ISSN 1678-7757

JOURNAL OF APPLIED ORAL SCIENCE

Journal Applied Oral Science v. 25, Special Issue A, 2017

3°

EBPC

ENCONTRO **BRASILEIRO**
DE **PESQUISA** EM **CARIOLOGIA**

ISSN 1678-7757

JAOS 25 years
JOURNAL OF APPLIED ORAL SCIENCE

Financial Support:

CNPq
Conselho Nacional de Desenvolvimento Científico e Tecnológico

CAPES

SciELO
Scientific Electronic Library Online

USP

CREDENCIAMENTO E APOIO FINANCEIRO:

PROGRAMA DE APOIO ÀS PUBLICAÇÕES CIENTÍFICAS PERIÓDICAS DA USP

COMISSÃO DE CREDENCIAMENTO

JAOS 25 years
JOURNAL OF APPLIED ORAL SCIENCE

INDEXING

The **Journal of Applied Oral Science** is a continuation of the former "Revista da Faculdade de Odontologia de Bauru", and is published every 2 months, being indexed in:
Database LILACS: 1993-
Bibliografia Brasileira de Odontologia - 1993-
Ulrich's: 1993-
SciELO: 2003-
SCOPUS: 2006-
US Cochrane Centers Master List of Journals: 2007-
MEDLINE / PubMed: 2006-
Web of Science: 2007-
Impact factor: 1.117 (JCR 2015)
PMC: 2013-

Corresponding address:
Faculdade de Odontologia de Bauru - USP
Serviço de Biblioteca e Documentação
Al. Dr. Octávio Pinheiro Brisolla, 9-75, Bauru/SP
17012-901 - Brazil
Phone: +55 14 3235 8373 - Fax: +55 14 3235 8330
e-mail: jaos@usp.br
Full text: www.scielo.br/jaos

Cataloging - in - Publication
Library and Documentation Service
Bauru School of Dentistry - University of São Paulo

Journal of Applied Oral Science / Faculdade de Odontologia de Bauru, Universidade de São Paulo. - v. 25, número especial A, (2017)
Bauru: FOB-USP, 2002 -

Continuação da Revista da Faculdade de Odontologia de Bauru, 1993-

Bimestral

ISSN 1678-7757 (print edition)
ISSN 1678-7765 (on line edition)

1. Odontologia - Periódicos I. T. II. Universidade de São Paulo. Faculdade de Odontologia de Bauru

CDD 617.6005 Black D05

Editorial board

3º. BRAZILIAN MEETING OF RESEARCH IN CARIOLOGY

(3º. Encontro Brasileiro de Pesquisa em Cariologia – 3º. EBPC)

Dates: April 25th to 27th, 2017
Venue: San Raphael Country Hotel – Itu/SP
Organization: Dental School, University of São Paulo, Campus São Paulo
Organizing Committee: Prof. Dr. Mariana Minatel Braga, Prof. Dr. Daniela Prócida Raggio, Prof. Dr. Fausto Medeiros Mendes
Organizing Team (FO-USP): Prof. Dr. Fernando Neves Nogueira, Prof. Dr. José Carlos Pettorossi Imparato, Profa. Dr. Luciana Francisconi dos Rios, Profa. Dr. Taís Scaramucci, Profa. Dr. Patrícia Moreira Freitas
Bruna Lorena Pereira Moro, Cinthia Saihara, Elizabeth Souza Rocha, Fernanda Rosche Ferreira, Isabel Costa Olegário, Isabela Floriano Nunes Martins, Jhandira Daibelis Yampa Vargas, Karina Haibara de Natal, Karla Mayra Pinto e Carvalho Rezende, Laura Regina Antunes Pontes, Luciana Pion Antonio, Maisa Camillo Jordão Almeida, Maria Eduarda Franco Viganó, Mariana Pinheiro de Araújo, Nathália Ladewig, Thais Gimenez Covós, Tamara Kerber Tedesco, Tathiane Larissa Lenzi, Tatiane Fernandes de Novaes
Past President Consultant: Prof. Dr. Ana Carolina Magalhães (FOB-USP)

Financial Support:

FAPESP
2016/24603-4

THE BRAZILIAN MEETING OF RESEARCH IN CARIOLOGY (EBPC)

Purpose

The European Organization for Caries Research (ORCA) has organized annual international meetings to discuss the research in this field involving basic sciences, diagnosis, prevention and treatment of carious and non-carious lesions. ORCA meeting is an opportunity to extend network and to disclosure results of laboratory and clinical researches. Brazilians are one of the biggest groups attending this meeting. Therefore, a meeting similar to ORCA was idealized, in 2013, as an initiative to put together Brazilian researchers, in order to improve knowledge and network between different research's groups of the country. Despite the prevalence and severity of caries disease have decreased over the last years, it is still one of the most prevalent oral diseases that impairs quality of life and has high cost for the country. The 3º. Edition of the Brazilian Meeting of Cariology Research (EBPC) was thought based on the success of other editions and is an opportunity to maximize the interchange between Brazilian researchers, students and professionals who are experts in Cariology, an area of dentistry that has grown in research and publication in Brazil. Besides, this edition aimed to be as representative as possible for Brazilian research in Cariology. The speakers, chairs and moderators were carefully chosen intending to present a few of the different fields explored in this context in different regions of Brazil.

Audience

Professors, graduate students and researchers from Universities and/or Companies who are interested in Cariology research (maximum of attendants: 150).

Program

This event will take place on April 25-27th, 2017, involving speakers, moderators and chairpersons from different parts of Brazil and who have worked in different areas of Cariology. During the meeting, participants can attend to Symposiums on 4 different topics, including the discussion about a) which kind of impact for the patient the studies related to Cariology has aimed/found, b) initiatives in education related to teaching dental caries; c) translational research and how the research in Cariology could be designed to be linked to the clinic and finally, d) the research in Cariology in the Brazilian postgraduate programs. Oral and poster presentations can be also attended. Oral presentations will be taken 15 minutes and poster presentations will last 5 minutes. Both of them will include the presentation (2 or 7 minutes) and discussion with the chairpersons (3 or 8 minutes). At the last day, we will organize a discussion with all participants about the main topics exposed and the need for further researches. At the closing Ceremony, the best presenter will be awarded (registration for an international Congress).

Information

www.cariobra.com.br/eventos/3-encontro-brasileiro-de-pesquisa-em-cariologia

3º. EBPC
SCIENTIFIC PROGRAM

April 25th, 2017 (Tuesday)

8:30 – 9:00 - Opening conference "An external glance on Brazilian research in Cariology"

Chairperson: Prof. Dr. Mariana Minatel Braga

Associate Professor - Dental School, University of São Paulo, São Paulo, SP

Speaker:

Prof. Dr. Kim Ekstrand (web-conference)

9:00 – 12:30 - Exploring the impact on patient's life in studies conducted in Cariology

Chairperson: Prof. Dr. Livia Maria Andaló Tenuta

Associate Professor - Dental School, Piracicaba, UNICAMP

Moderator: Prof. Dr. Fausto Medeiros Mendes

Associate Professor - Dental School, University of São Paulo, São Paulo, SP

Speakers:

Prof. Dr. Thiago Machado Ardenghi (9:00-10:00)

Associate Professor, Pediatric Dentistry and Epidemiology, Federal University of Santa Maria, Santa Maria, RS

ABSTRACT

Methodological aspects of the researches regarding patient-centered outcomes and the impact of the researches in Cariology to improve the health of the population will be addressed. The different possibilities of study, forms of analysis and trends of research in the area will be discussed with emphasis on the best use of these data by the scientific community and patients. The main results of the studies using patient-centered measures as outcomes of clinical and epidemiological studies in Cariology will also be presented.

