

Oral Communications

1. COMPARATIVE STUDY BETWEEN THE PREVALENCE OF DENTAL EROSION IN CHILDREN AND PARENTAL KNOWLEDGE

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Introduction: Dental erosion has for many years received little study. However, in recent years a significant increase in its prevalence has been observed, especially in children and adolescents. Dental erosion is a multifactorial disease, where the interaction of different chemical, biological and behavioral factors over time may or may not produce the disease. It is also a chronic and progressive disease that increases over time if the etiological factors are not addressed.

Objective: The aim of the present study was to determine the prevalence of dental erosion in a sample of children aged 4 to 12 years and to correlate this with their parents' knowledge of the disease.

Material and method: This was a cross-sectional descriptive study conducted using a sample of 98 patients aged 4 to 12 years who were attending different schools in Marina Alta, Alicante; the public school *Verge Pobra de Xaló*, the public school *Sants Cosme i Damià de Llíber* and the public school *José María Paternina de Senija*. The prevalence of dental erosion was analyzed using the BEWE (Basic Erosion Wear Examination) index, and a questionnaire was given to the parents in order to study their knowledge on the etiology of the disease.

Results: The prevalence of dental erosion in the population studied was 13.5%. It was found that 13.51% were low risk and only 0.9% had a mean risk of dental erosion. None of the children who participated in the study were at high risk of dental erosion. It was observed that only 55.1% of the respondents knew what dental erosion was, while 41.8% had never heard of erosion. Of the total number of participants in the study, only 33.7% reported knowing the etiological factors that are associated with the development of the disease. Regarding parental knowledge, it was observed that 11.2% had proper knowledge of the disease, 56.2% had average knowledge and 32.6% had low knowledge.

Conclusions: The prevalence of dental erosion in the population studied was 13.5%, and 56.2% had average knowledge about the disease. A linear relationship between both data was not found.

2. HOSPITAL STUDY ON 100 CHILDREN WITH SUPERNUMERARY TEETH

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Introduction: Supernumerary teeth (SNT) is a disturbance in which there is a higher than normal number of teeth. These teeth can be single or multiple, erupted or unerupted, and they may be found in the primary or permanent dentition. SNT can affect neighboring teeth and they may disturb the eruptive position of permanent teeth and/or retention of temporary teeth.

Objective: To determine the characteristics and complications of supernumerary teeth in a sample of pediatric patients.

Material and method: We performed a cross-sectional study of a series of 100 consecutively registered cases with a previous protocol between 2007 and 2016 in the *Hospital Sant Joan de Déu*, in healthy non-syndromic patients. We analyzed panoramic radiographs and computerized axial tomographies that were available and the treatment given. Cases that did not comply with the complete protocol were discarded. We recorded: age, gender, location, form and direction of the SNT, secondary disturbances, treatment carried out and complications.

Results: Of the 100 cases registered, we found a total of 134 supernumerary teeth. The age range was 6-18 years. The male/female ratio was 2:1. The average number of supernumerary teeth per patient was 1.3 with a minimum of 1 and a maximum of 7. Of all the SNT 10% had erupted, 75% were located in the premaxilla and 90% were in a palatal position. The morphology was: conical (50%) supplemental (40%) and tuberculate (10%), and occlusal (65%) was the most common eruptive direction. The most frequent secondary disturbances were: malocclusions (56%), ectopic or delayed eruption (30%) and persistence of primary teeth (10%). The spontaneous eruption of the tooth retained by a SNT occurred in 60% of cases, and it was more frequent among the patients aged 8 and 9 years (27%). In the remainder, orthodontic or orthodontic-surgical treatment was performed (25%).

Conclusions: The most common location of SNT was in the premaxilla, in males and in the palate. The most common morphology was conical. The most common secondary disturbances were the development of malocclusions along with ectopic or delayed eruption of the affected tooth. The age at diagnosis is a key factor in the development of retained teeth.

4. STUDY ON DENTAL ERUPTION IN CHILDREN WITH OSTEOGENESIS IMPERFECTA (OI) RECEIVING BISPHOSPHONATE THERAPY

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Introduction: Dental eruption is a physiological process that informs us of the correct development of the child. This can be affected by local and/or systemic disorders, and there are numerous diseases in children which have been associated with problems of eruption. OI manifests essentially with skeletal problems and with oral repercussions related to considerable dental development disturbances. When a therapeutic drug protocol is started for the processes of bone remodeling (with bisphosphonates), this may affect the physiological eruption process of the children affected by the disease. A study on this subject, which is scarce but recent, shows that although the disease itself does not have to affect the eruption process, this may be slowed down in children receiving bisphosphonate therapy (Vuorimies I. et al 2017).

Objectives: To establish the chronology and sequence of eruption of each of the permanent teeth in a sample of children with different types of OI treated with bisphosphonates, and to compare this with a control population of healthy children.

Material and method: The study sample consisted in 46 Spanish children aged between 6 and 14 years with different types of OI who were receiving bisphosphonate therapy. Paternal consent and agreement from the child were obtained. An erupted tooth was considered to be one that had penetrated the oral mucosa and was visible in the oral cavity. The data on the eruption of the permanent teeth of each patient was based on: an intraoral examination by a dentist (main source), a questionnaire given to parents, an examination by a pediatrician. The data of the treatment administered was provided by the pediatrician from the medical histories. The control sample was taken from a large sample study on the eruption process of the permanent dentition in healthy children.

Results: We obtained the mean age for each of the teeth studied and their eruption sequence. We observed a delay in the eruption age of the permanent teeth, ranging from a maximum of 2.5 years in tooth 3.1 to a minimum of 2.2 months for tooth 3.5. Differences compared with the control sample were statistically significant, except for the upper first premolars and lower second premolars.

Conclusions: The physiological eruption process of permanent teeth may be affected by treatment with bisphosphonates. Closer control of this would be convenient so that the pediatricians can regulate the dose for every patient.

5. ATTITUDE OF PEDIATRIC DENTISTS TOWARDS BREASTFEEDING ON DEMAND

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Introduction: Breastfeeding on demand and exclusive breastfeeding is recommended by the WHO until the age of 6 months. After this period this should not be extended for more than two years, and there should always be an additional form of food. From the orthodontic point of view, breastfeeding has a preventive effect in the development of dental malocclusions due to the correct stimulation of the oral muscles and the lower incidence of non-nutritive sucking habits. However, demand breastfeeding for more than 6 months is related to a higher incidence of early childhood caries.

Objective: The aim of this literature review was to discover the current state of this potentially controversial issue, and to guide pediatric dentists through situations involving breastfeeding on demand.

Material and method: A bibliographic search was performed using the PubMed, Cochrane databases, as well as the indexed information in the reference institutions AAPD and SEOP. Search strategies were created by combining the terms “breastfeeding”, “dentistry”, “on demand”, “ad libitum”, “Early Childhood Caries” and “ECC”, using Boolean operators. The results obtained in the different databases were limited by inclusion and exclusion criteria that included the year of publication (5 years), articles written in English and concerning children (0-18 years). Finally, the remaining articles were submitted by reading the title and abstract, as well as by the fulfillment of the SORT criteria.

After reviewing X articles, the following bibliographic review was performed based on X articles selected using the procedure described.

Results: Most of the articles in the literature agree that breastfeeding on demand is related to high rates of early childhood caries when prolonged for more than 6 months, given a higher rate of exposure to acid attacks, and especially when administered at night.

Conclusions: Pediatric dentists should know the benefits and drawbacks of long-term demand breastfeeding for more than 6 months in order to guide parents regarding the possible consequences. The attitude that should be adopted with regard to the final decision taken by parents should be one of tolerance, understanding the reasons behind the decision, and pediatric dentists should then proceed properly with the treatment.

6. HEALTHY SMILES AND EYES

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Introduction: As part of the agreement between the *Fundació Lluís Alcanyís* of the University of Valencia and the Association of Parents of Children with Cancer in the Community of Valencia (Aspanion) to carry out programs and activities regarding care, teaching and research for this group of children with cancer, a project called “Healthy Smiles and Eyes” has been developed. Its purpose was to assess and

improve the state of oral, dental and visual health of this group of children. From the dental point of view, the following goals were proposed:

- Perform the diagnosis, prevention and treatment of oral problems that compromise the quality of life of the child during all stages of the disease.
- Establish an individualized prevention and treatment protocol.
- Advise on the possible short and long-term side effects that cancer therapy can produce in the oral cavity.
- Educate patients and parents on the importance of establishing proper oral care.

Objectives: To present a bibliographic review in order to establish a protocol of clinical action. Describe the preparation, development and execution of the project.

Material and method: In the bibliographic review between 2005 and 2017, using the Medline, Scopus and Google-Scholar databases, out of 86 articles, 30 were selected with full text and, after the exclusion of clinical and adult cases, a total of 17 were left. We also present the descriptive study carried out according to the schedule of activities established in the project, the workshops on prevention and promotion of oral health held in the facilities of the association ASPANION and the visit to the department of Pediatric Dentistry.

Results: The protocol categorized patients according to the stage of the cancer treatment of the child: before chemotherapy, during and after. Monitoring took place at the dental clinic of the patients with different types of oncological conditions: histiocytosis, malignant teratoma, brain tumor, neuroblastoma and leukemia.

Conclusions: The protocol, based on the results of the literature, covers all the needs of cancer patients. It is necessary to have proper knowledge of the clinical action guidelines for oncological patients by pediatric dentists. There is a lack of motivation/awareness on the importance of oral health among parents, given the seriousness of the underlying pathology of these patients.

7. ECTODERMAL DYSPLASIA AND ITS ORAL REPERCUSSION. A SYSTEMIC REVIEW

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Introduction: Ectodermal dysplasias (EDD) are a heterogeneous group of diseases that evolve with disorders that affect the tissues derived from the ectoderm, among which is the dental enamel. It is autosomal recessive or autosomal dominant inheritance, and linked to the X chromosome. It therefore affects males more severely, and the majority of carriers are women.

There are many types of EDD, the most common being the Christ-Siemens-Touraine Syndrome, which presents with general and dental disturbances. It is very important to start treatment early in these children in order to rehabilitate oral

function as soon as possible and avoid the oral and psychosocial problems posed by this disease.

Objectives: The main objective of this study was to carry out a systematic review on the oral repercussions of EDD. The specific objectives were to: a) assess of the oral and general implications of EDD; b) determine the importance of early diagnosis; and c) assess the different treatment options.

Material and method: In order carry out our systematic review of the literature focused on updating the oral and general repercussions of EDD, we searched the PubMed, Scopus and Cochrane databases, using the appropriate Mesh terms through Boolean connectors, with the aim of analyzing the most recent literature on the diagnosis and treatment of EDD. The search was limited to published literature in the last five years and inclusion and exclusion criteria known as SORT criteria were used.

Results: After searching the different databases and discarding articles when applying the inclusion criteria, we chose fifteen articles for the final discussion.

Most of the articles mention the repercussions of EDD, not only orally, but also on the quality of life of patients. Tooth agenesis is the most common oral abnormality of EDD. Since tooth agenesis is common among the normal non-syndromic population and also in other maxillofacial malformations, it is essential to perform a differential diagnosis with regard to EDD.

Conclusions: Early diagnosis and treatment of EDD are important factors that will improve esthetic appearance, function and psychological health of the child, therefore allowing their correct physical, social and emotional development.

8. DISTURBANCES OF ERUPTION. STUDY ON FREQUENCY AND INTERRELATIONSHIP BETWEEN THE DISORDERS

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Introduction: When speaking of disturbances of eruption, we refer to various types of local or systemic problems that affect the physiology of tooth eruption, and alter the correct chronology or sequence of this. Disturbances of eruption can affect both the primary and permanent teeth, although these are generally different types. We will refer to the problems that cause eruption delay or advancement locally, in addition to establishing the relationship, if there is one, between the different diseases.

Objectives: To determine the rate of the disorders regarding size, number, shape and tooth position, as well as other diseases such as tumors and cysts that may disturb eruption. And, to determine if there is an interrelationship between these disorders.

Material and method: An evaluation was carried out of eruption disturbances in children aged 6-13 years in 200 orthopantomographies using the SIDEXIS XG image processing software program, and a magnifying glass. Patients mainly with systemic disease were eliminated from the study.

Results: a greater numbers of eruptive anomalies were found regarding position (ectopia) and delayed eruption due to lack of space, followed by agenesis.

Conclusions: Dental eruption disturbances are not a common cause of concern for patients, however, pediatric dentists should be vigilant and on alert if certain disorders are found, as many are interrelated. In this way, more serious diseases will not be overlooked. The detection of chronological and topographic anomalies and prompt action will reduce complications (inclusion, malocclusion, etc.), which are always more difficult to treat at a later date.

9. ETIOLOGY OF MOLAR-INCISOR HYPOMINERALIZATION: A SYSTEMATIC REVIEW

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Introduction: Molar-incisor hypomineralization is a disease that affects the enamel of permanent first molars and incisors in a qualitative way. The association of primary and permanent second molars is common, as well as the cusps of canines and premolars. The increase in the prevalence over the last few years among the child population, as well as the lack of knowledge on the possible etiological factors, makes this condition an increasingly obvious problem for pediatric dentists.

Objectives: The aim of this review was to systematically and critically analyze the clinical studies available to date regarding the possible etiological factors of molar-incisor hypomineralization.

Material and method: In order to carry out our systematic review of the literature focused on updating the etiology of molar-incisor hypomineralization, we searched through the PubMed, Scopus and Cochrane databases, linking the appropriate Mesh terms with Boolean connectors, with the aim of analyzing the latest literature on molar-incisor hypomineralization. The search was limited to the literature published in the last 5 years, and inclusion and exclusion criteria known as SORT criteria were also used.

