Integrated interprofessional care that incorporates oral health into general health is very much theoretical and corrective. It is therefore necessary to create a real prevention model that incorporates oral health into clinical practice. The **OBJECTIVE** has been to analyse the characteristics of the population seeking care in a University Dental Clinic and to relate them to the good habits that are generally recommended for a healthy life, in a routine manner, according to the WHO. **MATERIAL AND METHODS:** A hundred reports of anonymous patients attending a Dental Clinic in 2018 have been screened and mapped. These data were distributed into sociodemographic, general medical, dental and management variables. We categorised and established correlations between the different factors to establish preventive strategies and boost the role of dentists in the prevention of general pathologies. **RESULTS:** The chosen dental clinic has identification data, such as ISO data, and medical data from the medical records. Some information is computerised, but the clinical history and medical data are on paper until 2019-20. Patients are leaving with little prevention scheduled. **CONCLUSIONS:** The data collected on the target population needs a good information collection system if it is to invest in the future. A good interconnection between personal data, diagnosis, prevention, treatment, and demand value is necessary if we want to improve the help given to people, society and business. It is necessary to involve prevention in dental education. **KEY WORDS:** Oral health, Preventive dentistry, Dental clinics, University health services.

ORAL HEALTH HABITS DURING THE COVID-19 CONFINEMENT PERIOD IN SPAIN

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INTRODUCTION: The global pandemic caused by COVID-19 forced the confinement of the Spanish population from March to June 2020. In those months, we had to adopt new habits and adapt the old ones to the new circumstances. Oral health habits occupied a privileged place during this stage. **OBJECTIVES:** General: to analyse the oral health habits adopted by the Spanish population during the period of confinement due to COVID-19. Specific: to assess whether there have been changes in hygiene habits, among the different groups in the sample, produced by the exceptional situation of confinement. **MATERIAL AND METHODS:** Cross-sectional, randomised, nationwide study with a sample of 402 participants. Inclusion criteria were participants aged 16 years or older, resident in Spain during the period of confinement (14 March 2020 - 21 June 2020). Participation was voluntary, guaranteeing anonymity. The questionnaire, once validated, was disseminated via social networks and WhatsApp®. The analysis was carried out with JAMOVI® 1.6 software. **RESULTS:** 402 people participated, 39.1% of whom were aged between 25 and 32 years. Small changes appear in the oral health of the participants, where 30% of them were on ERTE (*Record of Temporary Employment Regulation*) and 16% are teleworking. Oral hygiene takes a more visible role in the new routines and “tele-dentistry”

appears as another form of medical visit. The safety of clinics after confinement is a concern for 39.4% of the sample. **CONCLUSIONS:** Home confinement has proven to be a turning point. Oral health has risen in importance. The digital presence of oral health professionals, and the messages conveyed, have permeated society and “tele-dentistry” is here to stay. Acquired habits can be modified in exceptional situations such as the one experienced. **KEY WORDS:** COVID-19, Oral health, Habits, Surveys and questionnaires.

APPLICATION OF ARTIFICIAL INTELLIGENCE IN CARIES DIAGNOSIS

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INTRODUCTION: During the last few years, there has been a growing interest in the development of Computer Aided Diagnostic Systems (CADSS), based on Artificial Intelligence (AI) that can be used as mainstream applications in the diagnosis of oral diseases. As a contribution to the development of this important area, we have set up an interdisciplinary working group for the creation of support systems for the diagnosis of pathologies based on oral radiographs. This work proposal has been awarded a prize in the 8th Internal Call for Aid for Primary Health Care Research Projects in the Balearic Islands. **OBJECTIVES:** To develop and implement software based on AI, which is easy to use, intuitive and can be integrated in the different work platforms used by dentists and radiolo-

gists. It needs to be incorporated for use as a tool in the detection and classification of the most common dental pathologies using images. We present a preview of results on the performance of a CADSS developed for the automatic detection of caries and periapical lesions (LP) in orthopantomographies (OPM). **MATERIALS AND METHODS:** A set of 1500 OPM were reviewed by 4 experts who made the corresponding annotations, indicating the pieces in which they observed caries or LP. We used this duly annotated set as a training set to fit the parameters of an AI model. We performed external validation of the model and its performance on a set of 500 additional OPMs, not included in the training set. **RESULTS:** To date, the Sensitivity (Recall) is 82.3%; Specificity (88.8%); Positive Predictive Value (Precision) 82.8%; F1-Score (82%) and Accuracy (Accuracy) 86.5%. **CONCLUSIONS:** AI offers the possibility of having a very accurate tool to support the analysis, interpretation, and characterisation of OPM, with a significant saving in work time. **KEY WORDS:** Dental caries, Artificial intelligence, Orthopantomography, Oral health.

MARFAN SYNDROME IN DENTAL PRACTICE

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INTRODUCTION: Marfan syndrome is an autosomal dominant genetic disorder affecting connective tissue, with a worldwide prevalence of 1:5000. This syndrome has skeletal,

cardiovascular and visual manifestations with different clinical features that are also found at the oral level, such as maxillary compression, mandibular prognathism and temporomandibular joint (TMJ) dysfunction. **OBJECTIVE:** To understand the manifestations presented by patients with Marfan syndrome to allow dentists to treat them safely, as well as to facilitate an early diagnosis of the oral pathology that accompanies it. **MATERIAL AND METHODS:** A literature search was carried out in databases with scientific evidence such as PubMed, Cochrane, and Scopus. The MeSH terms used were Marfan syndrome, oral pathology, and oral health. **RESULTS:** All the articles found oral manifestations in craniofacial development such as dolichocephaly, ogival palate, mandibular prognathism, malocclusion, TMJ dysfunction. Some articles show a higher prevalence of periodontal disease, caries or alterations in the shape and size of teeth, as well as sleep apnoea/hypopnoea syndrome (SAHOS). **CONCLUSIONS:** Dentists should be aware of the manifestations associated with Marfan syndrome, enabling appropriate treatment, as well as contributing to its diagnosis, as the associated oral pathology is sometimes the reason for dental consultation despite not having been previously diagnosed. Furthermore, dentists should form part of the multidisciplinary team treating these patients. Early diagnosis of oral disorders will improve the quality of life for these patients. **KEY WORDS:** Marfan syndrome, Dentistry, Literature review.