Prof. Dr. Branca Heloisa de Oliveira Martins Vieira (10:30-11:30)

Associate Professor, University of Rio de Janeiro, Rio de Janeiro, RJ

ABSTRACT

Practicing evidence-based clinical dentistry requires combining professional experience with knowledge derived from clinical trials and respect for patient values and desires. For the findings of clinical trials to effectively contribute to evidence-based dentistry, those trials must evaluate outcomes that are patient-centered and relevant to the professional. Outcomes used in clinical studies on caries can be classified into at least 4 dimensions: biological, clinical, psychosocial and economic. Patients are often interested in knowing, for example: if the intervention to be performed by the professional will cause pain (and how much), how long a restoration should last without needing to be replaced or repaired, what the probability is of a preventive measure to avoid a dental restoration in the future, if they will be more satisfied with their appearance after treatment, and how cost-effective one treatment is compared to another. However, dentists

often find it difficult to answer these questions on the basis of scientific evidence, since clinical trials about caries tend to favor surrogate outcomes, usually in the biological domain, that do not necessarily correlate with true outcomes, i.e., those that are clearly relevant to the patient and express how he feels, behaves, or carries on with life. Moreover, there is no consensus among researchers about a standardized minimum set of outcomes for clinical studies on caries, which makes it difficult to synthesize the results of these studies through systematic reviews. This presentation aims to explore the importance of a researcher choosing the appropriate type of outcome in order to provide relevant information so that dentists can make well informed clinical decisions about interventions intended to control dental caries in children.

Prof. Dr. Daniela Prócida Raggio (11:30-12:30)

Associate Professor, Pediatric Dentistry, Dental School, University of São Paulo, São Paulo, SP

ABSTRACT

The main therapeutic goal of any health professional is to obtain improvement of clinical outcomes that are important to the patient, i.e., patient-centered clinical outcomes. Although there is a growing trend in the health field to assess factors important for patients by replacing an old view of focusing only on the physiological and survival of treatments, the scientific literature still lacks relevant information regarding the impact of interventions directed to the control of dental caries considering the perspective of the patient. The main results of the studies about use of measures centered in the patient as outcomes of clinical studies focused on the treatment of dental caries as well as possibilities of future researches in the area will be addressed.

14:30 – 17:30 - Initiatives of education related to teaching dental caries or related topics

Chairperson: Prof. Dr. Marcoeli Silva de Moura

Full Professor – Federal University of Piauí, Teresina, PI

Moderators: Prof. Dr. Daniela Rios

Associate Professor – Bauru Dental School, University of São Paulo, Bauru, SP

Prof. Dr. Jonas Almeida Rodrigues

Associate Professor – Federal University of Rio Grande do Sul, RS

Speakers:

Prof. Dr. Jaime Aparecido Cury (14:30 – 15:30)

Full Professor, Biochemistry, Piracicaba Dental School, UNICAMP, Piracicaba, SP.

ABSTRACT

The teaching of Cariology at School of Dentistry of Piracicaba (FOP), in undergraduate course, began in 1976 when there was a curricular re-structuring, and all teaching areas participated, integrating pre-clinical and clinical as terminal goals that the student would need to have to be a health professional. Thus, topics of Cariology were included in the Pre-clinical disciplines (PC) I and II. In PC I, the students had knowledge about Histology, Composition and Properties of Teeth. In PC II, the students had integrated knowledge on Biochemistry, Microbiology and Prevention of Dental Caries. In 2012, another curricular re-structuring was carried out and the teaching of Cariology was distributed in 3 Pre-Clinics, Caries I, II and III. Caries I and II basically administer the contents of the old PCs I and II. Part of the old content of PC II was given in the Caries III, which is a theoretical and practical discipline of integration of knowledge among the areas of Biochemistry, Dentistry, Pediatric Dentistry, Psychology and Public Health, which includes activities in an

introductory clinic of diagnosis and prevention of the dental caries. From post-graduation point of view, the teaching of Cariology began its structuring in 1998, through the area of Cariology in the graduate course in Dentistry, which integrated the knowledge of Biochemistry, Pediatric Dentistry and Public Health at FOP. Currently, the graduate program in Cariology is responsible for teaching basic Cariology because the other areas are acting "independently". The integration is maintained in common disciplines of the three areas and in the students' orientation.

Prof. Dr. Maximiliano Sérgio Cenci (15:30 - 16:30)

Adjunct Professor, Dental School, Federal University of Pelotas

ABSTRACT

Teaching Dentistry based on sound principles and on the best evidence is a challenge. Teaching Cariology in the same basis can be considered a bigger challenge, especially considering that the main interest of most undergraduate freshmen is to become a good orthodontist, a prominent dental surgeon, or, more recently, a "face esthetician", making all sorts of interventions in the face, ranging from hormonal therapies to bichectomy. But teaching Cariology has to do with teaching a dentist on how to use the best available evidence to deliver good clinical care, help patients (and communities) in finding tools to stay away from dental operatory interventions. Also, teaching Cariology means to teach a dental student how he or she is going to understand a person to identify which psycho-social aspects have been disrupted, in order to explain the high sugar consumption responsible for the several caries lesions that this student is identifying in the mouth and wants so badly to treat with composite or ceramic, usually associated with some bleaching treatment and a good tooth-lengthening surgery. This presentation will cover some of the strategies that can be used to develop a better understanding and ability in providing good clinical care. These strategies are based on the construction of good communication tools and on creating alternative teaching routines for key issues. However, the main strategy yet to be developed would be to make the sound principles of good dental practice (most of them based on the Cariology knowledge and principles) not only the core of the dental curriculum in our universities, but mainly the core of continuous education and graduate programs.

Prof. Dr. Ana Estela Haddad[1] and Prof. Dr. Juan Sebastian Lara[2] (17:00 - 18:00)

[1]Associate Professor, Pediatric Dentistry, Dental School, University of São Paulo, São Paulo, SP.
[2]Researcher Associate in Public Health Dentistry, Dental Health Unit, The University of Manchester.

ABSTRACT

Learning processes involving theory and practice in health sciences have been reported difficult especially for the translation of theoretical concepts as well as visual appreciation of the taught methods into clinical practice. Due to that, the development of educational tools based on the student/lecturers' perception of the difficulty of associated concepts has been considered necessary. Thus, the aim of this presentation is show important steps when designing and applying possible teaching tools using the Information and Communication Technologies (ICT).

April 26th, 2017 (Wednesday)

8:00 – 12:30 - Translational research: how to design different studies in order to contribute in the clinical field?

Chairperson: Prof. Dr. Juliano Pelim Pessan

Assistant Professor – Pediatric Dentistry, Araçatuba School of Dentistry, Univ. Estadual Paulista (UNESP), Araçatuba, SP)

Moderators: Prof. Dr. Rodrigo Alex Arthur

Associate Professor – Federal University of Rio Grande do Sul, RS

Prof. Dr. Michelle Baffi Diniz

Senior Lecturer, Pediatric Dentistry, University Cruzeiro do Sul, São Paulo, SP

Speakers:

Prof. Dr. Linda Wang (8:00 - 9:00)

Associate Professor, Operative Dentistry, Bauru Dental School, University of São Paulo, Bauru, SP

ABSTRACT

The concept of translational research has consolidated the huge need to approximate and fulfill the application of the basic sciences to the practical conducts, minimizing the limitations of this connection. Despite the intense scientific evidence of the benefits of Minimal Intervention in Dentistry, its consistent acceptance by the professionals from traditional restorative Dentistry still relies as the most challenge. Therefore, the change must take place from the undergraduation education, intensifying evidence-based interdisciplinary activities. Integrated research teams have collaborated to establish more effective projects. Some experiments in the development of researches related to dentin sensitivity, non-carious cervical lesions and radiation-induced caries will be presented, ranging from updating the state of art of these events to the strategies for their treatments. In these projects, the action of a multidisciplinary team has been essential to allow the transformation of the knowledge to integrated and quality attendance of the patient.