Results: After the search in the different databases and discarding articles after the application of the inclusion criteria, 19 articles were finally selected. In most studies, early childhood diseases are considered the most likely etiologic factors of MIH. Respiratory diseases and medication related to these is highlighted. Only in some studies is the association of prenatal and perinatal factors sustained, as well as medication intake and maternal disease during pregnancy, as a possible cause of molar-incisor hypomineralization.

Conclusions: There are numerous possible etiological factors in this syndrome and diseases of early childhood, in particular respiratory disease, have a growing association with the onset of the syndrome. There is a need for further long-term studies on this topic.

10. EVALUATION OF DIFFERENT PARAMETERS FOR PHOTODYNAMIC THERAPY IN TISSUE RESPONSE OF ISOGENIC RATS

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Introduction: Some studies have demonstrated the efficiency of antimicrobial photodynamic therapy (aPDT) during root canal treatment. But meanwhile, controversial results from some studies point to the need for a standardization of parameters for the safe use of aPDT in humans.

Objective: To evaluate the response of subcutaneous connective tissue of isogenic mice after aPDT, with two photosensitizers, phenothiazine derivatives (Helbo Blue) and curcumin, at different times during laser application (30 seconds, 1 minute or 2 minutes).

Materials and methods: 141 BALB /c isogenic mice were used, their subcutaneous connective tissue had been exposed to the two photosensitizer and then to laser diode irradiation in the phenothiazine derivatives group, and LEDs in the curcumin group. For each photosensitizer three irradiation times were used: 30 seconds, 1 minute and 2 minutes. At the end of each experimental period (7, 21 and 63 days), a sample of the subcutaneous connective tissue was removed and the histological processing was carried out. The inflammatory process was described semi-quantitatively (scores) and qualitatively. In addition, immunohistochemistry was used to identify neutrophils and macrophages. The data was analyzed using the statistical program Sigma Plot 12.0[®], using the Kruskal-Wallis non-parametric test, followed by the Dunn post-test, and a significant difference was found between the groups. The level of significance was 5%.

Results: In the initial period of 7 days, it was possible to observe that in relation to the parameters of collagen formation, tissue thickness and inflammatory infiltrate, the tissue change was small ($p < 0.05$). At 21 days, only the parameter of inflammatory infiltrate had varied between groups ($p < 0.05$). In the later period of 63 days, tissue compatibility was observed in relation to the two photosensitizers but without significant differences in the parameters evaluated regarding light application time ($p > 0.05$). Positive markers for macrophages were present in the groups treated with the two photosensitizers, in different periods of evaluation and with the three light exposure times. No neutrophils were observed in any of the groups studied.

Conclusion: The two photosensitizers showed adequate tissue compatibility with the three light exposure times (30 seconds, 1 minute and 2 minutes) at the end of the evaluation period.

11. ATTITUDE OF PEDIATRIC DENTISTS REGARDING "CO-SLEEPING"

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Introduction: There are several arguments for and against the practice of “co-sleeping” as a routine, since it has been shown to have various effects on the development of carer-child bonding, on the child’s well-being, neuronal development and capacity to respond to different situations. The ease of “co-sleeping” for facilitating breastfeeding has also been the subject of debate by those who associate breastfeeding with possible oral problems, such as the appearance of early childhood caries.

Objectives: To discover the attitude of the pediatric dentist towards “co-sleeping”, while trying to understand the main reasons why parents decide to practice “co-sleeping”, the possible negative oral and psychological effects and what we can do to prevent the consequences that are of concern to our specialty.

Material and method: We searched the PubMed, Medline and Psyc INFO databases using “co-sleeping”, “bed-sharing”, “co-sleeping effects” and “reasons for co-sleeping” as keywords. Articles were included that had been published in the last 10 years, which were systematic reviews and/or meta-analyses, observational and/or descriptive studies, and which were in English or Spanish.

Results: There is a great disparity of opinions regarding “co-sleeping”. Those who defend the habit do so by arguing that it has numerous benefits, the most important being the decrease in the probability of suffering SIDS. Also, the ease of breastfeeding and the emotional bonds that are created between mother and child are considered positive aspects. But at the same time, it is these same arguments which, on the contrary, serve as reasoning for those who oppose “co-sleeping.”

Conclusions: The attitude of pediatric dentists towards families that have decided to establish “co-sleeping”, should be an attitude of respect. Professionals should be aware of the consequences of this practice and provide all the necessary tools so that if parents wish to continue, any oral problems that may be associated with breastfeeding can be minimized.

12. PERCEPTION OF DENTAL ESTHETICS BY PARENTS OF CHILDREN ATTENDING THE CEU-UCH DENTAL CLINIC

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Introduction: Currently esthetics plays an increasingly important role in our lives, and this includes facial and oral esthetics. Esthetic disturbances can seriously affect the quality of life of our pediatric dentistry patients, causing physical, social and psychological deterioration.

Objectives: To discover the perception of the effects of dental esthetics held by the parents of children attending the Dental Clinic of the CEU-Cardenal Herrera University in Valencia (Spain).

Material and method: A cross-sectional descriptive study was carried out with a sample of 135 parents of patients (64 boys and 71 girls) who attended the Dental Clinic of the CEU-UCH University. They were given an informative letter on the design of the study in order to obtain informed consent together with a survey. A total of 135 correctly and anonymously completed surveys were obtained. For the statistical analysis of the data, a descriptive analysis was carried out with the R-commander program and inferential analysis with chi-square tests, with a confidence level of 95%.

Results: Dental esthetics is the second reason for consultation by the parents surveyed, with caries being the first reason. 96.3% of the sample would invest in dental treatment to restore the esthetic appearance of their children. If a primary tooth were lost, 64.44% of parents would replace this tooth. 62.22% of respondents believed that their children cared about the appearance of their teeth. Most parents (88.15%) preferred a crown with the same tooth color than a metal crown. No statistically significant differences were found between poor esthetic appearance in the anterior sector and psychological repercussions. In contrast, statistically significant differences were found between the bad esthetic appearance of traumatic dental injuries and parents’ willingness to restore the child’s esthetic appearance.

Conclusion: 20% of parents believe that dental esthetics are important. There was no statistically significant relationship between the lack of dental esthetics in the anterior sector and psychological repercussions. On the other hand, there was a significant relationship between the bad esthetics associated with traumatic dental injuries and parents’ willingness to request esthetic treatment for the child.

13. STUDY ON RHIZOLYSIS AND THE RELATIONSHIP WITH DENTAL AND CHRONOLOGICAL AGE

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Introduction: All the changes that occur progressively in the root of a primary tooth are what is known as rhizolysis of primary teeth. There are very few studies that measure this physiological fact. The studies that we have found are few, and carried out in animals. The first author who published data on this subject was Elizabeth A. Fanning in 1961, who studied in depth the formation and resorption of primary teeth. The study classified rhizolysis into resorption fractions, but it was a longitudinal study. In the present study our aim was to establish a method for measuring rhizolysis without multiple sequential radiographs of the patient, that is, a cross-sectional study. We consider that being familiar with the speed at which root resorption of primary teeth occurs can help us in our clinical practice, both with diagnosis and treatment. In addition,

as root length decreases as age increases, we consider that the chronology of primary tooth resorption may be useful in determining the maturity stage of child patients.

Objectives: a) To measure the rhizolysis of lower left primary molars in panoramic radiographs; and b) to relate the rhizolysis of these molars with chronological and dental age, and with the premolar successor.

Material and method: The method used was to measure the root length and crown height of the first and second lower left molars on panoramic radiographs in Spanish children aged 4 to 12 years, and then calculate the crown-root ratio. In addition, the formation stage of premolar successors and tooth age was determined according to the Demirjian method.

Results: 408 panoramic radiographs were studied and 322 first and 401 second molars were measured. It was observed that the mesial root of both molars was always longer than the distal one, but only when the premolar successor was in stage G did both roots measure the same. We created tables that related chronological age with molar reabsorption and with the formation stage of the premolar successor.

Conclusions: With the data obtained in our study, we consider that the method used could be useful for determining the stage of a child's maturity along with other parameters, but more studies are necessary to verify the validity of these tables.

14. LINGUAL FRENECTOMY. OUR CONTRIBUTION IN SUPPORT OF BREASTFEEDING

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Introduction: Currently, there is lots of information and support from different areas for breastfeeding. Through health centers, midwives and nursing mothers' associations and society in general, we understand that breastfeeding is very important in the life of the newborn. Difficulties are often encountered breastfeeding and once all the possible difficulties related to maternal diseases, diseases in the infant itself, incorrect nipple attachment etc., it is necessary to consider if ankyloglossia is a possible factor that impedes breastfeeding. An assessment is necessary for diagnosing ankyloglossia which can be treated by single cut frenectomy.

Objectives: To provide the necessary information for pediatric dentists to confirm the diagnosis of ankyloglossia; to describe the surgical technique performed in a lingual frenectomy; to evaluate the percentage of success when performing a simple cut to the frenulum; To encourage pediatric dentists to become more involved in resolving this disorder in newborn infants. The principal objective was to confirm ankyloglossia in previously diagnosed patients that had been referred, and

in whom primary oral dysfunctions had been detected in the sucking-swallowing-breathing pattern. These patients were evaluated in the Pediatric Dentistry clinic with the means available to us: Hazelbaker table, parameters such as facial asymmetry, existence of very noticeable retrognathia, nursing callus, lingual movements, etc. Once the diagnosis had been confirmed, the need for a lingual frenectomy was assessed. The frenectomies were carried out in a private consultation, by the same operator and with the same method.

Materials and methods: The literature selected was based on the methodology chosen when making the frenectomy. It was chosen because it followed the simple sectioning method of the frenulum, a method used by the operator of the present study. The choice of bibliography helped to compare the different successful results with the same methodology.

Results: During this short experience, we obtained very satisfactory results. Of the 17 diagnoses of ankyloglossia, 14 frenectomies were performed, which were all successful and that resolved the breastfeeding immediately.

Conclusions: Difficulties breastfeeding due to ankyloglossia can be suitably solved in the daily practice of pediatric dentistry. Resolving ankyloglossia cases has a high success rate, as long as the appropriate guidelines for treatment are followed. As pediatric dentists, we can contribute to the comprehensive health of the newborn infant and the social movement in favor of breastfeeding.

15. "À LA CARTE" PEDIATRIC DENTISTRY FOR PARENTS

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Introduction: Parents play a very important role in the oral health care of their children. It is important to understand their perceptions, preferences and attitudes regarding the health care of their children, as this will condition whether or not the dental treatment will be successful. There is currently a change in society, which causes a certain group of parents to impose their rules during their children's dental treatment. Nowadays, we can find parents, and even children, who decide what kind of treatment should be given, when and how it should be given, and "à la carte" dental needs are imposed.

Objectives: This literature review aims to present the current situation and the demands of parents regarding the dental treatment of their children and the reasons that trigger these.

Methodology: A search for current articles was made in the electronic database Medline/PubMed, in which studies related to the subject were included that had been published in English or Spanish. In the search keywords such as "parents, dental requirement, parental treatment preference, pediatric dentistry" were used.

Results: Traditionally, only the dentist was involved in the decision making. However, it has now become a social process

that includes dentist, child and parents. Currently, the ever-present use of the Internet, permissive education patterns, social factors, parents' perceptions regarding the level of dental anxiety of their children, the socioeconomic situation of the family, and the lack of importance parents give to dentistry, among others, can influence the demands of parents regarding dental care.

Conclusions: This means that there is a group of very demanding parents with regard to their children's dental treatment who end up imposing their own rules. Pediatric dentists should, therefore, guide parents and take into consideration their attitudes, beliefs and values for successful pediatric dental treatment.

16. STUDY OF PATIENTS WITH CHILD CEREBRAL PALSY AND THE INFLUENCE OF FOOD SYSTEM AND TYPE ON THEIR ORAL HEALTH

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Introduction: Childhood cerebral palsy (CCP) is a chronic, non-progressive disorder of movement, posture and tone associated with impaired cognitive functions, perception, communication and behavior, resulting from central nervous system (CNS) injuries during early stages of life. These patients have problems maintaining chewing and swallowing function, which requires a soft diet and, in the most severe cases, the insertion of a gastrostomy tube (gastric button). These dietary habits, together with a motor incapacity for maintaining good hygiene, causes an increased risk of caries and/or periodontal disease, so it is important to follow prevention principles and treatment protocols that adapt to the conditions and needs of these children.

Objective: To compare the oral disease between a CCP population of orally and gastrostomy fed patients.

Material and method: A cross-sectional observational study of patients with CCP was performed during the period 2016-2017 at the Dentistry Department of the Sant Joan de Déu Hospital in Barcelona. It consisted of two parts: a) a health questionnaire for parents through which data on age, gender, feeding route, type of diet and hygienic habits were obtained; and b) an oral examination in which dental eruption, plaque index and DMFT was recorded.

Results: The preliminary results included 28 patients aged 6-18 years (mean age: 13.1), of whom 11 (39.2%) were female and 17 (60.7%) were males; 18 (64.2%) were orally fed and 10 (35.7%) were gastric tube fed. The majority of patients, 25 (89.2%), had assisted brushing; 22 (78.5%) brushed at least once a day, and 5 (17.8%) brushed sporadically or never brushed. In the oral examination, the majority of patients, 27 (96.4%), presented plaque and calculus, 16 out of 18 were orally fed and 10 out of 10 were gastric tube fed. The DMFT population was 0.08.

Conclusion: Patients with CCP in this series had a high plaque index and there were no differences regarding feeding system. The caries index was very low in both populations, but higher

in those orally fed. It is important to emphasize that the feeding system can be modified during the course of the disease, so individual prevention and treatment protocols should be established.