COVID-19: WHAT HAS CHANGED IN DENTISTRY?

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INTRODUCTION: Based on the premise that “every patient is a potential virus carrier” and applying the concept of universality, which implies “treating all patients equally”, safe practice in front-line dentistry in the face of the SARS-CoV-2 pandemic, due to direct contact with oral mucosa and the generation of aerosols during clinical practice, has had to adapt new measures. However, in terms of biosafety, there has been a turning point. **OBJECTIVE:** To ascertain the changes, repercussions and updates in prevention and risk reduction measures in dental care practice. **MATERIAL AND METHODS:** To compare the protocols in place before the pandemic with the new procedures, in many cases intensified, focused on the care and safety of the patient, work and health personnel, equipment and dental treatments. **RESULTS:** The need to reinforce prevention and increase cross-infection control measures has led to the application of more rigorous conduct aimed at reducing aerosol transmission. The drawing up of checklists is useful to compile an organisational plan for quality of care and biosafety. **CONCLUSIONS:** This comparative assessment has established an improvement in safety for patients and health care staff; telephone consultation as a preliminary step to face-to-face consultation (teledentistry), thereby establishing the order of treatment principles. These measures have been set in

place for current and future practice. Dental services have adapted to the new protocols, which are here to stay. **KEY WORDS:** COVID-19, Dentistry, Dental care, Clinical protocols, Literature review.

USE OF SILVER DIAMINOFUORIDE (SDF) PRIOR TO PIT AND FISSURE SEALING IN INCIPIENT CARIES LESIONS

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INTRODUCTION: Anatomically speaking, the pits and fissures of molars form irregular and abrupt surfaces, where plaque retention is favoured by the difficulty of removal by brushing techniques. These surfaces constitute the areas of highest caries prevalence in children and adolescents. When it comes to prevention, pit and fissure sealing is the “gold standard” treatment. **OBJECTIVE:** Main: To demonstrate that the use of SDF prior to pit and fissure sealing represents an advance in clinical practice to arrest caries lesions. Specific: To favour minimal intervention in dentistry and to work from a perspective of prevention on incipient occlusal caries lesions. **MATERIAL AND METHODS:** Clinical cases of patients with caries lesions in occlusal fissures of permanent molars diagnosed with ICDAS II codes 2 and 3 and a previous history of caries are presented. Application of SDF (Riva Star®, SDI, Australia) is performed followed by application of a pit and fissure sealant using fluoride releasing adhesive (Zipbond®, SDI, Australia) and a radiopaque flowable composite (Aura Easyflow®, SDI, Australia). A review

of the literature published to date is carried out to support the investigation. **RESULTS:** On examination, lesion arrest and good adhesion of the sealant edges were observed. No recurrence was observed in any of the cases performed. **CONCLUSIONS:** SDF, in combination with a flowable resin sealant, constitutes a beneficial, safe, and effective option in the preventive treatment of pit and fissure caries following the practice of minimally invasive dentistry, despite its limited use for these purposes. **KEY WORDS:** Silver diamine fluoride, Dental caries, Pit and fissure sealants, Case reports, Literature review.

LEVEL OF KNOWLEDGE OF PREGNANT WOMEN ABOUT ORAL HEALTH IN INFANTS

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INTRODUCTION: There are numerous studies that relate the level of oral health of the mother to the level of oral health of her children, making pregnancy one of the best times to instil knowledge in future mothers. **OBJECTIVE:** To determine the level of knowledge of pregnant women about the oral health of new-borns and babies. **MATERIAL AND METHODS:** A survey was carried out among pregnant women belonging to the Preventive Oral Health Programme for pregnant women at the University Dental Clinic of the Morales Meseguer Hospital. Several factors were related to the oral health of babies: dental hy-

giene, intake of sugars, visits to the dentist, etc. A descriptive statistical analysis of the data obtained was carried out. **RESULTS:** A total of 46 women participated. Only 17.36% of the participants indicated that the first visit to the dentist should be at the age of one year. 39.06% of the participants correctly indicated the age at which to start brushing the baby's teeth, and 34.72% indicated the correct concentration of fluoride (1000 ppm). Regarding the need for treatment, 70% indicated the need for treatment of primary teeth. Finally, pregnant women indicated (60.76%) that prolonged and on-demand breastfeeding does not produce caries while 28.21% did not consider fruit juice as a potentially cariogenic food. **CONCLUSIONS:** The level of knowledge of oral health in babies of pregnant women is low, so it is necessary to develop strategies and programmes that lead to an increase in the information related to oral care of babies. **KEY WORDS:** Preventive dentistry, Surveys and questionnaires, Pregnant women, Fluorides.