Prof. Dr. Cecilia Claudia Costa Ribeiro (9:00 - 10:00)

Associate Professor, Federal University of Maranhão, MA.

ABSTRACT

The chronic oral diseases, caries and periodontal disease, have been consistently associated with chronic non-transmissible diseases in adults; however, little is known about the mechanisms underlying these changes. Epidemiological studies have been developed at the Federal University of Maranhão aiming to evaluate the mechanisms involved in this phenomenon at earlier stages of the life cycle, especially focusing on the excessive consumption of sugars by children and young people. Results from the following studies will be presented: 1) Historical cohort (670 mother-child pairs), with emphasis on sugar intake, obesity in the binomial and inflammatory markers in saliva; 2) Adolescer Project (400 adolescents), with emphasis on the results of the chronic oral diseases present in the adolescence and its relations with the metabolic syndrome and systemic inflammation.

Prof. Dr. Carlos Alberto Feldens (10:30 - 11:30)

Associate Professor, Luteran University of Brasil, ULBRA, Canoas, RS.

ABSTRACT

The main objective of scientific research in health is to define interventions capable of preventing, reducing or curing diseases at the individual and collective level. In this sense, good quality clinical trials represent the main source of evidence. The aim of this activity is to discuss the basic methodological pillars of clinical trials that guarantee that patients and the general population will benefit. These concepts will be illustrated with interventional studies on dietary practices for the prevention and reduction of dental caries and other childhood health outcomes. Aspects related to the fundamentals, planning, execution, analysis and interpretation of results of clinical trials published in the scientific literature will be emphasized. Limitations and future perspectives will be addressed in order to provide the public interested in research tools for critical reading and planning of intervention studies with good methodological quality.

Prof. Dr. Isabela Almeida Pordeus (11:30-12:30)

Full Professor, Pediatric Dentistry, Federal University of Minas Gerais, Belo Horizonte, MG.

ABSTRACT

Increasing evidence have been produced continuously about dental caries regarding its aethiology, diagnosis and treatment. To provide better evidence in such topic, many systematic reviews have been published. The aim of this presentation is presenting the positive and negative points, as well as strengths and shortcomings that should be considered when these available evidence is translated to the clinical practice.

14:00 – 17:45
Oral presentations

Chairperson: Prof. Dr. José Carlos Pettorossi Imparato

Associate Professor - Pediatric Dentistry, Dental School University of São Paulo, São Paulo, SP/ Post-Graduate Professor, São Leopoldo Mandic, São Paulo, SP.

Evaluating Committee:

Prof. Dr. Livia Maria Andaló Tenuta

Associate Professor - Dental School, Piracicaba, UNICAMP

Prof. Dr. Patricia Moreira Freitas

(Associate Professor, Restorative Dentistry, Dental School, University of São Paulo, São Paulo, SP)

Prof. Dr. Saul Martins Paiva

Full Professor, Federal University of Minas Gerais, Belo Horizonte, MG

Area: TOOTH EROSION

F01 - Effect of toothpastes in the prevention of initial erosive tooth wear in deciduous teeth

Assunção CM[1, 2], Lussi A[2], Carvalho TS[2], Rodrigues JA[1].

[1]Department of Pediatric Dentistry, Federal University of Rio Grande do Sul, RS, Brazil.
[2]Department of Restorative Dentistry, Preventive and Pediatric Dentistry, University of Bern, Switzerland.

OBJECTIVE: To evaluate the preventive effect of different toothpastes using an initial erosion-abrasion model in permanent (PT) and deciduous teeth (dt). MATERIALS AND METHODS: Enamel samples of PT and dt were randomly divided into five groups (n=20): G1:placebo toothpaste; G2:NaF-toothpaste; G3:AmF-NaF-$SnCl_2$ anti-erosion toothpaste; G4:SnF_2-toothpaste; and G5:NaF anti-erosion toothpaste for children. The samples were exposed to five erosion-abrasion cycles. In each cycle, samples were incubated in artificial saliva, exposed to an erosive challenge (3min; 1% citric acid; pH3.6; at 25°C) and to toothbrush abrasion (2min immersion in slurry; 50 strokes; 200g). Surface microhardness (SMH) and cumulative surface loss (CSL) were measured. Comparisons among toothpastes were evaluated using Kruskal-Wallis tests and comparisons between PT and dt were evaluated using Wilcoxon's rank sum test. RESULTS: Considering the SMH results, the placebo toothpaste exhibited significantly lower SMH values in PT than the other toothpastes ($p<0.05$), with no significant differences were found among the other toothpastes and placebo. In dt, placebo and G4 also exhibited different values than the other groups ($p<0.05$). Deciduous teeth generally presented higher CSL than PT, except for G3. CONCLUSIONS: Deciduous teeth were more prone to mineral loss than permanent teeth. NaF anti-erosion toothpaste for children exhibited better effect for both permanent and deciduous teeth, while AmF-NaF-SnCl2 anti-erosion toothpaste exhibited a better preventive effect only for deciduous teeth.

KEY-WORDS: Erosive Tooth Wear. Deciduous Teeth. Toothpaste.
FINNANCIAL SUPORT: CAPES - PDSE 99999.012659/2013-04
ETHICAL APPROVAL: 2016 / 1.608.416

Area: EPIDEMIOLOGY AND CLINICAL TRIALS

F02 – Individual risk factors as a determinant in the quality of restorations: a birth cohort study

Collares K[1], Opdam N[2], Peres KG[3], Peres MA[3], Demarco FF[1], Correa MB[1].

[1]Federal University of Pelotas, Pelotas, RS, Brazil.
[2]Radboud University Nijmegen Medical Center, The Netherlands.
[3]The University of Adelaide, Australia.

OBJECTIVE: This study aimed to evaluate the quality of posterior restorations (amalgam or composite) placed in adults from a birth cohort and its association with determinants experienced during the life course. MATERIAL AND METHODS: A representative sample (n = 539) of all 5,914 births occurring in Pelotas in 1982 was prospectively investigated, being quality of posterior restorations (satisfactory or unsatisfactory) assessed at 31 yr-old, using modified USPHS criteria. Trained professionals performed clinical examinations. Exploratory variables included demographic and socio-economic, oral

health and service utilization patterns during the life course. Tooth related variables (type of tooth, material, size of cavity) were also analyzed. Caries risk and socioeconomic status were assessed by group-based trajectories analyses. Multilevel Regression models were used to determine factors associated with restoration outcomes. RESULTS: In total 2123 restorations (53% of composite) were evaluated and 107 (5%) had failed, with main causes of failure being tooth/restoration fracture (49%) or secondary caries (32.7%). Failures in posterior restorations showed a significant association with socioeconomic aspects (lower tercile of income at age 30), clinical variables (high risk for dental caries) and also with tooth-related factors (size of cavity). CONCLUSIONS: These results suggest that, although tooth-related variables have an important role in restoration longevity, patient-related factors, such as socioeconomic and oral health variables are also associated with failure and should be taken into account when evaluating longevity of posterior restorations.

KEY-WORDS: Dental restorations. Cohort studies. Dental Caries.
FINNANCIAL SUPORT: MBC, CNPQ 475979/2013-3
ETHICAL APPROVAL: 384.332

F03 – Is there a systemic inflammation underlying caries severity in early childhood?

Lima GQT[1], Ribeiro CCC[1].

[1]Federal University of Maranhão, MA, Brazil.