17. AMELOGENESIS IMPERFECTA IN THE YOUNG MIXED PERMANENT DENTITION. A REVIEW OF THE LITERATURE

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Introduction: Amelogenesis imperfecta is a genetically determined defect that affects enamel mineralization, and it has a prevalence of 1:700 to 1:14,000. It is classified into three types: type I: hypoplastic and its subgroup; type II: hypomaturation and its subgroups; Type III: hypocalcified and its subgroups.

Objectives: The principal objective was to explain the different treatment options for amelogenesis imperfecta in the mixed and permanent young dentition.

Material and method: A bibliographic search was performed in the PubMed database, using as search criteria the keywords "amelogenesis imperfecta"; "treatment"; "mixed dentition" and articles published between the years 2009-2017 were included. Of the 120 articles, 14 articles were valid for the review.

Results: A high percentage of authors consider metal crowns the treatment of choice for posterior teeth in patients in the mixed dentition, but for the anterior teeth, restorations with composite or acetate crowns are preferable. For patients who are in the young permanent dentition, some authors consider the use of posterior aesthetic crowns for rehabilitation along with composite restorations for the anterior teeth. Currently there are also innovative treatments such as the use of CAD-CAM to restore the loss in the vertical dimension.

In the most severe cases where keeping the teeth in the mouth is not feasible, a prosthesis would be the treatment of choice.

Conclusions: The approach for amelogenesis imperfecta should be individualized for each patient, given the severity and any added factors that may be present, such as the degree of sensitivity, decrease in the vertical dimension, lack of tooth space, possible posterior cross-bites etc. The importance of a multidisciplinary treatment plan that not only includes dental restoration, but also functional and occlusal restoration, will be essential for the success of the treatment.

18. THE EFFICIENCY OF THE FRENOTOMY FOR IMPROVING BREASTFEEDING

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Introduction: Ankyloglossia is a relatively common congenital oral anomaly, characterized by an abnormally short lingual frenulum that affects the mobility and function of the tongue. Normal function of the tongue is considered to be when it is able to extend over the baby's mandibular torus. When this is not achieved, complications may appear such as a failure to latch on, failure of the baby to gain weight together with nipple pain or mastitis in the mother, the former being the more common reasons for abandoning breastfeeding. A frenotomy is an option to be taken into account for this problem.

Objectives: To evaluate, through a literature review, the efficiency of frenotomies for improving breastfeeding.

Material and method: A bibliographic search was performed using PUBMED on February 20, 2017 using the following keywords: tongue tie, ankyloglossia, breastfeeding newborn, frenotomy, lingual frenulum alteration. A total of 158 articles were obtained, of which 111 were discarded due to duplication, 7 due to title and 13 due to abstract, as these failed to meet the selection criteria. Twenty-seven full-text articles were studied. This search was done in duplicate by 2 independent reviewers.

Results: The results of our search show that children with ankyloglossia were 3 times more likely to start artificial milk during the first week of life. After one month, there were no differences compared to normal frenulum babies. A frenotomy generates a significant improvement in breastfeeding, reducing the pain of mothers in the nipple, and increasing the amount of milk taken by the baby and its weight.

Conclusions: The frenotomy is an effective procedure for improving breastfeeding in babies with ankyloglossia.

19. MICRO-ABRASION WITH BIOACTIVE GLASS AS A MINIMALLY INVASIVE TECHNIQUE FOR PREPARING THE ENAMEL IN PIT AND FISSURE SEALANTS

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Introduction: Pit and fissure sealants are a safe and effective preventive strategy for the control of caries. The clinical success of pit and fissure sealants is related to the placement technique and to the degree of retention. In recent years the use of different techniques to improve the effectiveness of sealants is becoming particularly important. Of the different techniques, micro-abrasion with bioactive glass should be highlighted as a minimally invasive technique for preparing the enamel for a pit and fissure sealant.

Objectives: To analyze the efficacy of micro-abrasion with bioactive glass as pretreatment of a pit and fissure sealant using two types of materials, resin-modified glass ionomer and a resin-based sealant.

Material and method: An *in vitro* experimental study was carried out with samples obtained from caries-free third

molars extracted from patients under general anesthesia at the *Casa La Salud* Hospital in Valencia (Spain) and preserved in physiological saline until handled. Four study groups were established: (1) Surface cleaning with a prophylaxis brush and application of RivaProtect®; (2) surface cleaning with a prophylaxis brush and application of ClinPro®; (3) surface cleaning with micro-abrasion and bioactive glass particles (Sylc®) and application of RivaProtect® glass ionomer and finally (4) surface cleaning with micro-abrasion and bioactive glass particles (Sylc®) and application of ClinPro®. In each group the microfiltration and the degree of infiltration were analyzed. A statistical analysis of the data was performed with the Pearson test, Chi square test and Sidak test with a predetermined significance of $p = 0.05$.

Results: After the analysis of results it was determined that there were no statistically significant differences when using micro-abrasion as pretreatment with a resin based sealer or glass ionomer. However, there was a statistically significant difference when using a glass ionomer and a resin based sealant after micro-abrasion. It was therefore verified that micro-abrasion influences the degree of microfiltration.

Conclusion: After micro-abrasion with bioactive glass and sealing with both a resin-modified glass ionomer and a resin-based sealant, the observed porosity level was significantly reduced.

20. ROOT CANAL ANTIBIOTIC THERAPY FOR PRIMARY MOLARS

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Introduction: In recent years there have been authors that justify the performance of instrument-free pulpectomies together with the use of root canal antibiotic therapy, for diseased teeth when extraction is indicated. In general these teeth have pathological root resorption of more than 2/3, internal and/or external root resorption. Some authors also justify this technique in patients with special needs, to reduce working time. On the other hand, some other authors argue that there is a need to seek alternatives to conventional pulp treatment and avoid the use of formocresol due to its toxicity and its high carcinogenic potential.

Objectives: To carry out a bibliographic review of the different studies carried out on intracanal antibiotic treatment in primary molars and to evaluate the application of this technique in clinical practice.

Material and methods: A literature review was carried out using the scientific bases Cochrane, Medline, PubMed, Scopus, Web of science. The keywords used were 3 Mix-MP, triple antibiotic paste, LSTR therapy, temporary dentition, primary teeth, alternative pulp treatment. The inclusion criteria were articles in which the technique of non-instrumented endodontic therapy (NIET) was used in the primary dentition and where triple antibiotic paste (LSTR) was used.

Results and analysis: In the studies reviewed the authors seek to extend the life of severely diseased primary molars where conventional pulp therapy is not indicated, with the aim of maintaining esthetics, space and function. To do this, they perform the technique of non-instrumented endodontic therapy, during which a mixture of three broad-spectrum antibiotics are used. In the follow-up of these cases it was observed that the pain disappeared, together with the fistulas and gingival inflammation, radiolucency in the apical portion decreases and in some cases disappears, however pathological mobility is maintained over time.

Conclusions: The use of triple antibiotic pastes in primary molars when the prognosis is questionable, and when conventional pulp therapy is not indicated, is another technique to keep in mind for cases of primary molars that should be kept strategically in the mouth for a certain period of time.

21. ANOREXIA AND BULIMIA. ORAL PERSPECTIVES IN EATING DISORDERS. A REVIEW OF THE LITERATURE.

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Introduction: The eating disorders described as anorexia and bulimia nervosa are biopsychosocial disorders that affect a large number of people. They begin during adolescence and clearly there are different intervening factors, which should be recognized, together with the population at risk and the shape a therapeutic approach by a multidisciplinary team should take.

Objectives: The objective of the present study was to perform a systematic search and review of the literature on the repercussions in the oral cavity of patients with anorexia and bulimia.

Methodology: This was a systematic review of published scientific articles addressing the clinical manifestations of anorexia and bulimia in the oral cavity and the management of eating disorders, using the main electronic databases: Medline, Cochranre Library Plus, Índice Médico Español (Spanish Medical Index) and Compludoc, without any date restriction, in both Spanish and English.

Results: We found in the literature numerous scientific references on the dental effects of food disturbances based on dental erosion, caries, microbiology, periodontal disease, oral mucosa, salivary glands as well as salivary flow, saliva composition and structure of dental tissues. The available scientific evidence analyzes many factors that come together in patients with eating disorders such as acid erosion, excessive exercise, food restrictions, fizzy drink abuse, disorder in saliva composition, increased proteolytic enzymes, hyposalivation, decrease in autolysis, hypotonic saliva, critical pH as well as the taking of psychotropic drugs.

Conclusions: Lesions in the oral cavity can be very clear, difficult to hide and simple to recognize during an oral examination. Thus the dentist may be the first health professional to suspect that a child has a type of eating disorder. Depending on the age of the child, the parents should be informed of this suspicion regarding the diagnosis of an eating disorder, and the patient should be informed and advised on the preventive measures and the methods for controlling the dental effects produced by these disorders. Establishing a customized protocol of action according to the type of patient and disease is very important. The professional should also assess the patient's knowledge regarding their illness and calculate if they would be receptive to multidisciplinary medical treatment.

22. PSYCHOSOCIAL RISKS IN THE PEDIATRIC DENTISTRY OFFICE: THE ORGANIZATION OF WORK AND HEALTH

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Introduction: Psychosocial risk factors are characteristics of working conditions and especially of an organization that affects the health of people through psychological and physiological mechanisms, which we also call stress. According to the EU-OSHA (European Agency for Health and Safety at Work), people experience stress when they feel that there is an imbalance between what is required of them and the resources they have to meet those demands. Although stress is experienced psychologically, it also affects the physical health of people. Work stress occurs when there is an imbalance between the person, the job and the organization itself. The Spanish Institute for Hygiene and Safety in the Workplace provides advice and tools to manage stress and psychosocial risks in the workplace.

Objectives: The principal objective was to evaluate the psychosocial risk factors faced by pediatric dental care professionals.

Material and method: A literature review was carried out using specialized journals and books on Occupational Risk Prevention and Pediatric Dentistry, focusing the search on the "psychosocial risks" to which we are exposed in the workplace. In addition, we performed psychosocial risk assessment in a private pediatric practice using the Technical Prevention Notes (NTP) 702 (the psychosocial factors assessment process) and 703 (the COPSOQ method: ISTAS21, PSQCAT21) of the Spanish Institute for Hygiene and Safety in the Workplace.

Results: Stress and burnout are present in pediatric dentistry consultations. The psychosocial risk assessment carried out indicates that, due to certain environmental factors, linked to the task

and the organization, there is more risk of suffering stress than burnout in the dental office studied. With the implementation of a well-designed and executed prevention plan, the company can eliminate many of the causes leading to stress. The efficiency of this prevention plan will be ascertained through new assessment following the same method after a reasonable period of time. Continuous evaluation will ensure the stability of results.

Conclusions: Pediatric dentists should be informed about the psychosocial risk prevention tools available to them through the Spanish Institute for Hygiene and Safety in the Workplace since, if adequate preventive plans are designed and executed, optimal working conditions can be created and, therefore, health problems avoided.

23. ASSOCIATION BETWEEN THE MEDICATION FOR RESPIRATORY DISEASES AND ORAL CHILDHOOD DISEASES

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Introduction: Asthma is one of the most common chronic diseases of childhood. Its prevalence is increasing and the symptoms are becoming more severe. Depending on the severity of the disease, there are several options for pharmacological treatment with oral, inhaled, bronchodilator drugs or anti-inflammatory drugs. There is some controversy regarding the appearance of certain oral conditions such as oral breathing, dryness of the oral mucosa, gingivitis, increased tartar, increased candida infections, increased caries, reduced salivary production and decreased salivary pH, as well as repercussions from the drugs themselves and/or from the respiratory disease itself that these children suffer.

Objectives: The objective of this study was to investigate the oral repercussions of these diseases, either because of the physiology of the disease itself or as a consequence of the drug therapy to which these patients are exposed.

Material and method: The children included were aged 4 to 12 years and they were attending the *Virgen del Rocío* University Hospital and the *Virgen Macarena* University Hospital. Two study groups were established: group 1) patients with respiratory diseases with and without drug therapy; and 2) control group of patients who did not have, and had never had, respiratory disease, nor had they taken any medication for this disease. From each patient, the following variables were collected: parentage, life habits, family medical history, and a general, personal, medical, dental and pharmacological history. Also an oral examination was carried out visually with a mirror and clinical probe of: soft tissues, gingival inflammation, sleep bruxism, molar-incisor hypomineralization, plaque index, cavities using the DEFT index.

Results: The clinical findings were correlated with the objectives, and a direct relationship between respiratory disease and/or use of medication with the presence and absence of specific oral disease was found.

Conclusions: Due to the high prevalence of oral disease that patients with respiratory diseases suffer, either because of their medication or because of the physiology of the disease itself, it is very important for there to be communication between pediatricians and pediatric dentists in order to have clinical/radiological monitoring and a greater control of any oral disease.

Funding: *Department of Stomatology, Pediatric Dentistry course.*

24. USEFULNESS OF THE MARTINELLI PROTOCOL FOR EVALUATING LINGUAL FRENULUM IN BABIES

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Introduction: Ankyloglossia is a relatively common congenital anomaly characterized by an abnormally short lingual frenulum that may restrict the mobility of the tongue. It poses an impediment to the correct sucking of the baby. This requires an accurate diagnosis by pediatric dentistry professionals. The frenotomy is the procedure of choice in babies to solve this condition as it is quick and easy to perform.

Objective: To evaluate the usefulness of the Martinelli protocol for choosing infants that are candidates for a lingual frenotomy in order to improve their breastfeeding.

Material and methods: Seven infants from 0 to 30 days of age with breastfeeding difficulties were referred to the master's degree course of Integrated Dentistry of the University of Murcia by breastfeeding nurses. The lingual frenulum protocol with scores for infants by Martinelli et al. (2012) was used. All of the infants scored positively in the test. The frenotomy was performed by topically anesthetizing the frenulum with Hurricane® (2% Benzocaine) and releasing it with an electric scalpel. A second assessment of the baby was made 30 days after the frenotomy. The parameters evaluated to study the effectiveness of the treatment were: time between feeds, tiredness during breastfeeding, taking breaks, latching on and nipple bites.