ANTERIOR OPEN BITE AND ORAL QUALITY OF LIFE IN ADULT PATIENTS: A CASE-CONTROL STUDY

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INTRODUCTION: Oral quality of life is related to oral health and the impact that oral health or pathology has on activities of day to day living and general well-being. The presence of malocclusion is a highly prevalent public health problem and different studies have shown its

negative correlation with the oral quality of life of the patient. **OBJECTIVE:** To evaluate the influence of a malocclusion such as anterior open bite on the impact on oral quality of life in adult patients compared to control patients. Also, to analyse the influence of age and sex on oral quality of life. **MATERIAL AND METHODS:** A case-control study was carried out in 2020 at the University of Salamanca. The sample consisted of 80 adult patients divided into two groups: case group (patients with anterior open bite) and control group (patients without anterior open bite). Oral quality of life was assessed using the OHIP-14 (Oral Health Impact Profile) questionnaire. **RESULTS:** The mean age of the participants was 30.4 years (± 7.02) with a gender distribution of 57.5% female patients to 42.5% male patients. No significant differences were observed in the two study groups except for the psychological disability dimension, where some statistical significance is seen. **CONCLUSIONS:** There is a trend in which patients with anterior open bite describe a more negative impact on all dimensions of their oral quality of life compared to control patients. Age has no influence on patients' oral quality of life. In relation to gender, significant differences were observed in the handicap dimension, with female patients describing a more negative impact. **KEY WORDS:** Malocclusion, Open bite, Quality of life, Surveys and questionnaires.

PREVALENCE OF CARIES IN INTERNATIONALLY ADOPTED CHILDREN IN ARAGON

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INTRODUCTION: Caries is one of the most prevalent pathologies worldwide. It is particularly relevant in paediatric patients as a carious lesion can compromise the integrity of the affected tooth, requiring exodontia in the most extreme cases. This can lead to harmful changes in swallowing or in the patient's occlusion. All children from international adoption have a history of exposure to potential dental health risk factors due to poverty, poor hygiene, chronic neglect, inadequate nutrition, malnutrition, endemic diseases and poor preventive and medical care, both before and during institutionalisation prior to adoption. **OBJECTIVE:** To determine the prevalence of caries in a cohort of children adopted internationally in Aragon during the period 2000-2018. **MATERIAL AND METHODS:** Epidemiological, descriptive, observational and cross-sectional study. A total of 264 children (50.4% female), aged between 1 and 6 years old, were examined by a paediatrician and dentist in the first 15 days after arrival. **RESULTS:** The mean age at examination was 32 months. The prevalence of caries in the total number of internationally adopted children was 9.1% ($n = 24$). Most children with caries ($n = 22$) were from Eastern European countries. No caries was detected in those from China, the Indian subcontinent and Southeast Asia. **CONCLUSIONS:** Internationally adopted children in Aragon do not have a high prevalence of caries at screening on arrival. However, it is necessary for paediatricians and dentists to reinforce actions to promote dental health and to improve the health status of this population group. **KEY WORDS:** Dental caries, Prevalence, Child, Adopted.

FLUORIDE CONCENTRATION IN FORMULA MILKS RECONSTITUTED WITH BOTTLED WATER

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INTRODUCTION: The ingestion of high concentrations of fluoride during the enamel maturation process has been associated with the development of dental fluorosis, with aesthetic and biomechanical repercussions. Currently, despite efforts to promote breastfeeding, many infants under 6 months of age are fed only formula milk reconstituted with bottled water. **OBJECTIVE:** To evaluate the fluoride concentration of formula milks reconstituted with two bottled waters containing different fluoride concentrations. **MATERIAL AND METHODS:** A total of 15 formula milks frequently found in Spanish supermarkets and pharmacies were selected, 10 brands for children under 6 months and 5 brands for children over 6 months. They were prepared with 2 brands of bottled water with different fluoride concentrations. Fluoride concentration (ppm F or mg/L) was measured with an ion-specific electrode (model Orion 96-09, Orion Research, Cambridge) coupled to an ion analyser (Orion EA-940). Each sample was prepared according to the manufacturer's instructions and analysed in triplicate. A descriptive statistical study of the data was performed. **RESULTS:** The minimum value found was 0.04 ppm and the maximum value was 1.02 ppm. None of the brands of formula

milk exceeded the recommended daily fluoride intake (0.05-0.07 mg/kg) when mixed with low fluoride concentration bottled water (0.1 ppm). However, when these same brands of formula are reconstituted with fluoridated bottled water (0.99 ppm), all exceed the RDA for fluoride. **CONCLUSIONS:** All those bottled waters with high fluoride concentrations (>0.6 ppm) should specify on the label that they are not suitable for formula milk reconstitution. **KEY WORDS:** Fluorides, Infants, Milk, Bottled water, Oral health.

IN-VITRO VALIDATION STUDY OF THE DIAGNODENT SYSTEM FOR THE DIAGNOSIS OF INCIPIENT CARIES

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INTRODUCTION: Given the decrease in lesions with advanced cavitations in the current population, diagnostic methods have been developed to help assess and quantify precavitation lesions, facilitating non-invasive treatments prior to cavitation. **OBJECTIVE:** The aim of this study was to evaluate the fluorescence based DIAGNOdent® system *in vivo* and to compare the results obtained with those achieved by visual examination according to ICDAS II criteria and/or bitewing radiographs. **MATERIAL AND METHODS:** A hundred permanent teeth were evaluated and 80 were randomly selected to take part in the study. They were scanned twice by two examiners following ICDAS II criteria, 3 weeks