OBJECTIVE: The objective of this study was to analyze serum levels of inflammatory markers (IL-1β, IL-6, TNF-α, and NGAL) associated with increased caries severity in early childhood (S-ECC). MATERIALS AND METHODS: Case-control study nested to a historical cohort with children aged 48-71 months. Cases (n = 72 S-ECC) and controls (n = 80 caries-free) were randomly selected. The outcome of interest was caries severity in early childhood (discrete variable); Inflammatory markers (IL-1β, IL-6, TNF-α, and NGAL) were the explanatory variables, being the model adjusted for gender, household income and maternal schooling, Body Mass Index (BMI) Z score and consumption of beverages with addition sugar, through the Poisson regression. The estimated coefficients were expressed as average ratios (AR), and 95% confidence intervals and p values ≤ 0.05. RESULTS: In the adjusted model for the sociodemographic factors, the highest tertiles of the serum levels of IL6 (2nd tercil- AR = 1.55, CI = 1.14-2.08, p = 0.005, CI = 1.13-2.09, p = 0.006), TNF-α (3rd tercil- AR = 1.33, CI = 1.00-1.78, p = 0.040) and NGAL AR = 1.79, CI = 1.10-2.90, p <0.001, 3rd tercil-AR = 2.04, CI = 1.26-3.30, p = 0.003) associated with the greatest severity of caries in early childhood. After adjustment for BMI, the same associations were maintained for all these markers with S-ECC. After adjustment for the consumption of added sugar beverages, the strength of NGAL association was reduced, whereas for TNF-α it lost its association with caries severity. CONCLUSIONS: Higher serum levels of IL6, TNF-α and NGAL are associated with higher caries severity suggesting the presence of underlying systemic inflammation. The excessive intake of added sugars seems to be implicated in the relationship shown here between higher serum levels of TNF-α and NGAL with caries severity in children.

KEY-WORDS: Dental caries. Children. Serum markers.
FINNANCIAL SUPORT: CNPq/MCTI/CNPq/MS - SCTIE
ETHICAL APPROVAL: 275.508

F04 – Socioeconomic factors and their influence on the success of atypical lesions with hall technique - a randomized clinical

Martins LF[1], Resende CS[1], Torres VVA[1], Souza RC[1], Tedesco TK[2,3], Floriano I[2], Gimenez T[2,3], Imparato J[1,2].

[1]São Leopoldo Mandic School, Campinas, SP, Brazil.
[2]Department of Pediatric Dentistry, School of Dentistry, University of São Paulo, São Paulo, SP, Brazil.
[3]Ibirapuera School, São Paulo, SP, Brazil.

OBJECTIVE: Socioeconomic factors can have a great impact on the prevalence of caries in the paediatric population, and its association with the progression of caries after primary teeth treated with restoration is still scarce. The objective of this study was to compare the influence of socioeconomic factors on the progression of caries lesion in teeth with atypical lesions after restorative treatment. MATERIALS AND METHODS: We randomly selected 60 teeth of children aged 4 to 9 years old from state and municipal schools in the city of Uberlândia - MG and Goiânia - GO with atypical caries lesion in deciduous molars without pulp involvement, diagnosed by

clinical examination and radiographic. The teeth were assigned into two groups to perform the treatments with incremental technique of composite resin (control group - RC) and Hall Technique (experimental group - HT). Clinical and radiographic evaluations were performed after six months by a previously calibrated examiner. Socioeconomic data were collected through a questionnaire. RESULTS: In general, it can be seen that the progression of lesions was similar between the experimental group (3.8%) and the control group (11.6%), and it was not influenced by the economic condition, since the failure rates were similar in relation to parents' schooling, as well as race and household income. Regardless of the group, the great majority did not seek a dentist in the last 6 months. Moreover, most children in both groups reported toothbrushing twice a day when successful in the restorations (23.5% HT and CR), but 35.2% of the children of HT and 23.5% of CR brush alone. CONCLUSIONS: Therefore, it was concluded that apparently socioeconomic factors do not influence on the progression of dental caries in children submitted to restorative treatment with composite resin and Hall Technique in atypical caries lesions.

KEY-WORDS: Dental cavity. Crown. Clinical trial.
FINNANCIAL SUPORT: --
ETHICAL APPROVAL: 1.570.469

F05 – Does cavity size influence the survival rate of treatments in atypical caries lesions? a randomized clinical trial

Zanola, MMO[1], Gimenez, T [2,3], Tedesco, TK[2,3], Floriano, I[2], Imparato, JCP[1,2].

[1]São Leopoldo Mandic School, Campinas, SP, Brazil.
[2]Department of Pediatric Dentistry, School of Dentistry, University of São Paulo, São Paulo, SP, Brazil.
[3]Ibirapuera School, São Paulo, SP, Brazil.

OBJECTIVE: To evaluate if cavity size influences the clinical restoration survival using different techniques: Hall technique and composite resin. MATERIALS AND METHODS: A randomized clinical study was conducted comparing restoration through incremental technique with composite resin performed after selective removal of carious tissue and under absolute isolation vs. sealing of stainless steel crown-cared tissue in the Hall Technique in atypical caries lesions of primary molars of 4-9 years old Children, students of public schools in the municipality of Chopinzinho-PR. Visual evaluation and intraoral exam for diagnosis and follow-up after treatment of the lesions were performed by a previously calibrated examiner. The measurements of the cavities were performed with a millimeter probe in cervico-occlusal, mesiodistal and lingual vestibule directions, and the relative volume was obtained. The teeth were evaluated clinically and radiographically after six months and the data were analysed in a descriptive way by checking the influence of cavity size on the survival of the restorations in both groups. RESULTS: Twenty teeth were included. There was no failure in both groups and, therefore, no influence of cavity size on survival of the treatments was verified. CONCLUSIONS: Although the two techniques have different approaches (selective removal of caries and sealing of the carious lesion), different materials (composite resin and stainless steel crown) and technique of accomplishment (local anesthesia, tooth preparation and absolute isolation; local, unprepared and uninsulated tooth), the size of the cavity had no influence on clinical survival in both techniques.

KEY-WORDS: Clinical trial. Dental caries. Primary Teeth.
FINNANCIAL SUPORT: -
ETHICAL APPROVAL: 1550.469

F06 – The responsiveness of the ECOHIS is related to the complexity of the dental treatment received

Pontes LRA[1], Novaes TF[2], Guedes RS[3], Acosta CP[1], Freitas JG[1], Mendes FM[1]

[1]Department of Pediatric Dentistry, School of Dentistry, University of São Paulo, São Paulo, SP, Brazil.
[2]Cruzeiro do Sul University, São Paulo, SP, Brazil.
[3]Franciscan University Center, Santa Maria, RS, Brazil.

OBJECTIVE: To evaluate the capability of the Early Childhood Oral Health Impact Scale (ECOHIS) to detect changes in oral health-related quality of life (OHRQoL) after dental treatment with different degrees of complexity in preschool children. MATERIAL AND METHODS: Preschool children (3 to 6 years old) were included and their parents responded to ECOHIS at baseline. The children were treated, and after 30 days, their parents answered a new questionnaire, which included a global transitional question. The treatment received was classified in non-surgical

treatment, restorative and endodontic treatment and / or dental extraction. The change scores and effect sizes (ES) were calculated for the total scores, as well as considering different types of treatment and responses to the overall transitional question. RESULTS: Considering the 152 children who completed the study, ECOHIS presented large ES for total scores (0.89). Participants presented increasing ES values related to better perception of the improvement assessed by the global transition question. The ES magnitude after treatment was related to the complexity of the treatment (ES = 0.53, 0.92 and 1.43, for children who required non-surgical treatment, restorative treatment and endodontic treatment or dental extraction, respectively). CONCLUSIONS: Parents whose children require more complex dental treatment are more sensitive to the perception of treatment-related changes in OHRQoL assessed through ECOHIS.

KEY-WORDS: Dental caries. Preschool children, Quality of life.
FINNANCIAL SUPORT: Fapesp 2012/24243-7, CNPq 471817/2012-0
ETHICAL APPROVAL: 47814

F07 – Feasibility for continuing a randomized clinical trial aiming to test manners to control initial proximal caries lesions in adolescents: an interim analysis

Ferreira FR[1], Pion LA[1], Viganó MEF[1], Mattos-Silveira J[1], Imparato JC[1], Braga MM[1].