Results and discussion: Of the 7 infants treated, 6 showed an improvement in all the parameters evaluated, and the score went from 4.66 the day of the frenotomy to 1.33 30 days later. Only one baby did not show positive changes after the frenotomy. A short lingual frenulum is considered a problem for breastfeeding, although it is a very controversial issue among professionals. There is no consensus on the most appropriate tool for its assessment. Coryllos uses only anatomical criteria, whereas Hazelbacker and Martinelli include other functional ones. Martinelli's is the simplest protocol and the easiest to reproduce.

Conclusion: In our experience, the frenotomy is presented as a simple and safe procedure to improve breastfeeding of the baby with a short frenulum. And the Martinelli protocol has proved to be a useful tool in determining which cases should undergo a frenotomy.

25. OUR EXPERIENCE OF FRENECTOMIES WITH A DIODE LASER

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Introduction: The oral frenula are bands of connective tissue that can be fibrous, muscular or both. They are covered by oral mucosa and connect the lip, tongue and oral musculature with the alveolar bone.

Objective: Sometimes an abnormally short or hypertrophic frenulum is encountered which impairs the movements of the tongue or lip which can lead to orthodontic, phonetic and periodontal problems. In these cases, surgical treatment is indicated. The frenectomy consists of the excision of the frenulum. It can be done by conventional surgery, electrosurgery or high intensity lasers. For soft tissue surgery the most commonly used lasers are the CO₂, Nd: YAG, Argon, and Diode lasers. Diode lasers have a solid semiconductor as an active medium associated with aluminum gallium and arsenide. They emit energy with a wavelength of between 810 nm and 980 nm, which is absorbed mainly by tissues pigmented with the chromophores of the collagen, hemoglobin, melanin, producing vaporization and a cut to these.

Material and methods: We present our experience of 13 cases of frenectomies in patients aged between 1 month and 15 years with diode laser in the master's degree course of Pediatric Dentistry of the University of Valencia, analyzing the indications, procedure, preoperative acceptance, tolerance and progress.

Results: A wavelength of 940 nm was used in all cases, similar to most other authors who used the diode laser at wavelengths between 800 and 980 nm. Other lasers that were used were the Er, Cr: YSGG, CO₂ laser and Nd: YAG. In all cases, up to 0.9 of Articaine 1:200,000 was applied, as in most of the studies reviewed. Only two authors performed upper lip frenectomy with a topical spray anesthesia. In general, during the surgery, the area was cooled with a chlorhexidine-impregnated gauze, as carried out by other authors who also suggested using a water spray and air. The laser surgery did not require sutures due to the absence of bleeding during and after the surgical procedure, which is one of the main advantages of performing pediatric frenectomies in pediatric dentistry.

Conclusion: The use of the laser in pediatric dentistry is a good alternative to conventional surgery, as it is well-tolerated by the pediatric patient as it is simple and fast.

26. THE AUTISTIC CHILD WITHIN THE HEALTH SERVICE OF ANDALUCÍA

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Introduction: Our public health system must take on new challenges in order not only to be universal, but also to continuously improve. To this end, we develop activities within the framework of the collaboration agreement between the clinical management unit of the Seville district and the Seville autism association for the improvement of oral health care for people with autistic disorders.

Objectives: a) Training and counseling using professionals specialized in the intervention of people with ASD to improve how oral care is adapted to this population. And b) the oral management unit of the district of Seville offers the knowledge of its professionals to improve oral health habits and to be able to intervene in oral health effectively.

Material and method: Strategies for the promotion and monitoring of oral health were designed with the development of several activities. Revision simulation activities were carried out in the educational centers and stay of day of the association autism Sevilla clinically reviewing 36 patients with ASD. Work meetings are held between the autism professionals Sevilla and the Andalusian Health Service. Talks are held open to parents of patients with ASD for the dissemination of oral pathology and intervention mechanisms to improve the oral health of children

Results: Thirty-six oral examinations were performed with clinical examination in patients attending 24 families of patients with ASD at the scheduled colloquial talks.

Conclusions: The standardization of ambulatory care of the oral pathologies depends on the programs of habituation of the patient to the environment. A first step is the simulation in your educational center but the step should be taken to systematic approach to your health center. Family training is the first step in improving the oral health of patients with ASD. In these is formed on the creation of healthy habits and the standardization of dental care is important to create a team specialized in this type of patients for the systematization of outpatient care should develop audiovisual programs to support therapists of patients With ASD for systematic desensitization prior to outpatient health care.

27. MATERIALS USED IN PULPOTOMIES IN THE PRIMARY DENTITION: CURRENT THERAPIES

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Introduction: Pulpotomies in the primary dentition require the removal of the pulp from the crown and different materials placed at the opening of the root canal. In recent years biomaterials have been developed in order to improve pulp repair. There is no unanimity regarding the material of choice for this procedure, so the aim of this review was to find the materials that would currently be the most advisable.

Objectives: To review and evaluate the materials that can currently be used in primary teeth pulpotomies.

Material and method: A bibliographic review was performed out using biomedical databases: PubMed, Medline (EBSCO). Keywords: pulpotomy; primary teeth; biomaterials; bioactive cements.

Results: Formocresol has been used as the drug of choice in pulpotomies of primary teeth for decades. However, it has fallen into disuse because of its toxic components. Glutaraldehyde was proposed as a fixative agent for pulp tissue due to its lower penetration rate. Other drugs used are zinc oxide eugenol, calcium hydroxide or ferric sulphate, with varying degrees of success, according to the studies consulted. By means of a pulpotomy, the root pulp is maintained vital and healthy. Some biological materials have been proposed as agents for pulpotomies based on the fact that they could stimulate the physiological healing of the amputated pulp, ie, pulp regeneration. In the 1990s, MTA® (Mineral Trioxide Aggregate) appeared on the scene which was capable of inducing reparative dentin formation. In 2002, white MTA® began to be commercialized, in order to solve some aesthetic problems produced by MTA® Gris. Some authors have used Portland cement as it has similar properties and is more economical.

Recent research has evaluated new bioceramic materials. Biodentine™, based on calcium silicate (Ca₃SiO₅), possesses mechanical properties similar to healthy dentin, and it can act as a replacement in roots and crowns. Some studies have shown that Biodentine™ has better physical properties and lower curing time than MTA® and Portland cement. In addition, it is capable of inducing odontoblast differentiation, thus stimulating the formation of reparative dentin.

Conclusions: After the bibliographic review of different materials used in pulpotomies in the primary dentition, it was ascertained that bioceramics are considered a good alternative. However, longer-term studies are needed to corroborate the results obtained so far.

28. THE CREATION OF A VIRTUAL PLATFORM FOR STUDYING THE DENTAL CHARACTERISTICS OF PATIENTS WITH DRAVET SYNDROME

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Introduction: Dravet syndrome is a rare disease characterized by an early epileptic encephalopathy that is severe, generalized and refractory to the usual antiepileptic drugs. It is usually caused by a mutation in the SCN1A gene. Its symptoms begin during the first year of life and its incidence is one out of every 40,000 births. These patients suffer multiple types of seizures, including tonic-clonic seizures, absence and focal seizures. In addition, this syndrome is

associated with cognitive delay, behavioral disorders and risk of sudden death. Its prognosis is unfavorable in most cases.

Objectives: The objective of this study was the creation of a new section in the “Wacean” platform, which collects medical data about the disease that is provided by parents and caregivers. In this module we will record the dental data of patients with Dravet’s syndrome retrospectively, in order to know what we should expect from these patients and thus be able to establish a prevention and treatment protocol.

Materials and methods: First, a bibliographic update was carried out through the PubMed database using the following MesH terms: “epilepsies,” “myoclonic” “dravet”, “SMEI”, “dentistry”, “dravet syndrome”, “face” ,”oral health” with the Boolean operators “AND” and “OR”. The patient data platform “Wacean” was then used to create a section in which patients register their children’s dental problems with Dravet.

Results: A section was created for dental information of patients with Dravet’s syndrome, structured at different levels, for data collection on oral function, soft tissues, hard tissues, problems with oral care, as well as any complementary tests that parents or caregivers could provide.

Conclusions:

- It is important to have a thorough knowledge of the dental characteristics of Dravet syndrome, in order to establish a prevention and treatment protocol that is adapted to the needs of these patients.
- More significant results will be obtained after further study.

29. ATOPIC DERMATITIS AND FOOD ALLERGIES AS ETIOLOGICAL FACTORS OF MOLAR-INCISOR HYPOMINERALIZATION

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Introduction: The term “molar-incisor hypomineralization” (MIH) was coined in 2001. MIH refers to a disorder in the mineralization of permanent first molars and/or incisors, with a progressive appearance of “white-opaque-yellow-brown” spots which sometimes leads to the progressive disintegration of the enamel.

Objectives: a) To investigate the prevalence of MIH in the sample studied; b) to investigate the male/female ratio; c) to find out if there is a statistically significant association between MIH and a series of medical problems in a group of children aged 6 to 14 years; and d) to find out if there was a statistically significant association with the mother’s medical and delivery history, the family dental history and the medication received by the child during the first 3 years of life.

Materials and methods: Seventy hundred and seventy-two children aged 6 to 14 years were randomly selected out of two populations of the central region (with 51 populations) in the province of Barcelona. The final sample consisted of 705 children (375 boys 53.19% and 330 girls, 46.80%). All the examinations were performed by the same pediatric dentist, after calibration using clinical photographs between January and April 2016. 97.6% reliability was obtained using Cohen's Kappa quotient. The results were analyzed using the statistical software IBM SPSS version 20, Chi square test (χ^2) with a level of significance of $p < 0.05$.

Results: The medical problems studied are shown (ICD-10 international classification of diseases of the WHO) and their prevalence in the global sample, in boys and girls with MIH, as well as medical symptoms with a statistically positive association ($p < 0.05$) in the chi square test with the corresponding confidence intervals.

Conclusions:

- The prevalence of MIH in the sample studied was 7.94%.
- The ratio was 1: 1.58.
 - A statistically significant association was found with the following conditions: chickenpox, otitis media, pneumonia, asthmatic bronchitis, atopic dermatitis, food allergies, fever syndrome.
 - In the present investigation, there is, for the first time, a statistically positive relationship between atopic dermatitis and food allergies with MIH.
- A correlation was not found between length of breastfeeding and MIH.

30. DEGREE OF KNOWLEDGE ON TRAUMATIC DENTAL INJURIES BY PRIMARY EDUCATION TEACHING STAFF IN THE COMMUNITY OF MADRID

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Introduction: Traumatic dental injuries are the second reason for requesting dental care after caries. It is therefore necessary to emphasize the importance of correctly recognizing and managing these injuries immediately. At the infant school stage many emergencies take place including traumatic oral injuries. It is necessary for schools to have protocols of action that allow intervention as efficiently and quickly as possible. Since teaching staff are not accustomed to a dental emergency situation, a search was made in the literature to provide information on their knowledge and manner of action, and thus find out the current situation for the investigation.

Objective: The purpose of this study was to analyze the degree of knowledge and manner of action of Primary Edu-

cation teachers when faced with a traumatic dental emergency involving a tooth socket during school hours.

Material and method: A survey was carried out with 10 previously validated test questions. It evaluated the knowledge on emergency and dental traumatic injuries of Primary Education teachers. Public, grant-supported and private schools in the Community of Madrid participated in the study.

Results: The data obtained for each item of the questionnaire, as well as for the variables regarding gender, age, level of studies and professional experience of the teacher were analyzed. The data obtained showed that those in the study had limited knowledge of traumatic dental injuries and insufficient skills to act because they had not received any information regarding the most adequate protocol for managing these injuries.

Conclusions: How a traumatic dental injury is dealt with during school hours is of vital importance, regardless of whether or not it is the primary or permanent dentition that is affected. School teachers are not trained to deal with a traumatic injury since the knowledge they possess differs from the standard protocol of action. Therefore, it is necessary that teaching staff have a minimal but sufficient knowledge of the first emergency steps that should be taken.

31. COMPARATIVE STUDY ON BIODENTINE AND MTA: BIOCOMPATIBILITY AND MICROFILTRATION

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Introduction: For reversible pulpitis with pulp exposure in the primary dentition, the treatment of choice is a pulpotomy. Among the materials of choice MTA stands out. However, Biodentine has appeared as a substitute for dentin, and one of its current indications is as a pulp agent. In any event, it is essential that the material that is placed in the pulp chamber is biocompatible and that it has physical properties that achieve a good marginal seal. In this way, the marginal filtration that could compromise the treatment is avoided.

Objectives: To evaluate and compare several materials used in pulpotomies, through a biocompatibility and microfiltration test.

Material and method: A toxicity test was performed on cell cultures of the L929 cell line. Cells were exposed for 24 hours to serial dilutions of extracts from both materials (Biodentine and MTA ProRoot). After this 10 primary molars were selected for the microfiltration study. The samples were left in water for 24 hours following obturation. Subsequently staining was performed using methylene blue, after varnishing each tooth. Finally, longitudinal sectioning of the samples was carried out and the microfiltration was evaluated using Millers scale.

Results: The results are being evaluated by optical microscope and by statistical analysis.

Conclusions: The ultimate goal of pulp treatment is the use of biocompatible materials through which marginal filtration is avoided.

33. EFFECTIVENESS OF USING IMAGE MODELING AS A TECHNIQUE FOR MODIFYING BEHAVIOR

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Introduction: Dental anxiety is a set of stressful reactions associated with the dental environment. The prevalence ranges from 10-15% in adults and 7-15% in children. The etiology is multifactorial and reducing this is one of the greatest challenges in pediatric dentistry. Using imitation as a behavior modification technique, patients observe a model that shows appropriate behavior and they are encouraged to imitate this in similar situations. There are two types: live or video. Although the literature supports the effectiveness of audiovisual techniques, these are not being used very much.