apart. Subsequently, they were examined using the DIAGNOdent® system and bite-wing radiographs were taken. Once the data were obtained, histological preparation was performed, and the extent of the lesion was determined. Reproducibility was evaluated using the unweighted kappa, as well as sensitivity and specificity, establishing the histological diagnostic threshold in enamel (D1) and dentine (D3). **RESULTS:** The intraexaminer and interexaminer reproducibility obtained for both ICDAS and DIAGNOdent in the diagnosis of caries was high ($\kappa > 0.80$). The sensitivity obtained was 0.76 (ICDAS), 0.87 (DIAGNOdent) and 0.58 (Rx) and the specificity was 0.66 (ICDAS), 0.4 (DIAGNOdent) and 0.77 (Rx) for lesions in D1. For lesions in D3 the sensitivity obtained was 0.73 (ICDAS), 0.82 (DIAGNOdent) and 0.09 (Rx) and the specificity was 0.79 (ICDAS), 0.52 (DIAGNOdent) and 0.97 (Rx). Sensitivity increases in both cases when combining the diagnostic methods together. **CONCLUSIONS:** It is concluded that ICDAS and DIAGNOdent have a higher diagnostic efficacy than Rx for the detection of occlusal caries. In addition, the combination of these methods helps to obtain a better diagnosis. **KEY WORDS:** Dental caries, Diagnosis, Fluorescence, Radiography, Dental.

ORAL MICROBIOTA AND ITS RELATIONSHIP WITH SMALL INTESTINAL BACTERIAL OVERGROWTH

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INTRODUCTION: Small intestinal bacterial overgrowth (SIBO) is a commonly diagnosed gastrointestinal disorder and refers to a condition in which there is an excess and imbalance (dysbiosis) in the gut microbiota. The dominant microbiota may be hydrogen fermentative bacteria that cause diarrhoea and is associated with oral dysbiosis or methane archaea, which are responsible for constipation. Treatment is directed towards eradication of bacteria in the small intestine and usually consists of a prolonged course of oral antibiotics. **OBJECTIVES:** To assess the current state of the scientific literature on SIBO. To identify specific oral manifestations related to poor oral health. To investigate the mechanisms linking gut microbiota and host pathophysiology. **MATERIAL AND METHODS:** A systematic review of the scientific literature was performed in PubMed with keywords “Dental SIBO”, “Oral SIBO”, “SIBO diagnosis”, “hydrogen breath test”, “probiotics”, “intestinal bacterial overgrowth”, “free full text” spanning the years 2016-2021. A total of 16 articles were obtained. **RESULTS:** To diagnose the presence or absence of small intestinal bacterial overgrowth, the main method currently used is the exhaled air test, in which two gases are measured: hydrogen and methane. We can suspect the presence of hydrogen sulphide when the result shows very low values for both methane and hydrogen and there is excessive bloating after meals or at the end of the day. **CONCLUSIONS:** Guidelines for oral health improvement are based on good oral hygiene, use of oral probiotics and healthy eating. In a first phase, a diet low in fermentable foods (FOTMAP) and antibiotic or herbal treatment such as garlic and essential oils (oregano and walnut) should be used. **KEY**

WORDS: Microbiota, Oral, Intestinal diseases, Dysbiosis, Literature review.

APPROACH TO MALOCCLUSIONS IN PRIMARY CARE: TWO CASE REPORTS

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INTRODUCTION: Malocclusions are the result of morphological and functional abnormalities of the bony, muscular, and dental components that make up the stomatognathic system. Genetic and environmental factors are the main aetiological causes. Among the malocclusions in the sagittal plane we can distinguish, among others, dental or skeletal anterior crossbite. In this study we describe the treatment carried out in two patients with dental anterior crossbite in a primary care clinic who, due to their social conditions, would not otherwise be treated. **OBJECTIVES:** To present the interception of a dental malocclusion through the description of two clinical cases treated in the Oral and Dental Health Unit (USBD) of a Primary Care Health Centre. **MATERIAL AND METHODS:** Descriptive study of two clinical cases. **RESULTS:** Two clinical cases and their management are described: One case of anterior dental crossbite possibly due to an alteration in the physiological resorption of primary incisors and, therefore, eruption through palatal of 1.1 and 1.2, which necessitated exodontia of the deciduous teeth. A second case of anterior dental crossbite, treated with bite lifts on the second

primary molars. In both cases exercises with tongue depressor are performed. **CONCLUSIONS:** The cases treated at the USBD resolved favourably. In Primary Care we can act and carry out small interventions with a simple, fast, effective method that is well tolerated by the patients and within the reach of the dentist, with the aim of preventing the problems from worsening in the future. **KEY WORDS:** Primary health care, Dentistry, Malocclusion, Case reports, Literature review.

ASSOCIATION BETWEEN THE PERIODONTAL CONDITION OF PREGNANT WOMEN AND PREMATURE AND/OR LOW BIRTH WEIGHT OF NEWBORNS

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OBJECTIVE: To determine the association between periodontal condition of pregnant women and perinatal complications, such as prematurity (PPT) and/or low birth weight (LBW). **MATERIAL AND METHODS:** Prospective cohort study in a sample of 98 women (Manises Hospital Health Department), examined between 25 and 36 weeks of gestation, with a single foetus, and aged 18-42 years old. Sociodemographic and obstetric variables, percentage of bleeding on probing, probing depth, and clinical attachment level were registered. The data were collected in a pseudonymised form. Descriptive analysis, chi-square test and odds ratio for risk estimation were performed, with a significance of 5% and 95% CI. Data were analysed with SPSS v.22.