[1]Department of Pediatric Dentistry, School of Dentistry, University of São Paulo, São Paulo, SP, Brazil.

OBJECTIVE: To perform an interim analysis in a randomized clinical trial involving the control of proximal caries lesions at an early stage in order to ensure and enable the follow-up of the participants until the end of the study. MATERIALS AND METHODS: A comparative study between three types of minimally invasive treatments for early proximal caries lesions is being conducted with adolescents (NCT01477385). After approximately 50% of the included participants completed the 6-month follow-up, this interim analysis was performed since the patients were supposed to be followed until 24 months. For this, intermediate outcomes were used in the attempt to abbreviate some possible negative effect that could be detected and intercepted early. Cox regression analyses were performed considering as the unit of analysis the treated surface clustered on each patient. Other analyses considered the transition between caries severity stages (scores) and radiographic progression of the lesions. Kaplan-Meier curves were plotted to check the survival rate of the lesions after receiving the intervention. RESULTS: For clinical evaluation, 24 adolescents were considered (234 surfaces). The progressions were independent of the child's caries experience. Most of them occurred from ICDAS score 1 or 2 to the ICDAS score 3 (n = 15/94%). Younger patients had more progression than older patients. For the radiographic evaluation, 28 adolescents (330 lesions) were considered. The progression occurred in 4% of the cases. Radiographically, most of the progressions (54%) occurred on surfaces that did not present radiographic images and were detected after some time. The radiographic depth of the lesions and the caries experience were shown to be associated with radiographic progression. Treatment did not influence on none outcome. The clinical and radiographic progression lasted, on average, 23 months. CONCLUSIONS: From this interim analysis, we could conclude that there are no obvious positive or negative effects of any of the treatments used to control initial lesions and that the study seems feasible, but it should be possibly extended to a superior follow-up period then the initially established.

KEY-WORDS: Cariostatic Agents. Dental Caries. Therapeutics.
FINNANCIAL SUPORT: FAPESP 2012/50716-0; 2014/00271-7
ETHICAL APPROVAL: 140/11

F08 – Cost-efficacy of arresting initial caries using silver diamine fluoride in erupting molars

Pion LA[1], Castelo-Branco CMC[1], Louzada IC[1], Bertoletti AVS[1], Ladewig NM[1], Saihara CS[1], Imparato JCP[1], Braga MM[1].

[1]Department of Pediatric Dentistry, School of Dentistry, University of São Paulo, São Paulo, SP, Brazil.

OBJECTIVE: This study evaluated the cost-efficacy of 30% silver diamine fluoride (SDF) compared with the cross-toothbrushing technique (CTT) associated with fluoride dentifrice in the treatment of enamel caries

lesions on occlusal surfaces of erupting permanent molars (NCT01508611). MATERIALS AND METHODS: 192 children (4-7 years) were randomized into 2 treatment groups: 30% SDF and CTT. In SDF group, children also received orientation to anteroposterior toothbrushing, while in CTT group, children received a placebo treatment simulating the clinical session. At baseline and after 12 months, visual examination of the surfaces using ICDAS was performed. At 6-month-follow, if necessary, toothbrushing reorientation was done. Cost-efficacy was considered as the ability of the treatment to avoid the progression of caries lesions into dentin (scores 5 and 6 to ICDAS). Costs of toothbrushing orientations (baseline and 6 months) and clinical procedures were registered. To compare the cost-efficacy of the treatments, the incremental cost-efficacy ratio was used. Per-protocol and intention-to- treat (ITT) analyses were considered. RESULTS: At 12-month- follow-up, there was a dropout of 11%. In per-protocol analysis, CTT group needed twice more toothbrushing reorientation than SDF group (Relative Risk=2.1; 1.6-2.72). Less than 3% of treated lesions progressed to cavitated dentin lesions and no difference was observed between groups (p=0.35). Despite more reorientations, in per-protocol analysis, SDF would cost $ 6.11 more for each child in which to prevent the progression of caries lesions. However, in ITT analysis, this additional SDF cost would be around $1.83 per positive event achieved. According to WHO thresholds, these figures represent cost-efficacious or even, very cost-efficacious treatments. CONCLUSIONS: After 12 months, SDF is similar to CTT in controlling enamel caries on occlusal surfaces of erupting permanent molars. Additionally, in a context similar to Brazil, SDF could efficaciously substitute the CTT, if necessary.

KEY-WORDS: Cariostatic agents. Dental caries. Toothbrushing.

FINNANCIAL SUPORT: Fapesp 2012/50716-0 and 2014/06925-9

ETHICAL APPROVAL: 944.742

F09 - ART versus Hall Technique in primary molars - 1-yr survival and cost-efficacy

Araujo MP[1], Olegário IC[1], Hesse D[2], Bonifácio CC[2], Innes NP[2], Raggio DP[1].

[1]Department of Pediatric Dentistry, School of Dentistry, University of São Paulo, São Paulo, SP, Brazil.
[2]ACTA, University of Dundee, Amsterdam, The Netherlands.

OBJECTIVE: To evaluate the 12-month survival rate and cost-efficacy analysis of ART versus Hall Technique (HT) in occluso-proximal dentin caries lesions in primary molars. MATERIALS AND METHODS: Children from 5 to 10 years old (n=131), presenting an occluso-proximal carious lesion in a primary molar, were recruited from schools in the city of Tietê. One tooth per child was randomly allocated to receive an ART restoration (Equia Forte - GC Corp.) or a stainless steel crown placed using the HT. The primary outcome was the treatment survival. Restorations were evaluated after 1, 6 and 12 months. The time spent in each treatment, direct (material and professional cost) and indirect cost (procedure and equipment depreciation) were calculated. Kaplan-Meier survival analysis and log rank tests were carried out. Cox regression test investigated associations between the survival and other variables while Linear regression analysis was used for testing association with total cost of each treatment and other variables (α = 5). RESULTS: After 12 months of follow-up, the overall restoration survival rate was 78.6% (HT = 98.5% and ART = 58.5%). There was a statistically significant difference between the interventions' survival rates with the HT being higher than ART (HR = 31.14; p = 0.001, CI = 4.23 to 229.23). The difference between treatments in relation to the total cost by restoration performed was statistically significant, being higher for hall technique (p<0.001). The mean cost of an ART restoration was R$35.34 and R$42.08 (CI=40-44) for HT. The cost efficacy ratio (HT/ART) was 16.83 (based on 100 restorations). CONCLUSIONS: Occluso-proximal cavitated carious lesions restored using crowns placed with the Hall Technique show better survival rates after 12 months. Even showing a higher cost when compared to ART, HT is still more cost-effective.

KEY-WORDS: Deciduous. Dental Caries. Dental Materials.

FINNANCIAL SUPORT: FAPESP 2015/18098-2

ETHICAL APPROVAL: 1.293.935

F10 – Riva versus Equia Forte in restorations ART: cost-effectiveness analysis of a Randomized Clinical Trial

Olegário IC[1], Saihara CS[1], Bonifácio CC[2], Braga MM[1], Raggio DP[1].

[1]Department of Pediatric Dentistry, School of Dentistry, University of São Paulo, São Paulo, SP, Brazil.
[2]ACTA, Amsterdam, The Netherlands.