Objectives: a) To determine if the video “What to do when you go to the dentist” helps improve the level of acceptance of treatments. b) To find out in which age group and in which gender it is most effective. And, c) To discover the influence of previous dental experience on dental anxiety.

Material and methods: A total of 30 patients aged 6 to 12 years (with a similar cognitive level) were selected for the study, and divided into two groups. Fifteen patients were in the sample group and another 15 patients were in the control group. All patients were questioned about their previous anxiety level using the Modified Corah scale. The sample group watched the video “What to do when you go to the dentist” and their level of acceptance on their first visit treatment using the Frankl scale was assessed. The control group agreed to go through to their first visit directly without seeing the video and their acceptance of the visit was evaluated.

Results: The Mann-Whitney and Wilcoxon scores indicated that there were no significant differences between the acceptance levels of the sample group and the control group. The age and gender of the sample did not determine greater treatment acceptance ($p > 0.05$). Previous dental experience was a statistically significant predictor of dental anxiety.

Conclusions: Viewing the video “What to do when you go to the dentist” is not a determining factor for increasing the level of treatment acceptance. Previous dental experience is a significant predictor of the level of acceptance of dental treatment in children. Age, between six and twelve years, and the gender of the patient did not prove to be determining factors in the levels of anxiety and in the acceptance of dental treatment.

34. PICTOGRAMS VS. ICT IN PEDIATRIC DENTISTRY PATIENTS WITH ASD

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Introduction: According to the DSM-V, Autism Spectrum Disorders (ASD) are those which present persistent deficiencies in social communication and social interaction in various contexts; there are also restrictive and repetitive patterns of behavior, interests and activities. The symptoms may be present in the early stages of development or may be masked by strategies learned in later stages of life. The symptoms cause a clinically significant impairment in social and occupational capabilities, or other important areas of day-to-day functioning. It is essential to remember that when it comes to children with ASD, there is no room for improvisation. This leads to the need for systematic desensitization protocols to be implemented prior to the child’s first consultation. The American Academy of Pediatric Dentistry (AAPD) recognizes that, today, the management of behavior in people with special needs is changing.

Objectives: a) Create models of desensitization for patients with ASD, following pictogram and video modeling protocols, and the current models based on ICT; and (b) compare the effectiveness of the application of both systems in the patient with ASD.

Materials and methods: Following the corresponding updated review of the topic, we proceeded to the implementation of systematic desensitization of all the children diagnosed with ASD, currently attending the special schools for autism of the Community of Madrid and subsidized by the Vice President of the UCM and our course “Specialist in Integrated Dental Care” of the UCM. The sample of children was randomly divided, for the desensitization prior to dental treatment: a) with the application of pictogram and video modeling protocols; and (b) with the preparation for dental treatment with the use of ICT.

Results: We found a higher percentage of effectiveness of desensitization protocols in pediatric dentistry with the use of ICT. Moreover, the differences were connected to variables such as the age and level of the patient with ASD.

Conclusions: Although pictograms remain an effective tool for the desensitization of patients with ASD, ICT enable effective communication with the patient, given the widespread use of these systems in patients with autism. ICT allows for a continuous desensitization, at both the clinical and ambulatory levels, and offers assistance to both parents and educators participating in the process of desensitization, who wish to introduce oral health to daily routines.

35. FOLLOW-UP OF THE PREVENTIVE CAMBRA PROTOCOL IN A CHILD POPULATION

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Introduction: The analysis of the risk of caries should help us learn about the risk factors that may lead to tooth decay, at the same providing information on the factors that help prevent it. CAMBRA is a diagnostic method that strives to evaluate the risk and management of caries according to each patient's individual risk. It follows a caries model based on the dynamic balance of progression-regression between the pathological and the protective factors. In this method, there are action protocols, aimed at prevention, both in clinical practice and at home, with the goal of improving oral health.

Objectives: a) assess compliance with the CAMBRA prevention protocol in a child population over two years; (b) examine the effectiveness of preventive programs and the changes produced in the risk factors, protective factors and indicators of disease.

Materials and Methods: The sample was composed of 169 children who were treated at the School of Dentistry of the Complutense University of Madrid during the 2014-2015 school year and 177 children who attended during the 2015-2016 school year, all between the ages of 6 and 14 years. For the diagnosis of caries, we used the CAMBRA protocol with the addition of complementary tests.

Results: We observed a change in the risk of tooth decay from one year to the next, with an increase in patients with low risk (from 15% to 21%) and moderate risk (from 38% to 42%), and in high risk patients we observed a decrease from 44% to 36%, which indicates that there is efficacy in the implementation of preventive protocols. But it is also important to stress that only 53.66% attended regular check-ups. The prevalence of caries decreased by 2% (from 27% to 25%). In terms of risk factors, the presence of plaque is still the main factor. The use of fluoride paste is still the main protective factor. And the presence of white spots is still the main disease indicator.

Conclusions:

- CAMBRA is an effective method of diagnosis of risk of caries, and it provides relevant information for the prevention of the triggers of oral diseases.
- The implementation of preventive protocols, depending on the risk of tooth decay, is a basic pillar in the improvement of oral health.
- It is important to remember that periodic check-ups are essential to quality dentistry.

36. ERGONOMICS IN THE DENTAL TREATMENT OF BABIES

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Introduction: The International Ergonomics Association defines "ergo" as the set of applied scientific knowledge so that the work, systems, products and environments are suited to a person's physical and mental capabilities and limitations.

When treating babies, the pediatric dentist assumes positions that are not very ergonomic, which leads to occupational pathology in the long run.

Objectives: Determine the advantages and disadvantages of the techniques currently used for the dental treatment of babies, based on ergonomic criteria for the professional, the emotional security of the baby, and the potential risks due to the baby's involuntary movements.

Materials and methods: We conducted a review of the literature obtained through a search in the PubMed and Google Scholar databases, for the keywords: Knee to knee, pediatric dentistry, macri, ergonomics and baby, from 2004 to February 2017.

Results: We obtained 23 articles from our search. We used 13 of these in our study. The rest were discarded because they did not provide information in the topic of interest. We found the following techniques used in the treatment of babies: Physical restraint of the baby using mechanical elements: The MACRI stretcher, the main advantage being the correct posture of the professional and the baby. As a negative element, it does not allow physical contact between mother and baby. Physical restraint of the baby by means of body elements: the knee to knee technique; child in the mother's arms; mother sitting in the dental chair; child in the dental chair and mother or father lying across the child. The main advantage of these techniques is that the child is in contact with the mother at all times. The disadvantages are that it is very complicated to measure the applied force, and therefore, there may be risk of injury to the baby and, additionally, that the professional's position is not very ergonomic.

Conclusions: The techniques described have some disadvantages in the treatment of babies. We would need to find a technique or design a new device that would address the most common deficiencies found in our review: the professional's position, the baby's safety, and the contact with the mother.

37. THE DENTAL CARE EXPERIENCE IN PATIENTS WITH AUTISM AND THEIR FAMILIES. AN OBSERVATIONAL STUDY

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Introduction: The prevalence of Autism Spectrum Disorders (ASD) has increased greatly in recent decades. It is important to learn more about the experiences and understand the challenges that people with ASD and their families face when it comes to dental care, as this affects not only the patient's oral health and general health but also the entire family's quality of life.

Objective: Learn more about the dental care and treatment experience in patients with ASD, the degree of satisfaction of their parents/caregivers with the treatment received, and the obstacles found.

Materials and methods: The sample was comprised of 18 people with ASD who had been admitted to the Infanta Leonor Center for Persons with Autism (Alicante), whose parents or guardians agreed to participate in the study, and who correctly completed the survey designed and validated for the study. This survey consisted of 19 questions distributed in four categories: biographical information, information about the characteristics of the person with ASD, information about the dental treatment received up until that time, and information about the parent's or guardian's experience and perception of the dental care their children have received. We carried out a descriptive analysis of the data obtained, for both the qualitative and the quantitative variables.

Results: We found that 61% of the individuals with ASD had a low or very low acceptance of everyday tooth brushing. All had previously received dental treatment. Of these, 55% had gone seeking prevention and 41% needed urgent care or went because they were in pain. Half of the respondents described dental treatment as a good or very good experience. The main obstacle to the treatment was the difficulty in finding a professional who was willing to or knew how to treat them (38%). When they attended the consultation, the parents were mainly nervous and worried, and the patients with ASD were not very happy to go, with little to no collaboration in 72% of the cases, resulting in a very difficult treatment for half of these. We found that 72% was treated with the use of pharmacological sedation or general anesthesia. The level of satisfaction with the treatment received by the children in the dental office was high (7.67 out of 10).

Conclusions: The experience of dental care in patients with autism and their families presents obstacles that hinder proper oral care, either due to communication problems and patient information, or due to medical, economic or social problems. It is worth noting that caregivers highlight the quality treatment people with autism receive from their dentists.

38. DENTAL EROSION, PREVALENCE AND ETIOLOGICAL FACTORS IN A SAMPLE OF VALENCIAN CHILDREN AND ADOLESCENTS

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Introduction: Dental erosion is the pathological, chronic, localized and painless loss of dental tissues, produced by the chemical action of acids, where the action of microorganisms is not involved. In recent years, there has been a significant increase in the prevalence of this disease, especially in children and adolescents.

Objectives: To determine the prevalence of dental erosion in the permanent dentition and analyze the different etiological factors that may promote its development in a sample of Valencian children between the ages of 6 and 14.

Materials and methods: A non-experimental, descriptive, correlational and cross-sectional study was conducted in a sample of 400 Valencian children. Firstly, we conducted a survey where we evaluated the patient's health, dietary and oral hygiene habits, the type of school they attended, and the parents' level of education. Secondly, we conducted a clinical examination where we observed the prevalence of dental erosion according to the BEWE index and the risk of dental erosion, as well as the stimulated salivary flow, the buffer capacity and the salivary pH.

Results: The prevalence of dental erosion in the sample studied was 22.3%, the first molars and the four upper incisors being the most frequently affected teeth. We observed a positive correlation between the presence of dental erosion and the frequent consumption of soft drinks, isotonic beverages, and fruit juices ($p < 0.05$), and it was greater if they kept the liquid in their mouths before swallowing. Etiologic factors such as the use of inhalers in asthmatic patients ($p = 0.006$), a low buffer capacity, and a moderately acidic pH ($p < 0.001$) are also positive factors in the development of erosive lesions.

Conclusions: We found that 85.2% of the population studied presented no risk of dental erosion. We were able to conclude that the results of this study suggest that the frequent intake of soft drinks, isotonic beverages, and fruit juices, the use of inhalers, a low buffer capacity, and a moderately acid salivary pH are factors that are positively associated with the development of erosive lesions.

39. REGENERATIVE ENDODONTICS: BETWEEN EMPIRICISM AND EVIDENCE

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Introduction: The classic treatment in young permanent teeth with open apices and a compromised vitality is apexification. The term regenerative endodontics has been recently introduced, which includes techniques and procedures with the objective of helping an immature permanent tooth with signs of infection or compromised pulp vitality reach the maturity that will make it stronger.

In comparison with apexification, which sought to stimulate the formation of an apical barrier for a later filling of the root canal without modifying the conditions of immaturity, regenerative endodontics aims to create an apical barrier and development both in the length and the thickness of the root dentinal walls, through the stimulation and bleeding of the apical zone after the complete disinfection of the tooth has been achieved.

Objectives: The objective of this study was to examine the effectiveness of the technique of revascularization through the available literature and evaluate its advantages and disadvantages over traditional techniques.

Materials and methods: We conducted a search in the PubMed (Medline), Scopus and Embase databases, for the keywords “revascularization” and “immature teeth”, in which 183 articles were initially obtained. After applying the inclusion criteria (published in the last five years, in the dentistry field), 34 articles remained to be analyzed in this work. The exclusion criteria included in vitro studies, in animals, mature teeth, and root fractures.

Results: We extracted from the different studies data related to the instrumentation of the root canals, the pulp irrigant, intracanal medication, and the proportions employed. Most of the authors propose the use of a mixture of ciprofloxacin, metronidazole, and minocycline as a triple antibiotic paste, although there are no current standardized guidelines regarding the proportions of each. The irrigant of choice is a Na OCl solution, used in varying concentrations by different authors. All of the authors agree on minimal instrumentation of the root canals, even no instrumentation at all, due to the weakness of the dentinal walls and susceptibility to fracture. Only one case among those treated with regeneration techniques may be considered a failure.

Conclusions: Regenerative endodontics is an alternative to traditional methods, in the case of immature necrotic teeth. Although the success rate may be considered very high, there is currently no scientific evidence of the outcomes and predictability of regenerative endodontic techniques.

40. PARENTAL KNOWLEDGE AND HANDLING OF TOOTH AVULSION IN BOTH PRIMARY AND YOUNG PERMANENT DENTITION

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Introduction: Traumatic dental injuries are the second cause of pediatric dental care after caries, and their prevalence continues to grow. Tooth avulsion is a frequent tooth injury that increases with age. It is often associated with falls, at home or at school. The success of the treatment depends on early and correct handling. Therefore, it is of utmost importance that those who are at the scene of the accident have the information and knowledge needed to handle the situation.

Objective: The main objective was to assess the awareness of parents of preschool and elementary school children of ways to handle tooth avulsions in primary and young permanent dentition through a survey.

Materials and methods: We conducted a non-experimental, cross-sectional and descriptive study in public and grant-supported schools in the metropolitan area of Valencia of parents of children enrolled from preschool to fourth grade. The study was based on a survey, which consisted of two parts: one included basic demographic data and the other included questions about how parents handled tooth avulsion. The collected data were statistically analyzed with the use of R-Commander software.