RESULTS: The mean age was 31.43 years, and the BMI was normal weight. The mean weight of the new-borns was 3,034 g, considered normal. The percentage of smokers was 9.8%. The sample had a bleeding rate of 16.43% (SD 14.81%) and 8.8% (SD 11.08%) of probing depth >3mm. The mean number of sites with insertion loss >0mm was 1.14 (SD 2.83). The frequency of PPT was 26%, as was the frequency of LBW. No statistically significant differences were found between probing depths >3mm or insertion loss >1, with PPT and/or LBW. Smoking has shown statistical significance ($p=0.03$) with LBW, but not with preterm delivery. **CONCLUSIONS:** Periodontal disease in pregnant women shows no statistically significant relationship with LBW or PPT. Smoking during pregnancy has been statistically significantly related to low birth weight. Women who smoke are 4.2 times more likely to have a low-birth-weight baby, although there is no association with preterm birth. **KEY WORDS:** Periodontal diseases, Pregnant women, Newborns, Premature, Low birth weight.

EVOLUTION OF THE RATE OF UTILISATION OF CHILDREN'S DENTAL CARE IN ANDALUSIA FROM 2015 TO 2020.

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INTRODUCTION: The Andalusian child dental care program (PADI) was implemented in 2002, guaranteeing basic dental care

and special treatment for children aged 6 to 15 years protected by the Andalusian Public Health System. The service is provided by public dentists of the Andalusian Health Service and associated private dentists. The accessibility and use of public oral health care enhances health education, preventive measures, and early diagnosis. It is necessary to evaluate the PADI provision system and its utilisation rate to promote measures for improvement and optimise children's oral health. **OBJECTIVE:** To evaluate the utilisation rate and the PADI care network in Andalusia between 2015 and 2020. **MATERIAL AND METHODS:** An observational and descriptive study was carried out on secondary data on PADI care activity in Andalusia during the period 2015-2020. The variables used were utilisation rate, province of Andalusia, care network and public or private activity adhered to in each year of reference. The data were requested from the Regional Ministry of Health and Families, in accordance with the right of access to public information and transparency. **RESULTS:** The percentage of PADI use in Andalusia reflects a downward trend from 31.2% in 2015 to 23.5% in 2020, with Jaén being the province with the highest percentage of use (43.9%) and Cádiz the one with the lowest use (23%). A 69% (percentage of eligible children) do not make use of the benefit. Among the total number of children who have visited a dentist, 87.7% have selected a private member dentist, while 12.3% go to a public dentist. The adhered private care network has increased by 55.6% ($n=1768$). **CONCLUSIONS:** The PADI in Andalusia has a growing infrastructure and human resources provision system, but there is a decrease in the demand for care, so it is necessary to ad-

dress actions to enhance its use and its preventive philosophy. **KEY WORDS:** Children's oral health program, Dental preventive health services, Observational studies, Delivery of health care, Dentistry.

ANALYSIS OF THE ASSOCIATION BETWEEN HOURS OF SCREEN TIME AND OVERWEIGHT/OBESITY RELATED TO THE INCIDENCE IN ORAL HEALTH AMONG SCHOOL CHILDREN IN MALLORCA

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INTRODUCTION: Television/computer time leads to a high Body Mass Index (BMI). Several authors suggest that a high BMI may influence oral health. **OBJECTIVE:** To study BMI levels and oral health and to analyse screen time in schoolchildren in Mallorca. **MATERIAL AND METHODS:** We analysed 717 schoolchildren aged 6.08 years \pm 0.046 (n=255), 11.20 years \pm 0.56 (n=230) and 15.32 years \pm 0.73 (n=232) in Mallorca, using the Pathfinder method. **RESULTS:** There is a slight correlation between computer hours versus BMI (r=+0.272**; p=<0.001). We observed differences between mean BMI and hours spent in front of the computer at the weekend (no hours: 25.36 \pm 8.89; 1h: 26.52 \pm 10.75; around 1h: 30.05 \pm 8.70; around 2hs: 30.24 \pm 8.60; \geq 3hs 32.33 \pm 8.54; p=<0.001). Schoolchildren who spend more than 1 hour in front of the computer are obese. The mean number of hours of computer use in all age groups is higher for girls (2.44 hours \pm 1.43) than for boys (2.05 hours \pm 1.47; p=<0.001). In comparison, in re-

lation to the hours spent watching television at weekends, differences were only observed at 5-6 years of age, with boys watching more hours of television (2.37 hours \pm 1.22 for males vs. 2.09 hours \pm 1.19 for females; p=0.009). At 15 years of age, adolescent boys had a higher BMI than adolescent girls (38.18 \pm 6.15 male vs. 36.33 \pm 6.89 female; p=0.033). On the other hand, no differences were found in schoolchildren aged 12 years (30.30 \pm 6.56 male vs. 30.01 \pm 7.05 female) or 5-6 years (20.21 \pm 3.22 male vs. 21.31 \pm 7.16 female) in relation to gender. Analysing oral health, we observed a moderate correlation between BMI and number of sextants with bleeding (r=+0.358**; p=<0.001). **CONCLUSIONS:** The number of hours in front of screens conditions BMI: the more hours spent in front of screens the higher the BMI, with differences being observed according to gender. A high BMI can be considered a risk factor for periodontitis. **KEY WORDS:** Oral health, Children, Overweight, Obesity, Periodontal diseases, Body mass index.

