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searches, 66 full-text articles were obtained and subjected to additional evaluation. Two further publications were included basing on the manual search. The selection process resulted in the final sample of 3 studies regarding the primary outcome. Data provided in the published reports did not answer all the questions from this review but some of them were. All included studies were assessed as at high level of risk of bias. Due to the disomogeneity of presenting results and a very low number of included studies a quantitative analysis was not possibile. Only qualitative analysis was made.

Conclusion. Considering the high level of risk of bias of the included studies and the limited number of subjects enrolled there is no sufficient evidence to state that MRI is effective in the evaluation of upper airway structures in children affected by OSAS. The MRI application for the evaluated outcome must be verified by further studies.

Bruxism in children: a literature review about need of treatment

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Aim. "Bruxism" is a disease affecting the oro-facial district, generating a so-called parafunctional behavior causing overload intemporo-mandibular joint and masticatory muscles. There are no fully trusted data yet about the incidence of bruxism in children and adolescents. According to the literature this has a prevalence between 5-15% in children under the age of 14 years and it regresses in advanced age. Bruxism seems to be a physiological phenomenon during dental eruption likely because of the changes of occlusal contacts during the development of permanent dentition. The purpose of our work is to obtain a systematic review about treatment of bruxism in paediatric age, and clarify the strong debate among the authors.

Materials and methods. Pubmed has been used to search for the various articles concerning the treatment of such patients. Only the articles in English language have been considered.

Conclusion. In this review we can deduce how the treatment of bruxism in children is very controversial among the authors. Many authors believe the parafunction to be physiological in deciduous dentition, considering then unnecessary to implement any type of treatment. On the other hand, different authors consider it is very important to start the treatment in children and teen patients as soon as possible, because a balanced oral function would determine a correct development of the same.The most used treatments in literature are the psychological and the occlusal ones. The former considers bruxism as a problem related to stress and anxiety of the children, and therefore tries to reduce it with a psychological approach. The latter, on the other hand, uses a night bite, with the main purpose to prevent the tooth wear. Considering there are no scientifically recognized guidelines, during our practice at the Unit of Pediatric Dentistry, Department of Oral and Maxillo-facial Sciences, Sapienza University of Rome, the attitude toward those patients in pediatric age is waiting and making

follow-up. Whereas the clinical study and cephalometric investigation revealed a need for orthodontic treatment and there is a coexisting of bruxism, the use of elastodontic devices may represent a useful solution both as early treatment of the malocclusion, both as "therapy bite" for the control of the bruxism.

Therefore, data emerging from this review show a lack of consensus about the treatment of pediatric patients suffering bruxism, suggesting therefore the need of new and exhaustive studies in order to have evidence based guidelines for the treatment of these patients.

Occurrence of oro-facial malformations in a tertiary center hospital of Southern Italy: retrospective study on ten thousand newborns

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Aim. Congenital anomalies (CA) are one of the major cause of infant mortality and childhood morbitity, affecting 2-3% of all babies. Approximately 1% of these newborns have syndromes or multiple anomalies; Cranio-facial anomalies are often a component part of these pathologies. Several newborns with cranio-facial anomalies are affected by syndromes composed of multiple malformations thought to be etiologically and/or pathogenetically related. One of the most frequent sign of these syndromes is the cleft lip and/or cleft palate. It is estimated that 30% of cleft cases are syndromic and conversely, therefore, approximately 70% are non-syndromic. Oral clefts are among the most widely known and common craniofacial anomalies, occurring in approximately 1 in every 700 live births. Craniofacial anomalies include jaw deformities, malformed or missing teeth, defects in the ossification of facial or cranial bones, and facial asymmetries. Many factors contribute to cleft conditions, among them being heredity, pre-natal nutrition, drug exposure, and other environmental factors (WHO, 2002). The present study was aimed at evaluating the incidence of fetal oro-facial malformations in a tertiary center hospital of Southern Italy.

Methods. Clinical data of newborns affected by oro-facial malformations were retrieved from records of infants born between 2001 and 2003 in a hospital of Barletta-Andria-Trani province. Particular attention was given to potential risk factors such as smoke, alcohol, infections and drugs.

Results. Among 10 thousands newborns, 10 oro-facial malformations were found: 7 were cleft lip and palate and 3 were cleft palate, one of whom was associated with macrophthalmia, cataracts and congenital heart disease. Age range was 19-38 years for mothers and 28-36 years for fathers. In three cases a positive family history was present. In four cases, mothers reported to drink alcohol on a regular basis and two of them were also smokers. Three other mothers reported to be smok-

ers. In one case, rubella occurred in the second month of pregnancy. No association was found with any drug.