OBJECTIVE: To evaluate the cost-effectiveness of occlusal-proximal ART restorations using two encapsulated glass ionomer cements: RIVA self-cure (SDI) and EQUIA FORTE (GC Corp). MATERIAL AND METHODS: After approval by the local Ethics Committee (# 1.608.416), 151 patients with at least one occlusal-proximal caries lesion were selected in the city of Tietê/SP. Patients presenting occlusal-proximal caries lesions in primary molars were randomized according to the restorative material and treated following the original principles of ART in a school setting. Only one tooth was included per child. The restorations were evaluated after 1 and 6 months by a trained and calibrated examiner. The time spent in each treatment, including direct cost (material and professional cost) and indirect (depreciation of procedures and equipment), were calculated. To analyse the relationship between the cost of treatment and the associated variables, linear regression test was used. The cost-effectiveness analysis was performed according to the survival values of each material in three ways: considering 1 and 6 month evaluations (Cox regression) and after 6 months by intention to treat (ITT) and per protocol (PP) analysis (Poisson regression) ($\alpha = 5$). RESULTS: There was no difference in longevity and total cost of treatments in all analyses ($\alpha = 0.05$). Cavity with volume higher than 30 mm^3 presented higher total cost, restoration time and professional cost ($p<0.05$) when compared to smaller cavities. There was no difference between the other variables analysed regarding cost and survival of the restoration ($p> 0.05$). The incremental cost effectiveness ratio (cost difference/effect difference) was 36.00, 5.40 and 12.95 for Cox, PP and ITT respectively. CONCLUSIONS: Encapsulated glass ionomer cements RIVA self-cure and EQUIA FORTE are similarly cost-effective in occlusal-proximal ART restorations in primary molars.

KEY-WORDS: Costs and Cost Analysis. Glass Ionomer Cements. Dental Atraumatic Restorative Treatment.

FINNANCIAL SUPORT: CAPES
ETHICAL APPROVAL: 1.608.416

Area: DIAGNOSIS AND RISK

F11 – Influence of bitewing radiographs on treatment decision of caries lesions in primary teeth

Azevedo CB[1], Assunção CM[1], Haas AN[1], Rodrigues JA[1].

[1]Federal University of Rio Grande do Sul, RS, Brazil.

OBJECTIVE: This study aimed to assess the influence of bitewing radiographs on treatment decision of caries lesions in the primary dentition by experienced dentists. MATERIALS AND METHODS: 40 dentists, students of a graduate program, agreed to participate of this study. 57.5% of the participants had specialist or master's degree title. A questionnaire comprising 10 clinical cases with photographs of primary teeth with carious lesions in different stages was developed and projected on a screen to the dentists. Firstly, each case was presented with the description of the lesion (ICDAS code and activity status), and patient age. At this point, the participants only had access to the clinical photograph of the lesion, which represented the visual examination. After the presentation of the 10 clinical images, the same cases were presented again, but associated with bitewing radiographs settled side by side to the clinical image (visual and radiograph examination). In each case, the dentists were inquired about their treatment decision and they had to choose among eight different options. The changes between the treatment options considering the visual examination or visual and radiographic examination were assessed by Sign test and presented in percentages. RESULTS: In three cases, the association of bitewing radiographs changed the dentists' decision for a more invasive treatment (19.4%, 17%, 20%). In one ICDAS-5 case, the association with bitewing radiograph changed the decision to a less invasive treatment (7.5%). CONCLUSIONS: The majority of the participants decided for an invasive treatment, particularly when bitewing radiographs were associated.

KEY-WORDS: Diagnostics. Dental caries. Treatment decision.

FINNANCIAL SUPORT: -
ETHICAL APPROVAL: 414.499

F12 – Occurrence of representativeness bias on approximal caries detection in primary teeth

Moro BLP[1], Novaes TF[1,2], Gimenez T[1,3], Lara JS[1], Pontes LRA[1], Raggio DP[1], Braga MM[1], Mendes FM[1].

[1]Department of Pediatric Dentistry, School of Dentistry, University of São Paulo, São Paulo, SP, Brazil.
[2]Cruzeiro do Sul University, São Paulo, SP, Brazil.
[3]Ibirapuera University, São Paulo, SP, Brazil.

OBJECTIVE: This study aimed to evaluate whether the children's caries experience exerts influence on the performance of visual and radiographic methods for the detection of cavitated approximal caries lesions in primary molars. MATERIALS AND METHODS: Eighty children aged from 3 to 6 years old were selected and classified according to the past caries experience considering cavitated lesions. Two calibrated examiners evaluated 526 approximal surfaces for the presence of caries lesions using visual inspection and radiographic methods. As reference standard, two other examiners checked the surfaces through direct visual inspection after the temporary separation with orthodontic rubbers. Poisson multilevel regression analysis was conducted to evaluate the influence of the caries experience on the performance of diagnostic strategies. The validity of visual and radiographic methods in the detection of cavitaded caries lesions was calculated taking into account different caries experiences of the children. RESULTS: A higher proportion of false results at cavitated threshold was observed in children with higher caries experience (PR=2.78; 95%CI=1.05 to 7.38). The examiners underestimated the detection of cavitated caries lesions in children with higher caries experience (sensitivity=0.143) compared with children with lower caries experience (sensitivity=0.222), probably because of representativeness bias. Radiographic method was not influenced by cognitive bias and the performance of the radiographic method performed alone or associated to visual method simultaneously produced better results in children with higher caries experience. CONCLUSIONS: In conclusion, the children's caries experience exerts influence on visual inspection when detecting cavitated approximal caries lesions in primary teeth.

KEY-WORDS: Bias. Cognition. Dental caries.
FINNANCIAL SUPORT: FAPESP (Processo 2012/24243-7) e CAPES
ETHICAL APPROVAL: 47814

F13 – Impact of initial lesions detection and activity assessment on primary teeth - before-and-after study

Floriano I[1], Gomes RA[1], Ladewig NM[1], Louzada IC[1], Machado GM[1], Rocha ES[1], Mendes FM[1], Braga MM[1], CARDEC Collaborative Group.

[1]Department of Pediatric Dentistry, School of Dentistry, University of São Paulo, São Paulo, SP, Brazil.

OBJECTIVE: To verify the short-term impact of the diagnosis and treatment of initial caries lesions and activity assessment in primary teeth. MATERIALS AND METHODS: For this, 130 children (3-6 years) with complete primary dentition that sought dental treatment (CARDEC-02/NCT02473107) were firstly examined using as caries diagnostic strategy the detection of moderate and advanced lesions (ICDAS scores 3 to 6). Then, the examination was redone including the detection of lesions in all severities and caries lesions activity assessment. The treatment plan was made according to the two strategies and the costs related to the execution of each one were estimated based on a previous published study. The costs were compared by paired Student's t test. The analyses were made by surface and, therefore, the total cost of the examination was counted for each surface considering the number of surfaces evaluated per child. Poisson analyses were used to verify the impact of the strategy on the treatment and possible independent variables. As outcome, we considered changes in the initial treatment plan. Prevalence ratios were calculated for each case. RESULTS: 11,440 surfaces were examined and 10,230 of them (89%) were sound. The examination of the initial lesions increased the need for non-operative treatment in 6% of the surfaces. This was associated with children with higher dmf-s and biofilm index (RP = 1.82, 95% CI: 1.40-1.37) and posterior teeth (RP = 5.40, 4.56-6, 56). The lesions activity assessment decreased the need for operative treatment in 0.04% of the surfaces. However, the strategy of examination of initial lesions and activity assessment resulted in a small increase

on costs per surface evaluated (mean difference ± standard deviation: R$ 0.13 ± 0.06). CONCLUSIONS: In a short-term, including the detection of initial caries in primary teeth slightly modifies the treatment. This impact is more significant for patients with worse oral conditions and increases the costs slightly.
KEY-WORDS: Costs and Cost Analysis. Dental Caries. Tooth deciduous.
FINNANCIAL SUPORT: FAPESP 2013/27206-8, 2012/50716-0. CNPq 448013/2014-2.
ETHICAL APPROVAL: 659.006

Area: MICROBIOLOGY

F14 – Matrix metalloproteinase inhibitor and secondary caries development in small gap sizes

Maske TT[1,2], Kuper NK[2], Cenci MS[1], Huysmans MCDNJM[2].