DIFFERENCES IN THE STATE OF ORAL AND NUTRITIONAL HEALTH IN SCHOOLCHILDREN IN PUBLIC AND STATE-SUBSIDISED/PRIVATE SCHOOLS IN MALLORCA

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INTRODUCTION: Multiple factors in the social context condition attitude and behaviour related to health and these are directly influenced by learning during childhood both at home and in the community social network. **OBJEC-**

TIVE: To analyse the differences in the oral health and nutritional status of schoolchildren according to the type of school. **MATERIALS AND METHODS:** Cross-sectional observational epidemiological study in the school population of Mallorca, according to the manual Oral Health Surveys: Basic Methods (WHO 2013), where we explored 717 schoolchildren in 1st & 6th year of primary school and 4th year of ESO (obligatory secondary education) in 28 public, subsidised, and private schools, selected by stratified systematic random sampling. **RESULTS:** We observed that in public schools the mean cod and CAOD indices were higher than in subsidised/private schools (cod in public schools, 0.7111 ± 0.794 and in subsidised/private schools 0.4505 ± 0.095 ; $p=0.037$; CAOD in public schools 0.7495 ± 0.078 and in subsidised/private schools 0.2973 ± 0.053 ; $p<0.001$). Regarding anthropometric measurements, we observed differences between 6th grade girls in relation to mean suprasellar folds (public: $12.95 \text{cm} \pm 1.04$; subsidised/private: $9.97 \text{cm} \pm 0.85$; $p=0.029$) and abdominal folds (public: $15.50 \text{cm} \pm 0.93$; subsidised/private: $12.59 \text{cm} \pm 0.83$; $p=0.033$). Also, differences were observed in waist (public: $68.74 \text{cm} \pm 1.28$; subsidised/private: $62.06 \text{cm} \pm 2.08$; $p=0.005$) and hip measurements (public: $84.15 \text{cm} \pm 1.56$; subsidised/private: $77.47 \text{cm} \pm 2.25$; $p=0.014$). There is a higher consumption of sugar rich foods in students in public schools than in those attending subsidised/private schools, with significant differences in the consumption of sugar rich soft drinks (public: 31.80 times per month ± 1.05 ; subsidised/private: 23.68 times a month ± 1.58 ; $p<0.001$), industrial juices (public: 25.15 times per month ± 1.02 ; subsidised/private: 19.53 times per month ± 1.52 ; $p=0.002$)

and sweets (public: 24.10 times per month ± 0.86 ; subsidised/private: 19.18 times per month ± 1.27 ; $p=0.002$). **CONCLUSIONS:** The social environment has an influence on the incidence of caries and nutritional status of schoolchildren, which may be associated with the significant differences found in the frequency of consumption of sugar rich and processed foods. **KEY WORDS:** Nutrition Surveys, Schools, Children, Oral health, Dental caries.

DO WE WANT TO IMPROVE ORAL HEALTH UNITS? LET'S DO AN AUDIT!

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INTRODUCTION: We present the experience carried out in the Castilla La Mancha Health Service (SESCAM) of collaborative auditing, consisting of an innovative system of evaluation of healthcare structures and processes carried out jointly by auditors from the administration and healthcare professionals belonging to the oral health units (USBDs). **OBJECTIVE:** An internal, objective, and participative audit is carried out in which all the professionals involved in the process obtain benefits and these enhance the quality of the oral health care received by the patients treated in the USBDs of Castilla La Mancha. **MATERIAL AND METHODS:** A working group made up of professionals from inspection, USBDs and central services of SESCAM was formed and worked hard to draw up the documents that formed part of the working protocol. To begin the field work, the

different components of the audit team were trained and visited 72 USBDs and drew up their respective reports. The results obtained were presented to the highest organisational level in a rigorous report. **RESULTS:** Such conclusive data have generated proposals for prioritised improvements in the physical structure, organisation, activity and operation, including the homogenisation of equipment in the consulting rooms, channelling and standardisation of communication between the different levels of care, development of an organisational structure within the USBDs, strengthening of training plans for all professionals, welcome plans for new incorporations, unification of procedures as well as the assessment and quantification of workloads. All of this translates into an increase in the quality of dental services and the promotion of equity in the services received by the population. **CONCLUSIONS:** The development of a collaborative audit within the Health Service has provided an important stimulus for the improvement of the functioning of its USBDs. **KEY WORDS:** Dental audit, Oral health services, Preventive dentistry.

HAEMATOLOGIC DISEASES: ORAL MANIFESTATIONS AS THE FIRST REASON FOR CONSULTATION IN PRIMARY CARE PATIENTS

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INTRODUCTION: Oral alterations may be the first sign or symptom of haematological

diseases. The clinical cases shown are of patients who first consulted a primary care dentist. **CASE REPORTS:** Leukocyte abnormalities: Case 1: 70-year-old woman who consulted for pain and inflammation of the gums, bleeding on brushing, halitosis, and oral dryness. Case 2: 50-year-old woman consulting for recurrent, deep, irregular, painful, irregular mouth ulcers, and haemorrhagic and hyperplastic gums. Haemocyte alterations: Case 3: 76-year-old woman who does not tolerate the prosthesis due to burning and dry mouth. Alterations in haemostasis: Case 4: 77-year-old man presenting gingival bleeding of 3 days' duration. **RESULTS:** Case 1: Acute myeloid leukaemia with exitus a month and a half after the visit to the dentist. Case 2: Chronic myeloid leukaemia under dental control since 2010. Case 3: Iron deficiency anaemia resolved within 2 months. Case 4: Idiopathic thrombocytopenic purpura resulting in exitus 4 days after the dental visit. **CONCLUSIONS:** The dentist plays a fundamental role in the early diagnosis of haematological diseases and can refer the patient to the Clinical Haematology or Internal Medicine services and thus establish the medical and dental treatment that can prolong the life of these patients and/or improve their quality of life. **KEY WORDS:** Haematologic diseases, Oral health, Dentistry.