Conclusion. Epidemiology of oro-facial malformations within this study seems to be similar to other reported statistics. The potential role of alcohol, smoke and infections (rubella in the particular case of our series) seems to be confirmed. Accurate dissemination actions about the causative role of such factors should be performed in order to minimize risk for the reported malformations.

Elastodontic therapy in a growing patient affected by dentinogenesis imperfecta

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Aim. Dentinogenesis imperfecta (DI) is an autosomal dominant disorder of tooth development. This clinic condition can be associated with osteogenesis imperfecta. At first clinical examination, these patients have short roots and crowns, hypoplastic dentin, sane enamel which tends to deteriorate due to supporting lack and a larger breadth of the pulp chamber with respect to average. Moreover, the Dentinogenesis imperfecta (DI) is also associated with different degrees of discoloration, on a color spectrum from gray to yellow-brown.

From a radiographic point of view, teeth affected from DI are called "specter teeth" because of the emptiness appeareance, as it is possible to observe only the polished outlines.

We used an elastodontic therapy along patient growth from the deciduous dentition to permanent one, with second class malocclusion, deep bite and lower arch crowding.

Materials and methods. Elastodontic braces are devices which allow through light forces use to carry out an eruptive guide for dental elements, improve deep bite and second class malocclusion through a preformed bite construction based on a mandibular advancement. Eventually, performing the so-called "lip bumper effect".

Initially, the patient, who was five and a half years old, was treated with an elastodontic brace "Nite-Guide", which was carried both at night and on daylight (two hours per day) performing exercises aimed to activate facial muscles and facilitate the deep bite reopening.

At a later stage, when the patient was 7 years old, during her first permanent molars and incisors eruption, following best practices, it has been placed a clogged-o-Guide Series G, which is usually utilized as a brace in case of mixed dentition.

At 9 years with deep bite resolution, it was reported to the patient to use the occluded-o-Guide only at night to hold down previous results and sustain patient's dental growth.

At 11 years old, after successful teeth switching, it was prescribed an occluded-o-Guide Series N, which is functional for permanent dentition and guaranteed an eruptive guide for last dental elements.

Results. The patient has corrected optimally her second class malocclusion, deep bite, and dental misalignment. The elastodontic devices have allowed a proper eruptive guide for all teeth in various commuting stages.

Conclusion. This clinic case could be considered an exemplificative approach for all those patients with systemic and/or dental diseases that disallow adequate dental retention, which is necessary for most orthodontic appliances, whereas elastodontic devices do not require adequate dental retention thus result as the proper solution.

Assessing risk factors for dental caries: a statistical models

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Background. Considering the complex etiology of dental caries, from the methodological side, a rich set of statistical models is currently available to analyze dental caries indices. These models have been applied in several studies to investigate the impact of different risk factors on the cumulative severity of dental caries experience and in most of the cases: (i) these studies focus on a very specific subset of these risk factors, which increases the risk of bias in the statistical analysis due to the presence of confounding variables not included in the modeling strategy; (ii) in the statistical modeling only few candidate models are considered and model selection is at best only marginally addressed. As a result, our understanding of the robustness of the statistical inferences with respect to the choice of the model is very limited, and the richness of the set of statistical models available for analysis in only marginally exploited.

Aim. In this paper we argue that these limitations can be overcome considering a very general class of candidate models and carefully exploring the model space using standard model selection criteria and a rich set of a measures of global fit and predictive performance of the candidate models.

Methods. We use data on 558 children between 2 and 9 years old from the province of Caserta. In our illustration, caries severity is measured as a sum of the Decayed, Missing or Filled Teeth Index in both the permanent dentition (DMFT) and in the deciduous teeth (dmft). We pay special attention to the choice of the best model to address the research question considering a total of more than 2.6 millions of models obtained combining standard classes of models for caries data with different choices of the set of explanatory variables to be included in the model. These choices correspond to all possible subsets of a rich set of risk factors which includes (i) socio-demographic attributes of the child and his/her parents; (ii) habits and perceptions that are potentially relevant for caries experience; (iii) premature delivery, and breast-feeding; and (iv) risk factors specific of the oral environment of the patient. The wide array of potential caries determinants included in the study allows us to assess the impact of a large number of risk factors on DMFT properly taking into account and eliminating the effect of other confounding variables. Model selection is performed using two standard procedures: the Akaike's criterion (AIC) and the Schwartz criterion (BIC). Relative strengths of the best AIC and BIC models are addressed taking into account a very rich set