[1]Graduate Program in Dentistry, Federal University of Pelotas, Pelotas, RS, Brazil.
[2]Radboud University Medical Center, Department of Dentistry, Nijmegen, The Netherlands.

OBJECTIVE: This study aimed to evaluate the role of a MMP inhibitor (2% CHX) in the secondary caries wall lesion development and progression. MATERIAL AND METHODS: Microcosm biofilms from human saliva were grown for 14 days on bovine dentin-resin composite discs with small gaps and pre-treated or not with MMP inhibitor. The factors under study were the dentin pre-treatment (present / absent) and the interface with five different conditions: placement of composite resin with complete adhesive procedure (no gap; B); placement without adhesive procedure (no intentional gap; NB), and placement without adhesive procedure with intentional gaps of 30, 60, or 90µm (n=10). Mineral loss (ML, µm.vol %) and lesion depth (LD, µm) were analyzed by transversal Wavelength Independent Microradiography (T-WIM) at three locations: outer surface (SL) and interface wall (200 and 500µm distance from gap entrance). RESULTS: Linear regression analysis showed that small gap sizes affected significantly the caries progression at 200 µm from gap entrance (LD and ML; $p < 0.001$), but no effect was found for MMP inhibitor pre-treatment ($p > 0.05$). At 500 µm from gap entrance, neither the pre-treatment nor interface condition influenced the secondary caries wall lesion development (LD and ML; $p > 0.05$). CONCLUSIONS: CHX was not able to reduce the secondary caries progression in interfaces with small gaps in this microcosm biofilm model.
KEY-WORDS: Dental caries. Dental plaque. Matrix metalloproteinases.
FINNANCIAL SUPORT: CNPq (486810/2013-7 e nº 140237/2015-1).
ETHICAL APPROVAL: 1.634.686/2016

April 27th, 2017 (Thursday)

8:00 – 9:30 - The Cariology in the Brazilian post-graduate programs.

Chairperson: Prof. Dr. Fernando Neves Nogueira

Associate Professor – Oral Biochemistry, Dental School University of São Paulo, São Paulo, SP.

Moderator: Prof. Dr. Lourdes Santos Pinto

Full Professor, Pediatric Dentistry, Araraquara School of Dentistry, Univ. Estadual Paulista (UNESP), Araraquara, SP

Speakers:

Carlos Soares (8:00-8:45)

Associate Professor – level 4, Operative Dentistry and Dental Materials, Federal University of Uberlândia, MG Coordinator of CAPES (Area: Dentistry).

Marcelo José Strazzeri Bönecker (8:45-9:30)

Full Professor, Pediatric Dentistry, Dental School, University of São Paulo, São Paulo, SP/ Adjunct Coordinator of CAPES (Area: Dentistry).

ABSTRACT

The Area of Dentistry is an area of knowledge with a long history in post-graduation, being characterized as consolidated in CAPES. Currently, 106 Graduate Programs compose the Dentistry Area, being 81 Academics and 25 Professional Masters. The Brazilian intellectual production of the Dentistry Area already holds a prominent international position regarding the citation indexes that demonstrate the recognition of the intellectual production generated by the Graduate Programs. All the sub-areas of the knowledge of the Graduate Programs in Dentistry contribute to the production of complete articles, to the point that the Brazilian Dentistry Area contributes about 11% of everything that is produced in the world and about 90% of what it is produced in the Latin America (SCImago, Period 1996-2015). Certainly, articles in the area of Cariology contribute to this international recognition of the scientific production of the Brazilian Dentistry Area, and there are periodicals dedicated to the topic of Cariology in various extracts from the list of Qualis journals in the Dentistry area. However, few Graduate Programs present Area of Concentration, Lines of Research, Research Projects and Disciplines focused specifically on the subject of Cariology.

Poster presentations

April 25th, 2017 (13:15-14:30/18:00-18:40)
April 26th, 2017 (13:00-14:00)

Chairperson: Prof. Dr. Tathiane Larissa Lenzi

Post-graduate Professor – Federal University of Santa Maria/ Post-doctoral Researcher at University of São Paulo, SP

Evaluating Committee:

Prof. Dr. Silvio Myaki Issao

Adjunct Professor, Univ. Estadual Paulista (UNESP), São José dos Campos, SP

Prof. Dr. Ana Carolina Magalhães

(Associate Professor – Bauru Dental School, University of São Paulo, Bauru, SP)

Prof. Dr. Monique Saveriano de Benedetto

Senior Lecturer – CPO São Leopoldo Mandic, Campinas, SP

Prof. Dr. Maximiliano Sérgio Cenci

(Adjunct Professor, Dental School, Federal University of Pelotas)

Area: EPIDEMIOLOGY AND CLINICAL TRIALS

P01 – ART restorations using encapsulated glass ionomer cement: 6 months of follow-up

Saihara CS[1], Olegário IC[1], Bonifacio CC[2], Raggio DP[1].

[1]Department of Orthodontics and Pediatric Dentistry, School of Dentistry, University of São Paulo, São Paulo, SP, Brazil.

OBJECTIVE: To evaluate the survival rate of occlusal-proximal restorations performed according to the Atraumatic Restorative Treatment (ART) using two encapsulated glass ionomer cements: Equia Forte (GC Corp) and RIVA Self Cure (SDI). MATERIALS AND METHODS: This study was approved by the Local Ethics Committee of FOUSP, protocol number 1.608.416, and registered in the Clinical Trials database, NCT02730000. 151 participants, aged 4 to 8 years, presenting occlusal-proximal caries lesions in primary molars were selected in the city of Tiete/SP. The restorative treatment started right after children randomization in one of the two groups: Equia and Riva according to the ART criteria. These restorations were evaluated after 1 and 6 months. For the analysis of the results, the logistic regression test was used to compare the association between outcome and associated variables. The level of significance was 5%. RESULTS: After 6 months of follow-up, the overall survival of the restorations was 72.19%. The survival rates per group, Equia and Riva, were 73.68% and 70.67%, respectively. The statistical analysis showed no significant difference between the longevity of the materials (HR = 0.83, CI 0.45-1.54, p = 0.572). The other variables analysed (operator, caries experience, restored surface, cavity volume, plaque indices and general gingival health and treated tooth) did not influence on the outcome either (p> 0.05). CONCLUSION: There are no differences between encapsulated glass ionomer cements regarding their clinical success.

KEY-WORDS: Tooth, Deciduous. Clinical Trials. Dental Materials
FINNANCIAL SUPORT: CAPES
ETHICAL APPROVAL: 2016 / 1.608.416

P02 – Randomized Clinical Trial on three pulp capping materials after partial caries removal in primary teeth

Stafuzza TC[1], Vitor LLR[1], Silva, TC[1], Rios D[1], Machado MAAM[1], Oliveira TM[12].

[1]Bauru School of Dentistry, University of São Paulo, Bauru, SP, Brazil.
[2]Hospital for Rehabilitation of Craniofacial Anomalies, Bauru, SP, Brazil.

OBJECTIVE: The aim of this study was to evaluate the clinical and radiographic response of the dentin-pulp complex after the use of three pulp capping materials used after the selective caries removal in primary teeth. The primary and secondary outcomes respectively were the success of the in vivo response of the dentin-pulp complex and the measurement of the dentin barrier thickness. MATERIALS AND METHODS: We selected 36 molars of children aged between 5 and 8 years, of both genders, who presented deep occlusal caries lesions without pulp alterations. The teeth were randomly divided into three groups: Calcium Hydroxide Cement - HC (Group I); Mineral Trioxide Aggregate - MTA (Group II) and Portland Cement - PC (Group

III). A final restoration was made with Resin Modified Glass Ionomer Cement. The casual error was verified through paired t-test. The chi-square test was used to determine significant statistical differences between groups. Radiographic measurements were compared using ANOVA, followed by Tukey's test (P <0.05). RESULTS: The primary outcome obtained through clinical and radiographic evaluations was the success of the in vivo response of the dentin-pulp complex with a 97.2% success rate. Radiographic verification of the formation of the dentin barrier resulted in a thickness of 0.145 mm ± 0.125 for HC; 0.115 mm ± 0.06 for MTA and 0.155 mm ± 0.08 for PC. There was no statistically significant difference between groups. CONCLUSIONS: In conclusion, both the clinical and radiographic results were satisfactory and the thickness of the dentin barrier increased during the 6 months of following-up period. Selective caries removal is an alternative to total caries removal and hermetic sealing of the cavity is extremely important for long-term success, regardless of the pulp protective material chosen.