REMINERALISERS IN THE TREATMENT OF MOLAR-INCISOR HYPOMINERALISATION

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INTRODUCTION: Classically, attention to enamel alterations has focused on those of low prevalence: amelogenesis imperfecta, dental fluorosis, hypoplasia, etc. In the last decade, the profession has been concerned about another more frequent acquired anomaly of systemic origin: “molar-incisor hypomineralisation” (MIH). The application of measures to remineralise the enamel is key to successful treatment. We present a review of the different products available on the market, their indications, and correct use. **OBJECTIVE:** To update information on the remineralising agents available for the treatment of MIH and to give information indications and administration according to the affectation. **MATERIAL AND METHODS:** A literature review was carried out of articles published from the year 2000 onwards that included terms such as: MIH treatment, remineralising agents, molar incisor hypomineralisation. Sources of information chosen: Google Scholar, PubMed, MEDLINE, MedEdPORTAL and SciELO. **RESULTS:** All articles insist on the need for early diagnosis and early preventive treatment, involving parents in scrupulous oral hygiene. A high percentage of articles (41%) recommend daily use of 1000ppm F toothpastes, which for other authors indicating concentrations of 1450ppm to 5000ppm is insufficient. The authors agree on the use of fluoride varnish at the dentist’s office, to which many add daily fluoride rinses at home. Other remineralisers frequently mentioned are casein phosphopeptides-amorphous calcium phosphate (CPP-ACP), xylitol, arginine-containing pastes, and silver diamine fluoride. Some authors associate chlorhexidine treatment with remineralisers. The future of remineralisation seems to be based on nanoparticles and nanorobots. **CONCLUSIONS:** Professionals need to pay

attention to this emerging pathology. Early diagnosis and a rapid treatment response are key to recovering affected teeth. Most of the lesions are mild and moderate, in which cases, remineralisers achieve good results. Knowing and administering them properly will provide us with a tool to stop MIH lesions. **KEY WORDS:** Molar incisor hypomineralisation, Fluorides, Toothpastes, Dental treatment, Enamel mineralisation, Literature review.

ANTIBIOTIC ABUSE IN DENTISTRY: A PUBLIC HEALTH PROBLEM

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INTRODUCTION: Antibiotic resistance is considered one of the major problems of public health. The United Nations estimates that in 2050 it will cause more deaths than cancer. Spain is the developed country that consumes the most antibiotics, according to research published in 2018, with figures continually on the rise. 10-12% of antibiotics dispensed in Spanish community pharmacies are for dental infections: after family medicine, dentistry is the speciality that prescribes the most. Governments should consult dental associations when developing policies on antibiotic use. **OBJECTIVES:** To disseminate up-to-date knowledge on antibiotic indication in dentistry and to establish protocols to avoid resistance. To summarise schematically which odontogenic infections require antibiotics (establishing dosage and treatment time) and which do not. To increase public awareness, as a professional responsibility, of what this entails globally.

MATERIAL AND METHODS: A review of the literature was carried out, selecting 27 articles published since the year 2000 that included: antibiotic therapy in dentistry, antibiotic resistance, and prophylactic antibiotics. Current reports from the WHO, the CED and the Spanish Dental Council were also compiled. The sources of information were Google Scholar, PubMed, MEDLINE, MedEdPORTAL and SCIELO. **RESULTS:** Few clinical pictures require antibiotics. This is justified when the risk of dissemination is important (cellulitis, phlegmons, etc.) or when the defences are compromised. The rest can be treated with local intervention. The preventive use of antibiotics in simple exodontia, third molar exodontia and even implant surgery is controversial. Prophylactic antibiotic therapy for endocarditis should be applied in very specific cases. Amoxicillin/clavulanic acid is the first choice. Metronidazole and clindamycin are effective against most microorganisms responsible for odontogenic infections. Clarithromycin and azithromycin complete the therapeutic arsenal. **CONCLUSIONS:** The profession must become aware of the seriousness, take responsibility for, and only use antibiotics in cases where they are necessary, at appropriate doses and duration. **KEY WORDS:** Dentistry, Antibiotic resistance, Public health, Literature review.

BABY DENTISTRY: SIX MONTHS OF PROGRAMME IN THE ORAL HEALTH UNIT OF PRIEGO (NORTHERN HIGHLANDS OF CUENCA)

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INTRODUCTION: If we want to achieve healthy adults, we must start working with the babies, even before birth (from pregnancy) or in the adoption process. Despite not being contemplated in the portfolio of the Spanish national health services, several oral health units (USBDs) of the SESCAM have taken the initiative to work with the mother-child binomial, adding to the attention of the pregnancy a programme of dental care for the baby. Both stages are ideal for instilling habits of oral hygiene and healthy diet with all the actors involved in the upbringing, in addition to the prevention of malocclusions. **OBJECTIVE:** To publicise the baby dentistry programme being carried out at the USBD in Priego to motivate other health professionals. **MATERIAL AND METHODS:** We contacted those born between 2018 and 2020 in the Basic Health Area of Priego and its seven municipalities included in the SESCAM health card, by means of an informative letter, and invited them to request a first appointment. A dental check-up is carried out and oral and written information (leaflets) are provided to promote oral health. The patient leaves the consultation with their next check-up appointment. A small proportion was referred from paediatrics. **RESULTS:** Of the letters sent (n=38), 28.9% attended the consultation, with the majority being in the 1-to-2-year age group. Families and other health professionals were surprised by the call because they were unaware of the advantages of early recruitment. The children responded well to the environment of the health centre. For the USBD staff it has been a very satisfying experience that confirms the need and reinforces motivation. **CONCLUSION:** Although recruitment was not as high as expected, we consider the programme a success in this early stage. Work

needs to be continued on new recruitment strategies. **KEY WORDS:** Dentistry, Infant, Public health, Preventive dentistry, Baby's oral health program, Oral health.