After that, we conducted a descriptive and inferential data analysis with the use of a T-test for independent samples, the Pearson correlation, and Anova technique.

Results: The final sample consisted of 194 participants. In terms of the parents who participated, 71.35% were mothers and 28.65% were fathers. We found that 51.04% had not received prior information on the handling of avulsions, but 93.23% indicated that they would like to receive more information. We found that 63.54% would reimplant the tooth. Only 40.62% would clean up the tooth before re-introducing it correctly, and 5% would put it in place without doing anything. After a tooth avulsion, 55.73% would take the child to a dental clinic. We found that 52.60% considers that professional help should be sought immediately. Finally, 32.81% were unaware of the best means of storage and transportation of the tooth, and only 9.9% would be able to do so the most suitable way.

Conclusion: There does not seem to be a significant lack of information in the handling of tooth avulsions in permanent dentition, but there is in the case of the primary dentition, indicating that while the level of information and how these teeth should be handled is not minimal, there is a lack of learning regarding how to react appropriately in the event of a tooth avulsion.

41. ORAL PATHOLOGY IN WILLIAMS SYNDROME

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Introduction: Williams Syndrome (WS) is a genetic disease caused by a deletion in the locus of the elastin gene located in chromosome 7q11.23. This compromises at least 20 contiguous genes that may be involved in the clinical characteristics of these patients. This syndrome presents a multi-organ involvement with phenotypic traits such as: elfin faces, cardiovascular manifestations, and delayed psychomotor development, among others.

Objective: Determine the most frequent oral disease in WS described in the literature and compare it to a population of patients with WS controlled in Sant Joan de Déu Hospital.

Materials and methods: Firstly, we carried out a review of the literature on the oral pathology that is most frequent in patients with WS, in the PubMed database. Secondly, we assessed the medical histories of children aged 0-18 with WS, who receive treatment at the Sant Joan de Déu Hospital, determining their first visit, their age and oral disease.

Results: The more prevalent oral pathologies were: hypodontia, abnormal morphology, localized enamel hypoplasia, c.II and c.III malocclusions, anterior open bite, and posterior crossbite. Multiple diastemas are found as a pathognomonic characteristic.

Conclusions: There are certain oral pathologies related to WS that must be considered when examining these patients. We

may thus prevent, treat and improve the quality of life of these patients. Because of the oral alterations presented by patients suffering from WS, it is necessary to monitor these patients starting from age 2 so as to be able to apply preventive therapy and provide early diagnosis of the probable complications.

42. ANXIETY SCALES IN PEDIATRIC DENTISTRY

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Introduction: Dental anxiety is represented by a general state in which the individual feels a certain level of apprehension and is prepared for something negative to occur. Dental anxiety plays an important role when handling a child, with the added drawback that adults with dental anxiety decide to go to the dentist by themselves, while in the case of children, it is the parents who decide. The fear of dental care has a negative effect on a child's quality of life in terms of social and emotional well-being. Dental anxiety is commonly measured with questionnaires and various rating scales. In the study of dental anxiety, individual self-descriptions of this process have played an important role when measuring anxiety, as it is an internal state based on a cognitive process that cannot be observed.

Objectives: Describe and assess the various anxiety scales that are used to measure dental anxiety in the studies carried out so far and recognize which are the most valid for our patients.

Materials and methods: For this work, we conducted a review of the literature by searching the Medline, PubMed databases, for the keywords: "dental anxiety", "children anxiety" and "anxiety scale". The inclusion criteria for this review were papers, clinical studies and reviews, written in English or Spanish, published in the last 15 years, that provided information about anxiety scales.

Results: Dental anxiety has been studied in most of the studies through questionnaires. We found various scales and tests used to measure dental anxiety in several studies. For children aged 4 to 10, the Venham test is the most suitable. After the age of 10, the child is capable of answering the questions that can be found in tests such as the DAS (Corah's Dental Anxiety Scale) and the DFS (Dental Fear Survey).

Conclusions: The most frequently used scales to measure dental anxiety are the DAS (Corah's Dental Anxiety Scale) and the DFS (Dental Fear Survey). In pediatric dentistry, and above all the younger the child is, the Venham test is the most commonly used.

43. COSMETIC DENTAL CROWNS IN PEDIATRIC DENTISTRY: A REVIEW AND CLINICAL CASES

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Introduction: Restorative treatment in the primary dentition aims to repair or limit the damage caused by tooth decay, protect and preserve tooth structure, restore function and appearance, and allow a proper oral hygiene. Cosmetic dental crowns are the treatment of choice when the crowns are deeply affected. Today, parents demand that their children's dental restorations provide better cosmetic appearance, as well as functionality and durability. In the past 20 years, the range of possibilities for these materials has expanded and ostensibly improved characteristics and properties.

Objective: Update the features and availability of pre-formed dental crowns for large reconstructions in pediatric dentistry, presenting advantages and disadvantages based on clinical cases.

Materials and methods: We conducted a review of the literature found in databases (PubMed, Web of Science, Scopus, Embase, Cochrane), for the keywords: Esthetic crowns, children, aesthetic, restoration, pediatric dentistry, from 2005 to 2017.

Results: The first search produced 90 articles, from which we selected 52 summaries. After applying the inclusion criteria, we obtained 32 articles for analysis in this paper. Since the 1950s, when metal crowns were first introduced in pediatric dentistry, aesthetic appearance has evolved significantly. Several alternatives have been described, the first in the 1980s with open-faced crowns, later in the 90s with metal crowns with a cosmetic front. Most authors highlight that they do not take long to place and that they are well-accepted by parents; however, they have the disadvantage of being less aesthetic. Moreover, composite remains a conservative and cosmetic option, especially in the anterior section, through the use of the strip-crown technique. Preformed zirconium crowns were first marketed in 2010, and since then, they have led to a revolution in pediatric dentistry due to their cosmetic advantages and durability. Success rates with the use of composite in anterior crowns have been reported as high as 80% at 24 months and in indirect restorations with posterior crowns at 82% at 36 months. Regarding zirconium, although some authors report a high degree of satisfaction (89%) in parents, there is no data for clinical durability.

Conclusions: There are currently many cosmetic alternatives available from several commercial brands for the restoration of primary teeth. The studies published do not allow us to establish significant differences in the effectiveness and durability of the options presented.

44. CLINICAL FOLLOW-UP OF PATIENTS TREATED UNDER GENERAL ANESTHESIA

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Introduction: Caries remains a public health problem that affects babies and children throughout the world. Currently,

there is a high percentage of children for whom, either due to their behavior and/or the number of treatments that must be carried out, general anesthesia (GA) is chosen. Despite its momentary effectiveness, in most of the cases, favorable long-term outcomes are not obtained, as the established prevention habits are not followed after the treatment is carried out.

Objectives: Assess the compliance with check-ups and evaluate dietary and hygiene changes post-treatment under GA in patients treated at the Department of Pediatric Dentistry of the International University of Catalonia.

Materials and methods: This is a retrospective study, which describes the clinical progression of 15 children aged 2 to 10 years, who were treated under general anesthesia in the Hospital General de Catalunya (Sant Cugat, Barcelona) by members of the Department of Pediatric Dentistry of the International University of Catalonia, in the period comprised between January 2015 and December 2016. Treatment under GA was established due to bad behavior, a large number of dental pathologies, and associated medical problems. Prior to the use of general anesthesia, parents/guardians were instructed on the preventive protocol after treatment, with the relevant hygiene and dietary guidelines, as well as the periodic check-ups required at the clinic.

Results: After analyzing the data, we noted that a high percentage of the children did not attend the post-treatment check-ups. In fact, 4 of the patients never returned. Only three patients of the 15 evaluated, attended all check-ups leading up to 12 months of evaluation (a week later, a month later, three months later and at 6, 9 and 12 months). The 8 remaining patients could not be assessed up to 6 months after treatment under GA. Half of them had no further pathology and they had improved dietary and hygiene habits; the other 4 patients had not changed their dietary and hygiene habits and there were signs of disease.

Conclusions: Despite the high rate of recurrence of post-operative caries, GA remains an acceptable treatment option, since it minimizes the number of appointments and the patient's anxiety and fear. Clinical follow-up and the modification of habits is vital to ensure the success of the dental treatment conducted with the use of GA.

45. AN *IN VITRO* STUDY OF SHEAR BOND STRENGTH OF HIGH-DENSITY GLASS IONOMER FILLINGS

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Introduction: Recently, new high-density glass ionomer fillings have been introduced in the market for the treatment of class II caries.

Objective: To evaluate the shear bond strength of three high density glass ionomer fillings (Ketac Universal Aplicap 3M®, Equia Forte GC®, IonoSelect Voco®).

Materials and methods: For this study, we used 40 human molars and premolars extracted for reasons unrelated to our study (they did not have any root canal treatment or fractures, nor were they damaged or had caries), as per the standards set forth in ISO/TR 11405:1994. The teeth were washed with water, and any blood or organic material was removed. They were subsequently introduced in Thymol 0.1% for 24 hours and stored in distilled water (grade 3, ISO 3696) which was changed weekly so as to prevent the deterioration of the teeth until the moment of use, with a maximum time of 6 months post extraction. The teeth were randomly divided into 4 groups: Ketac Universal Aplicap 3M®, Equia Forte GC®, IonoSelect Voco®, y Bulk Fill SDR Densply® + Futurabond NR® as the control. We performed Class II cavities of approximately 6x6x5 mm. We fitted a metal matrix held with a Tofflemire matrix retainer around each tooth, and cavities were filled with different materials, following the manufacturers' instructions. They were immersed in distilled water for 24 hours at 37°C. We subsequently calculated shear bond strength by using a universal testing machine and applying a compressive axial load of 1KN in a crosshead speed of 1mm/min (International Organization for Standardization, TS 11405, 2003). Values were recorded in N.

Results: The values of shear bond strength were: Ketac Universal Aplicap 3M® Group 265,25 +/- 84.14 N, Equia Forte GC® Group 323,50 +/- 56,89 N IonoSelect Voco® Group 498,65 +/- 85,82 N, SDR Densply® Group 810,10 +/- 65,55 N. The SDR filling showed a significantly greater bond strength than the three ionomer fillings ($p < 0.0001$). Of the glass ionomer fillings, the Ketac Universal Aplicap 3M® filling presented the lowest bond strength of the three, being statistically different from the bond strength reached by the IonoSelect Voco® filling ($p = 0.032$).

Conclusion: Of the three ionomer fillings tested, the IonoSelect Voco® is the one that offers the best response in terms of shear bond strength in Class II cavities.

46. AN ANALYSIS OF CELL ADHESION TO NEW BIOMATERIALS IN PULP REGENERATION AND REPAIR

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Introduction: There is a wide range of biomaterials used as scaffolds in tissue engineering, which must be biocompatible, non-toxic, with optimum physical characteristics and mechanical properties. For this reason, tissue engineering approaches in regenerative medicine have focused on investigating the biocompatibility of the possible cell-scaffold interactions.

Objective: The objective of the study was to examine the biocompatibility of silk fibroin as a film (2D) and as a scaffold (3D) after placing on its surface human dental pulp stem cells.

Materials and methods: We isolated and characterized human dental pulp stem cells (hDPSCs) from healthy patients between 18 and 31 years of age. Subsequently, film (2D) and silk fibroin scaffolds (3D) were prepared. The hDPSCs were seeded directly on material surfaces, and we analyzed their union and cell morphology after 24, 120 and 168 hours. Additionally, we analyzed the characteristics of the film (2D) and scaffolds (3D) before and after planting the cells, with the use of a scanning electron microscope.

Results: After the first 24 hours, the silk fibroin scaffolds (3D) showed more joined cells with fibroblastic morphology that was more suitable than that of the film (2D). As time passed, the hDPSCs proliferated enough to cover the entire surface of the silk fibroin scaffold (3D), while the film (2D) was only partially covered.

Conclusions: Our results suggest a good in vitro biocompatibility of biomaterials based on silk fibroin, especially when scaffolds (3D) are used instead of film (2D). Future in vivo studies should corroborate our findings in their use for pulp repair and regeneration.

47. DEVELOPMENTAL DISTURBANCES AND TOOTH ERUPTION IN PEDIATRIC CANCER PATIENTS

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Introduction: Pediatric cancer treatment is based on chemotherapy, radiation therapy and, when necessary, the transplantation of hematopoietic stem cells. The direct cytotoxic effect of these treatments affects both cancerous tissues and others with high mitotic activity. Therefore, we frequently see the consequences years after patients complete cancer therapy, such as disturbances in odontogenesis and tooth eruption.

Objectives: Assess the presence of developmental and tooth eruption sequelae, in a sample of pediatric cancer patients at an early age.

Materials and methods: This was a retrospective descriptive study of panoramic radiographs taken from patients with a history of cancer. We used the database provided by the oncology department at the Sant Joan de Déu Hospital in Barcelona. The inclusion criteria were: 1. Patients younger than 3 years of age with an oncological process diagnosed in the period 2000-2010. 2. Panoramic radiograph taken from 6 years of age (between 2006-2016). Of the total of 359 patients initially diagnosed with cancer before the age of 3, 3 groups were selected: ALL (57 patients), tumors of the CNS (66 patients), and neuroblastoma (59 patients). Of the 182 patients, 35 had a panoramic radiograph, and of these, 4 were discarded for presenting other pathologies that involve disturbances in tooth eruption and development. The variables studied were: root

shortening and thinning, conoid and dilacerated roots, shape and enamel defects, widening of the pulp chamber, eruption defects, ectopies, agenesis, and microdontia.