RAPID PALATAL EXPANSION AND SLEEP APNOEA IN CHILDREN: A CASE REPORT

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INTRODUCTION: Sleep apnoea and hypopnoea syndrome (SAHS) causes hypoxia and sleep fragmentation, affecting the health and growth of the child. Although its prevalence is around 2-3% of the paediatric population it has received little attention in medical investigation which is necessary if its consequences on health are to be avoided. The treatment of SAHS usually involves a surgical, pharmacological, and orthopaedic-facial approach. The latter is usually performed by rapid palatal/maxillary expansion (RME), with or without mandibular advancement, a treatment that increases the inter-tonsillar distance and the size of the maxilla, while also tightening the oral tissues that make up the soft palate.

OBJECTIVE: To give visibility to the problem of SAHS in the paediatric population and to present a case study on the effect of its treatment with RME. **CASE REPORT:** A SAHS case treated with RME is presented. The patient is 9-year-old female with maxillary compression and oral breathing habits and tongue thrusting who reported habitual nocturnal snoring. Unilateral posterior crossbite required facial orthopaedic treatment. Her body mass index was 16. Diagnostic polygraphy was performed with Apnia® polygraph before

and after the active phase of rapid palatal disjunction. Data were analysed with Apnia® software using automatic and manual analysis by a specialist. **RESULTS:** After treatment with RME in the first active phase, the patient experienced a reduction in the apnoea-hypopnoea index (AHI) of 1.2 points in the automatic assessment and 1.4 points in the manual assessment. High/low snoring intensity was changed from 22.7/77.3% to 10.1/89.7% and respiratory rate decreased from 19.6 to 14.6 breaths per minute. **CONCLUSIONS:** SAHS in the paediatric population requires further research and knowledge by dental professionals. Treatment with rapid palatal/maxillary expansion may be a suitable treatment option for SAHS in the paediatric population. **KEY WORDS:** Sleep apnea syndromes, Malocclusion, Orthodontics, Children, Dental care.

PILOT CLINICAL TRIAL TO ASSESS THE IMPACT OF ORAL INTERVENTION WITH CETYLPYRIDINIUM CHLORIDE ON REDUCING THE VIRAL LOAD OF SARS-CoV2

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INTRODUCTION: The coronavirus disease pandemic 2019 (COVID-19) constitutes a Public Health emergency. SARS-CoV-2 binds to angiotensin-converting enzyme 2 and serine transmembrane protease 2 receptors, which are highly expressed in salivary glands, tongue and sulcular epithelium. Intervention aimed at reducing viral load in saliva through rinses may help control and decrease viral

transmission. **OBJECTIVES:** To determine the efficacy of cetylpyridinium chloride (CPC) mouth rinses in reducing the salivary viral load of SARS-CoV-2 in COVID-19 patients with less than 4 days of evolution. **MATERIAL AND METHOD:** Eighty SARS-CoV-2 positive patients were recruited and randomly assigned to two groups: a CPC intervention group (n=40) and a water control group (n=40). Saliva samples were collected from the patients at the time of diagnosis and within 2 hours after application of CPC/water rinses. Samples were subjected to RT-PCR and ELISA analysis. **RESULTS:** Patients had a mean age of 48.6 years and 60% were male, with no significant differences between the two groups. With RT-PCR analysis, we found no statistically significant differences in viral load reduction in the CPC mouthwash group. With the ELISA technique, there were no baseline differences between the two groups; however, 2 hours after rinsing, a significantly higher amount of nucleocapsids was observed in the CPC group versus the control group (CPC group; Mean:288.43, SD: 367.73, control group: Mean: 188.76, SD: 366.01; $p < 0.038$) which we interpreted as a destructive action of CPC. **CONCLUSIONS:** The use of CPC in mouthwashes could be useful in reducing viral load, which may have an impact on the reduction of COVID-19 transmission. This pilot trial should lead to further investigations with larger sample sizes. **KEY WORDS:** COVID-19, SAR0

IMPACT OF CONFINEMENT DURING THE COVID-19 PANDEMIC ON THE HEALTH-CARE ACTIVITY OF ADULTS OVER 64 YEARS OF AGE IN AN ORAL HEALTH UNIT OF THE GRAN CANARIA HEALTH AREA

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INTRODUCTION: The COVID-19 pandemic has meant a drastic change in many aspects of daily life and its impact has been even more evident for the elderly. **OBJECTIVE:** The aim of this study is to quantify the impact of confinement during the COVID-19 pandemic on the healthcare activity of the elderly over the age of 64 in an Oral Health Unit (USBD) of the Health Area of Gran Canaria. **MATERIAL AND METHODS:** This is a retrospective observational study with data from January 2017 to December 2020. Using an interrupted time series design, we compare the level of visits before and after the decree of the first state of alarm in March 2020. **RESULTS:** During the period of confinement, an average of 7 patients per day aged 64 years and older stopped visiting the USBD, -6.9573 [-10.40; -3.517]. This represents a drop of close to 85% per week, and 100% in institutionalised patients. 83% of the visits scheduled before confinement did not take place. **CONCLUSIONS:** The interruption of care activity during confinement has been almost total, which could lead to a higher risk of morbidity and mortality in the long term. The backlog of non-received dental treatment represents a threat to patients' oral health and is likely to affect the USBD's capacity for care in the near future. **KEY WORDS:** COVID-19, Delivery of health care, Oral health, Dental care for aged.