Results: Of the 31 patients studied, 18 were males and 13 were females, with an average age of 1.6 years (range 0-3). As for the oncological pathology, we evaluated 14 patients with CNS tumors, 11 patients with ALL, and 6 with neuroblastoma. We found that 83.9% of the sample had defects, the most frequent being ectopies (51.6%), microdontia (41.9%), agenesis (32.2%), apical dilaceration (25.8%), and root thinning (22.6%). There were no significant differences between the 3 study groups, except in the case of apical dilaceration, where there was a higher percentage of patients affected in the group with CNS tumors.

Conclusions: In this series, we found a high percentage of patients with alterations in tooth development and eruption, ectopy being the most frequent. Only 19.2% of the sample had been radiographically studied years after cancer treatment, which is why it would be convenient to conduct a greater clinical and radiographic follow-up of these patients.

48. "OBSERVATION" TREATMENT IN EARLY CHILDHOOD CARIES

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Introduction: Decision making in pediatric dentistry is a process that involves the dentist, the patient, the child, and his environment. Due to the emergence of new concepts in our field, such as minimally invasive pediatric dentistry, compliant dentistry, or simply the "observation" approach, there are new queries regarding whether all of the treatment approaches to Early Childhood Caries (ECC) are suitable. We may ask ourselves if the decision to not conduct any treatment (due to the child's young age, the parents' beliefs or factors related to the dentist) is the best decision for the child's oral health.

Objectives: This review aims to assess the reasons for not treating ECC, whether they are the dentist's or the parents', as well as learn the ethical obligation of the dentist when deciding not to treat a patient, and evaluate the options we may consider in order to change this situation.

Methodology: We conducted a review of the literature in the Medline / PubMed database, and we reviewed articles published in English and Spanish, with the keywords "pediatric dentistry", "ECC", "parental attitudes", and "ethical responsibilities".

Results: In children with ECC but non-cavitated lesions, there is possibility of reversing tooth decay without the need for restorative treatment. However, if the dentist or the parents decide to wait, and the lesion progresses, this may have serious repercussions for the child's health. There are several factors that influence a dentist's decision to conduct an observational treatment of ECC, such as the child's young age, his

or her level of anxiety or lack of knowledge of pediatric dentistry and behavior management. The parents' attitude is also a key factor, as in order to avoid a behavior problem or due to a set of beliefs, they sometimes decide not to treat the child.

Conclusions: We have found several factors in the dentist and parents that cause "observational behavior" when facing ECC. If the dentist is responsible for making the decision, it is important to know our ethical obligations to treat the patient or refer him or her to a suitable professional; but if the parents are the ones who will decide, we have the responsibility of making sure they understand the importance of treating ECC and the establishment of the "dental home" for the child's good oral and general health.

49. APPLIANCES INDICATED FOR THUMB SUCKING

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Introduction: The habit of introducing a finger into the oral cavity (usually a thumb) is known as finger sucking. This behavior is normal during the first years of life, but if it continues, in time it may become pathological and alter the oral functions. It is a harmful habit that occurs most often in the child patient.

Objectives: The objective of this study was to analyze the oral disturbances that this harmful habit may produce and to establish treatment depending on how these arise.

Materials and methods: To this end, we conducted a systematic search in the Medline, PubMed, and Web of Knowledge databases, without time limitations. The search was limited to journals in English and Spanish, as well as articles relating to children aged between 0 and 18 years. The following keywords were used: "finger sucking" and "finger sucking AND treatment". From the review, we found clinical cases treated with a thumb crib.

Results: There are different kinds of finger sucking with different consequences depending on the finger or fingers involved, the frequency, duration, intensity, or if the position is lateral or central, etc. If this habit continues, in time it may lead to bone, teeth, muscular, and other defects, such as swallowing or phonetic problems.

Conclusions:

- The pediatrician and the dentist play a very important role in the detection of this harmful habit, as well as the introduction of therapeutic measures for its elimination.
- The most frequent form of finger sucking involves contact between the tip of the thumb and the roof of the mouth.
- The therapeutic measures that are established early on include control and psychological methodology and/or extraoral systems (aversion therapy with substances

on fingers, mechanical methods of restriction) but if these measures fail, it is necessary to use intraoral methods.

- Once the habit is gone, it is necessary to treat the defects, should there be any.

50. POSSIBLE CASES OF ORAL CANDIDIASIS IN THE ORAL MUCOSA OF CHILDREN AND ADOLESCENTS WHO WEAR ORTHODONTIC APPLIANCES.

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Introduction: Candidiasis is the most common fungal infection in the oral cavity. It is caused by any species of the genus *Candida* and is considered an opportunistic disease. *Candida* colonization is influenced by a large number of local and systemic factors. Moreover, in recent years there has been an increase in this commensal.

Objectives: The principal objective was to assess the frequency of adherence of *Candida* in patients who are undergoing orthodontic treatment, and also to assess the influence of an acidic pH, the plaque index, and the appliance design in the colonization of *Candida* and to find out the most common species.

Materials and methods: A total of 67 patients aged between 6 and 18 were selected for the present study. The patients were split into two groups; 34 comprised the case group, of patients who used both fixed and removable orthodontic appliances, and 33 were part of the control group. We collected a medical history for each of the subjects, and we recorded the plaque index, the salivary pH, and a sample of the palate with sterile swabs to later carry out a culture and test for the growth of *Candida*. The statistical analysis of the data was conducted with a confidence interval of 95%, and Chi-square tests were used to examine the differences in the presence of *Candida* on the basis of the factors considered.

Results: The results obtained suggest that the presence of *Candida* is significantly higher in patients with orthodontics. We found that there was a slightly higher percentage of subjects with acidic saliva pH and the presence of *Candida*. When assessing hygiene, we found that the presence of *Candida* is significantly lower in the group of patients with an absence of plaque. Regarding the species of *Candida* in patients who use orthodontics, the percentage of *C. albicans* was 64.29%, *C. glabrata* at 21.43%, and *C. krusei* at 14.29%.

Conclusions: Orthodontic appliances may increase the frequency of adherence of *Candida* in patients who are undergoing treatment. Patients with a low pH are more prone to *Candida* colonization, as well as those patients who have poor oral hygiene. The most common species found in the oral cavity, in both the control group and the case group, was *C. albicans*.

51. BRUXISM IN PATIENTS WITH SPECIAL NEEDS. NEW THERAPEUTIC HORIZONS

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Introduction: Bruxism is defined as the parafunctional habit of teeth grinding and clenching. It usually occurs unintentionally and involves all elements of the masticatory system. The published studies that address this disease in patients with special needs, provide data that suggest the highest incidence is among children with Down Syndrome and Autism Spectrum Disorder.

Objectives: a) To know more about the etiology of bruxism, as well as its correct diagnosis; (b) study the peculiarities of bruxism in patients with special needs; and (c) analyze possible therapeutic alternatives.

Materials and methods: A search for literature in the following databases: PubMed, Cochrane, ProQuest and the Swan catalog (Library of the School of Dentistry, Complutense University of Madrid). Keywords: “bruxism children disabilities”, “temporomandibular disorders and bruxism”, “tooth grinding and Down’s syndrome”, “bruxism and autism”, “bruxism treatment disabilities”.

Results: The results obtained on bruxism in patients with special needs suggest that the management of this disease is still a challenge. Factors, such as the inability to maintain adequate communication with the patient, hinder the therapeutic approach.

There is no consensus on the classification of childhood bruxism in the child with Down syndrome or Autism Spectrum Disorder.

Conclusions:

- The etiology of bruxism is multifactorial. Its early detection, diagnosis and treatment, as well as the implementation of preventive strategies against the possible complications, are the responsibility of the dentist.
- The authors state that the main difference that characterizes bruxism in patients with cognitive deficit is that it would have a neurochemical origin in dopaminergic regulation, so bruxism would not be a mere habit.
- The treatment of this pathology has been addressed in two steps: a dental screening, to rule out the presence of a temporomandibular disorder, and a second step to manage the psychological component. The new therapeutic horizons in these patients are based both on the implementation of techniques supported by operant conditioning, such as the psychological extinction of the habit, and on a medical/dental level, the new studies point to the use of the botulinum toxin.

52. EFFECTIVENESS OF TOPICAL TREATMENT FOR ORAL ULCERS IN CHILDREN AND ADOLESCENTS WITH DENTAL APPLIANCES

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Introduction: During orthodontic treatment, it is very common to injure the oral mucosa, leading to traumatic oral ulcers caused by the friction of the different structures routinely used in orthodontics. Due to the high incidence of these lesions and the discomfort they produce, the study of the effectiveness of different topical treatments for curing these is justified.

Objectives: The principal objective of this study was to evaluate the effectiveness of chlorhexidine and hyaluronic acid for treating traumatic oral ulcers in children and adolescents with orthodontic appliances.

Material and method: This is an analytical, prospective and inferential study with a longitudinal follow-up and a sample size of $n = 30$ that met the following selection criteria: patients with orthodontic appliances aged 4 to 18 years with ulcers and/or pain in the oral mucosa. The exclusion criteria of the sample included: patients taking any medication that could influence the pattern of oral ulceration, history of oral mucosa disease, oral ulcerations of unknown etiology, and patients with chlorhexidine and/or hyaluronic acid allergy. Patients were divided into three groups and given chlorhexidine, hyaluronic acid or no treatment, and the healing process was evaluated by measuring the size and pain of each ulcer.

Results: Both chlorhexidine and hyaluronic acid were effective treatment for the ulcers and the process was shortened when compared with the control group that had no treatment. However, there were no significant differences with regard to reducing pain when compared with the group that received no treatment.

Conclusions: Both chlorhexidine and hyaluronic acid are effective treatments for curing traumatic oral ulcers. Significant differences were not observed between the two and neither of the treatments contributed to diminishing the sensation of pain suffered by the patients during the process.

53. ORTHOPEDIC TREATMENT IN THE MIXED DENTITION IN CLASS III SKELETAL MALOCCLUSION

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Introduction: The treatment of the skeletal class III pattern continues to be considered today as one of the most complex in orthodontics. Depending on the age of the patient, different types of treatment may be applied. One of the most popular options in recent years when diagnosed in growing patients is early treatment using orthopedics, to try and make modifications in the skeletal base and in the growth pattern of the patients themselves, redirecting this towards a harmonious Class I occlusion.

Objectives: The principal objective of this investigation was to determine whether orthopedic treatment (by face mask and expander) can influence these patients. The secondary

objectives were to discover the differences that exist regarding sex, chronological age and vertebral stage.

Material and method: The radiographic records were studied of a sample of 40 patients (20 males and 20 females) aged between 7 and 11 years and in a CS1, CS2 or CS3 vertebral stage. All of them requested orthodontic treatment and were diagnosed with a skeletal class II pattern. Cephalometric measurements were performed before and after the orthopedic treatment of each patient using the cephalometric analysis of Ricketts, Steiner and Witts.

Results: A significant difference in cephalometric values was not observed in the results before and after receiving the orthopedic treatment. Although it was evident that after the treatment an improvement in the skeletal relationship was obtained, leading the patient to a class I occlusion or even an overcorrection as shown in the readings. With regard to sex, there were no differences between women and men. Chronological age and vertebral stage would indicate that in growing patients the earlier the treatment begins, the better the results obtained.

Conclusions: Given this, it is important to start orthopedic treatment early in growing skeletal class III patients. In the sample of patients studied, the improvement was evident as normo-occlusion values were reached and in some cases there was overcorrection and nearly mesio-occlusion.

54. PERCEPTION OF PARENTS ON THE EFFECT OF DIET AND THE DEVELOPMENT OF ORAL DISEASE IN CHILDREN AGED BETWEEN 6 AND 12 YEARS

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Introduction: The diet of child patients has a great influence on their quality of life as adults. At present, certain eating habits have been modified due to cultural, social and family changes, and harmful habits are on the increase which is leading to severe and rapidly developing tooth destruction.

Objectives: To describe the perception of parents on how healthy some of the food they provide their children is, and relate this perception to the oral diseases involving loss of structure such as tooth decay and erosion.

Material and method: The study population consisted of parents of children between 6 and 12 years of age who attended the Dental Clinic of the Cardenal Herrera CEU University (Alfara del Patriarca, Valencia). Each parent was given a survey, composed of 3 parts: the first one was related to the child's general information. The second was related to the type of food regularly received by children (if they believed that the food was healthy, how often and at what time of day they consumed it). Lastly, they were asked how much sugar they thought was right for their children and if they had tooth decay or erosion. The survey was validated and codified for optimal data collection.

Results: The sample consisted of 151 parents. 47.02% said that their children consumed fast foods between 1 and 3 times a week. The parents considered as healthy: juice in cartons (15.89%), chocolate spread (18.54%), cocoa powder (36.42%), processed bread (39.74%), liquid yogurt and biscuits (56.29%). The consumption of processed bread with the main meal of the day should be highlighted (53.64%), sweets with snacks (75.50%) and chocolate with the evening meal (50.99%). 62.91% of the respondents considered that the daily sugar consumption recommended by the WHO was less than 25 grams, on the other hand, 37.09% thought this was higher. We found a statistically significant relationship between dental caries and consumption ($p = 0.002$) and frequency ($p = 0.005$) of soft drinks, and with sweets ($p = 0.0024$). For erosion we found a statistically significant relationship with the frequency of milk consumption ($p = 0.034$).

Conclusions: The children whose parents were surveyed in this study had a poor diet due to a high consumption of sugary foods, which were considered healthy by parents and that were leading to problems such as tooth decay and erosion.

55. SIGNS AND SYMPTOMS OF CRANIOMANDIBULAR DYSFUNCTION AMONG A POPULATION OF SPANISH CHILDREN

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Introduction: Craniomandibular dysfunction (CMD) or temporomandibular disorders are a set of functional disorders of the stomatognathic system, affecting the temporomandibular joints (TMJ), muscles of mastication, and associated structures of the head and neck. The stomatognathic system is complex and requires a rigorous knowledge of the anatomy and physiology of its structural components. Disorders in any of these, or a combination of disorders affecting the teeth, periodontal ligament, temporomandibular joint or the muscles of mastication, can eventually produce CMD. Although CMD manifests more commonly in adults, signs and symptoms can be observed in children. Data on the prevalence of CMD in children and adolescents vary widely in the literature. However, all authors agree that it increases with age.

Objectives: To analyze the prevalence of signs and symptoms of CMD in a sample of children living in Madrid.

Material and method: The sample consisted of 36 patients aged between 7 and 13 years, of both sexes (18 girls and 18 boys). All of them had sought treatment at the Faculty of Dentistry of the UCM for reasons other than CMD. For diagnosis a dental, muscular, temporomandibular (TMJ) examination was carried out, both of function and occlusion, which was complemented with a specific questionnaire.

Results: A sign or symptom of CMD was found in 100% of the patients. 77.8% had more than 3 signs of CMD. The most prevalent signs were muscle pain on palpation (94.4%), followed

by displacement (91.7%), joint pain on palpation (69.4%), wear in permanent teeth (41.7%), and disturbed path of mandible when opening and closing (38.9%). In contrast, only 38.9% reported any symptoms of CMD. The most prevalent symptoms were tooth grinding at night (27.8%), followed by tooth sensitivity (19.4%) and sensation of a blocked ear (16.7%).

Conclusions: In our sample, 25% had mild CMD (less than 3 signs or symptoms), 58.3% moderate CMD (3 to 6 signs or symptoms) and 16.7% had severe CMD (more than 6 symptoms). However, it is important to note that none of the patients attended requesting CMD treatment and these symptoms were reported only when asked. It is therefore important to take a thorough medical history in order to diagnose this disease early and prevent its progression.

56. MASSIVE USE OF SOCIAL NETWORKS: PARENTS AND PEDIATRIC DENTISTRY

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Introduction: The circumstances surrounding human beings define the understanding of all ideas and notions. For some time now, technology has opened new paths that bombard us with information with no scientific basis, which parents use for queries they have regarding the oral problems of their children. This, together with the (dis)information in social networks shared by their contacts, means some patients arrive at the consultation with a presumed diagnosis and a home-made treatment plan.

Objective: To analyze the scope of social networks as a source of information and education for parents and, in turn, to study this influence on pediatric dentistry visits. And, to ascertain how pediatric dentists should manage the dichotomy between true and harmful information.

Methodology: A bibliographic review covering the last 5 years was performed in PubMed, Scielo and the national and international journals of the Cochrane Library, using the following keywords: social networks, internet, parents, pediatric dentistry, attitude, pain, Twitter, Facebook, You Tube, dentistry, tooth ache. To illustrate the message of this paper a self-explanatory video will be shown.

Results: The search led us to detect a lot of erroneous information which is detrimental to the understanding of oral conditions, and which parents are assimilating in their quest to discover the methods and materials used at a dental practice. This results in "bizarre" preconceptions accompanied by misguided questioning, which hinder the development and progression of our treatment plan. And normally, the former is not properly supported as the sources are invalid.

Conclusion: We believe that there is currently an exaggerated use of social networks by parents in search of pediatric dentistry information that impairs and restricts a dentist's freedom to decide on the best treatment for the child and to provide the best psychological setting for this.

57. INFLUENCE OF PARENTING PATTERN ON THE BEHAVIOR OF CHILDREN IN THE DENTAL CLINIC. A PILOT STUDY

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Introduction: Parenting pattern is the way parents behave with regard to their children in decision-making and conflict resolution. Different styles of parenting can influence a child's way of thinking and acting, depending on their temperament and how the child responds to the parenting style in its self. It is important for dentists to be aware of the relationship between parenting style and the behavior of children in the dental clinic, so that we can optimize the management of our patients' behavior.

Objectives: To establish the interaction between parenting pattern and the anxiety and behavior of children aged between 4 and 8 years, assessing their behavior both during the first visit and during dental treatment at the Dental Clinic of the *Universidad CEU- Cardenal Herrera de Alfara del Patriarca*, Valencia (Spain).

Materials and methods: A descriptive, observational study was conducted with a sample of 18 children aged 4 to 8 years who attended the Dental Clinic of *CEU Cardenal Herrera University* between June and October 2016. After the parents had been given the details of the study and following informed consent, a questionnaire was carried out. During the first dental visit and during dental treatment, the child's anxiety and behavior were determined using the Frankl behavior scale and the Vehnam clinical rating anxiety scale. Statistical analysis was performed using the SPSS 18 program and the chi-square statistical technique that produced a significance level of 95% ($p < 0.05$).

Results: During the first visit, 72.22% of the children suffered anxiety and were restless, while 27.78% were relaxed. On the second visit, where local anesthesia was given, 38.89% of the children were tense, 50% restless, 5.56% relaxed. No statistically significant differences were found between parenting pattern and anxiety/patient behavior in the dental clinic.

Conclusions: The anxiety and behavior of patients aged 4 to 8 years who attended the Dental Clinic of the *CEU Cardenal Herrera University of Alfara del Patriarca*, Valencia (Spain) for dental treatment was not associated with the parenting pattern experienced.

58. DENTAL TRAUMATOLOGY TRAINING. EVALUATION AND MONITORING OF KNOWLEDGE AFTER 12 MONTHS

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Introduction: Traumatic dental injury during childhood is one of the main problems faced by pediatric dentists during daily practice. It is fundamental that dentistry students have sufficient knowledge to deal with these types of injuries, due to their high frequency, as the prognosis and progression in many cases depends on quick and correct decisions.

Objectives: The objectives of this study were to evaluate the knowledge on dental traumatology of first year students of the Faculty of Dentistry of the *Universidad Complutense de Madrid*, and to train them to be able to act correctly when facing an injury of these characteristics. And to assess the knowledge acquired immediately after the training activity, and this same knowledge after one year.

Material and method: 55 students of dentistry participated in this study. All the respondents completed a questionnaire that included questions regarding on-the-spot handling of dental injuries and other related issues. After this a lecture on the subject was given, and immediately after this, the same questionnaire was distributed. After 1 year, the students completed the original questionnaire once again.

Results: There was a lack of knowledge on the subject among the students at the beginning of their university studies. After the training course, the students improved statistically significantly ($p < 0.001$). Despite a decrease in their knowledge on dental trauma after one year, the students maintained a high level of knowledge. 98% of the respondents believed that information campaigns should be carried out regarding these injuries among first-year students in Health Sciences degree courses.

Conclusions: The need for dental traumatology training among first year dental students was revealed. The opportunity to train students during their first year is undoubtedly extremely important given they are future oral health providers in this field. A lecture to convey information on traumatic dental injuries was an effective way to achieve advanced knowledge on the subject which was maintained after one year.

59. ORAL MIDAZOLAM: STUDY OF THE SIDE EFFECTS IN PEDIATRIC DENTISTRY

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Introduction: Behavior management in pediatric dentistry is sometimes very limited due to lack of patient cooperation, which is conditioned by a high level of anxiety, fear or because there is underlying disease. These types of patients can benefit from better dental care through the use of pharmacological methods for conscious sedation. One of the most widely used drugs today is oral midazolam, because of its rapid absorption and short duration of effect.

Objectives: To describe the secondary clinical effects of the use of oral midazolam in anxiolysis.

Material and method: This was a cross-sectional study of 59 patients who received oral care and were administered oral midazolam (0.3 mg/kg) between April 2016 and January 2017 in the pediatric dentistry section of the Hospital San Joan de Dèu de Barcelona. Data on the immediate side effects was collected and, after 2 hours, by telephone. The adverse effects were: a) nausea and/or vomiting, b) paradoxical reactions, c) hiccups, headache, d) dizziness, e) ataxia, f) drowsiness.

Results: Preliminary study in which 52 patients (24 male and 28 female) with a mean age of 9.8 years (range 6 -16) were analyzed. Thirty-six patients had underlying disease and 16 were healthy. 36.5% of the sample had no immediate side effects. The most frequent immediate side effects were drowsiness (60.1%), ataxia (30.3%), dizziness (24.2%), paradoxical reactions (18.1%), hypo (6%) and nausea (3%). In the data obtained by telephone, only 2 patients of the whole sample reported having suffered vomiting.

Conclusions: Premedication with midazolam was considered a safe treatment since the side effects were minimal. It may be of great importance to monitor these patients once they leave the pediatric dentistry clinic.

60. CHILDHOOD COMPOUND ODONTOMAS

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Introduction: The odontoma is a mixed benign odontogenic neoplasm, made up of completely differentiated epithelial and mesenchymal cells. They are in charge of the formation of enamel, dentine and cementum. Compound odontomas are more common than complex odontomas and they are usually detected in school-aged children, either during routine radiographic examination, examination because of delayed eruption of a permanent tooth, or because of the presence of a tumor.

Objective: To evaluate a series of composite odontomas, from the clinical point of view, in both the primary and permanent dentition, and to determine their evolution.

Material and method: This was a retrospective study of 26 patients, who received dental care between November 2000 and January 2017, in the Pediatric Dentistry section of the Sant Joan de Déu Hospital in Barcelona. Radiographs were analyzed and data such as age, sex, eruption disturbances (primary and permanent dentition) and most common location were collected.

Results: Twenty-six cases of odontomas (16 males and 10 females) with a mean age of 11.7 years (range 6-18) were analyzed: 20 were found in healthy patients and 6 were associated with underlying disease. 88.4% of the sample had disturbances of eruption. The most common eruption disturbance was in the permanent dentition (92.3%) followed by the primary dentition (7.6%). 76.9% were observed in the maxilla and

23% in the mandible, with the anterior maxilla being the most common location.

Conclusions: The composite odontoma is more common in males and is preferentially located in the upper anterior region. When a disturbance of eruption arise, and these appear mainly in the permanent dentition, early detection by means of a radiographic examination is of great importance.

61. COMPARATIVE ANALYSIS OF THE ORAL HEALTH HABITS OF PATIENTS SEEN AT A PRIVATE CLINIC VERSUS A PRIMARY CARE CENTER

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Introduction: The first dental visit is essential to establish the first contact among patient, parents and dentist. During this visit, we analyze the patient's eating and hygiene habits to evaluate the risk of caries and we customize their treatment.

Objectives: a) To evaluate dietary and hygiene habits, and to study the differences between public and private sector patients; and b) associate these habits with the prevalence of caries and malocclusion.

Material and method: This was a cross-sectional study with children who came for their first dental visit, between April 2016 and January 2017. They were seen at a public Primary Care Center (PCC) and at a Private Medical Center (PMC) in Barcelona. Socio-demographic variables and clinical examinations were recorded, and oral health and malocclusion was assessed by the same examiner.

Results: The total sample was 401 patients: 271 were PCC and 130 PMC (0-16 years). The mean age was 4.9 (PCC) and 6.4 (PMC). The visit was the result of a referral by a pediatrics department in 50.2% at the PCC and 8.5% at the PMC. The consultation was mainly for a checkup (65%), followed by eruption problems (12%), caries (8.5%), traumatic injury (5%), malocclusion (5%), color (2.5 %) and pain (0%). The frequency of daily brushing was once a day, 75% of patients did this unassisted, 95% used fluoride toothpaste but 55% with a low concentration (<1000 ppm fluoride). Parents had an average oral hygiene frequency of twice a day, but 40% of children reported not seeing them brush. 65% consumed sugary drinks and 75% ate sugary pastries more than three times a week. 25% did not eat fruit every day. Breastfeeding was more common in patients who visited the PMC than the private center (90.77% and 73.85%). In contrast, use of a bottle and pacifier was more common in the private center (bottle was 84.62% in the PMC and 72.70% in the PCC, and pacifier

was 80.77% in the PMC vs. 63.1% in the PCC). After 2 years, 35.4% used a bottle and 51% used a pacifier. The prevalence of caries was high (30-35%) and 40% of patients with caries had more than 3 teeth affected. 40% of the patients had some form of malocclusion, and in those with a pacifier or finger sucking there was a higher prevalence (mostly unilateral cross bites, cl II / 1 and open bites).

Conclusions: It is advisable to make the first dental visit during the first year of life, although this is commonly carried out late and it is related to high sugar diets, insufficient oral hygiene and a high prevalence of caries. Pediatricians do not have protocols for early referral to a pediatric dentist. Oral health talks for professionals dealing with children should be encouraged.

62. CLINICAL AND RADIOGRAPHIC EVALUATION OF PULPOTOMIES IN PRIMARY MOLARS WITH MTA AND BIODENTINE AFTER A CONTROL PERIOD OF OVER 18 MONTHS

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Introduction: New agents in pulp therapy have recently been released. Among them is Biodentine, a new calcium silicate cement that meets the ideal drug properties for pulp potomies, including biocompatibility and bioactivity. When in direct contact with pulp tissue, it induces the development of reparative dentin while maintaining tissue vitality and function.

Objective: To evaluate and compare clinical and radiographic results of MTA and Biodentine as drugs in pulp potomies of primary molars after a control period of 18 months.

Material and methods: Ninety molars requiring pulp treatment in patients aged 4 to 9 years were randomly assigned to the MTA control group and experimental Biodentine group. The pulp chambers of the molars of both groups were sealed with zinc oxide-eugenol and later restored with stainless steel crowns. Clinical and radiographic controls were performed at 6, 12 and 18 months after the treatment. Statistical analysis was performed using the Fischer test to determine significant differences between the two groups. A significance level of 0.05 was established.

Results: There were no statistically significant differences in the clinical and radiographic success of the different materials after 18 months of control.

Conclusions: Biodentine could be an effective and promising alternative for pulp potomies in primary molars as similar results to MTA were obtained at 6, 12 and 18 months of the control.