KEY-WORDS: Dental Caries. Tooth, Deciduous. Dental Cavity Preparation.
FINNANCIAL SUPPORT: FAPESP process nº. 2015/13343-9
ETHICAL APPROVAL: 45955515.2.0000.5417

P03 – Influence of type of cavity over discomfort after atraumatic restorative treatment

França DCO[1], Souza RC[1], Tedesco TK[2,3], Floriano I[2], Gimenez T[2,3], Imparato J[1,2].

[1]São Leopoldo Mandic School, Campinas, SP, Brazil.
[2]Department of Orthodontics and Pediatric Dentistry, School of Dentistry, University of São Paulo, São Paulo, SP, Brazil.
[3]Ibirapuera School, São Paulo, SP, Brazil.

OBJECTIVE: Treatments that cause less pain and discomfort to the patients are a constant challenge to modern Dentistry, especially in Pediatric Dentistry. Literature supports the Atraumatic Restorative Treatment (ART) as a minimal intervention solution. The aim of this study was to assess the influence of the type of cavity on the level of discomfort on children immediately treated using two different cost glass ionomer cements (GIC). MATERIALS AND METHODS: A randomized blind (patient) clinical trial has been performed. The sample was of 213 primary molars, in 116 children aging 4 to 9, with a maximum of 3 dentin occlusal or occlusal-proximal lesions. Teeth were randomly divided in two groups: GIC Fuji IX (higher cost, control) and Maxxion R (lower cost, test). Patient reported discomfort level using a modified Wong-Baker Faces scale. Responses were stratified for evaluation in the following scores: 0 – No discomfort; 1 – Light discomfort; 2 and 3 – Moderate discomfort; 4 and 5 – Severe discomfort. RESULTS: Patients with occlusal-proximal cavities restored using steel matrix band reported higher severe discomfort (10%) when compared to the occlusal-proximal cavities restored without steel matrix band (6%) and occlusal cavities (5%). Regarding the GIC, the control group reported more frequently the severe discomfort (11%) when compared to the test group (4%). CONCLUSIONS: Higher cost glass ionomer cement and the occlusal-proximal cavities restored using with steel matrix band appear to be related to higher levels of child discomfort.

KEY-WORS: Pain Measurement. Glass Ionomer Cements. Dental Atraumatic Restoration.
FINNANCIAL SUPPORT: -
ETHICAL APPROVAL: 1.432.851

P04 - ART restorations using Encapsulated vs. Powder-liquid Glass Ionomer Cement: Randomized clinical trial

Camargo LB[1], Mendes FM[2], Braga MM[2], Novaes TF[3], Tedesco TK[4], Pontes LRA[2], Moro BLP[2], Calvo AFB[5], Raggio DP[2], Cardec Group.

[1]Paulista University, São Paulo, SP, Brazil.
[2]Department of Orthodontics and Pediatric Dentistry, School of Dentistry, University of São Paulo, São Paulo, SP, Brazil.
[3]Cruzeiro do Sul University, São Paulo, SP, Brazil.
[4]Ibirapuera University, São Paulo, SP, Brazil.
[5]São Leopoldo Mandic School, Campinas, SP, Brazil.

OBJECTIVE: To evaluate the survival rate of ART restorations performed with high viscosity glass ionomer cement (GIC) considering different presentation forms (encapsulated and powder-liquid) in primary molars. MATERIALS AND METHODS: This study is nested in a diagnostic study (CARDEC-01). A total of 146 children, aged 3 to 6 years old, were randomly allocated to groups according to the type of restorative material. The allocation was stratified by cavity type (occlusal and occlusal-proximal). 321 ART restorations were performed at the FOUSP clinic:

158 in the encapsulated group (Equia/GC Corp) and 163 in the powder-liquid group (Fuji 9 Gold Label/ GC Corp). Of these, 212 were occlusal lesions and 109 occlusal-proximal lesions. Restorations were clinically evaluated after 6, 12, 18 and 24 months by 2 trained and blinded examiners regarding groups (Interexaminer agreement kappa=0.99). Kaplan-Meier survival analysis and log-rank test were used to evaluate the restorations survival. Cox Regression analysis was used to verify the influence of the caries experience. RESULTS: The survival rates of occlusal restorations were 78.6% (powder-liquid) and 84.2% (encapsulated) and occlusal-proximal restorations were 50% (powder-liquid) and 42.9% (encapsulated) after 24 months. There was no difference between groups for the occlusal (p = 0.259) and occlusal-proximal (p = 0.929) restorations. Cox regression analysis showed no influence of caries experience on the longevity of the restorations. CONCLUSIONS: The clinical performance of ART restorations offers the dentists freedom of choice between the high viscosity GIC powder-liquid or encapsulated. Therefore, the clinical decision could be based on cost, easiness of use and dental facilities.

KEY-WORDS: Atraumatic restorative treatment. Dental caries. Primary Teeth
FINNANCIAL SUPPORT: FAPESP 2012/24243-7, CNPq 471817/2012-0
ETHICAL APPROVAL: 35675714.1.0000.0075

P05 – Economic analysis of two treatments with GIC in primary teeth: partial results of a RCT.

Rocha ES[1], Gomes RA[1], Floriano I[1], Tedesco TK[1], Yoshioka L[1], Imparato JC[1], Mendes FM[1], Raggio DP[1], Braga MM[1].

[1]Department of Orthodontics and Pediatric Dentistry, School of Dentistry, University of São Paulo, São Paulo, SP, Brazil.

OBJECTIVE: The aim of this study was to evaluate the cost of two treatments using glass ionomer cement (sealants vs. restorations) for moderate caries lesions (ICDAS score 3 and 4). MATERIALS AND METHODS: This study is part of a randomized clinical trial in which the primary outcome is to evaluate the need of re-interventions in children aged between 3 and 6 years (NCT03005405). The treatments and the materials used in each session, as well as session duration and operators were recorded to estimate the value of each treatment. The comparison between the groups in terms of time and cost was made through multilevel regression analysis, considering as outcome the cost per treated tooth and, as levels, the tooth (proximal level) and the child (distal level). The influence of other factors on this outcome were also tested. RESULTS: A total of 89 restorations and 73 sealants were performed, totalizing an average of 2 treatments per child (81 children). The restorations (mean ± SD) (R$ 19.30 ± 1.23) presented a cost, on average, approximately 25% more than the sealants (R$ 15.63 ± 0.49, p = 0.04). There was no difference about the cost of material between groups (p=0.90), but the cost of the professional was significantly higher when restorations were performed (p=0.04). Indeed, the sessions in which the restorations were performed (mean ± SD = 526.5 ± 57.5) were about 3 minutes longer when compared to sealants (mean ± SD = 365.5 ± 18.2, p = 0.03). CONCLUSIONS: The treatments with glass ionomer used as sealants may be considered as a low-cost alternative in the pediatric dentistry, since it demands less time to be performed.

KEY-WORDS: Dental caries. Ionomeric sealant. Restoration with GIC.
FINNANCIAL SUPPORT: Capes, CNPQ 448013/2014-2, FAPESP 2012/50716-0 e 2013/2706-8.
ETHICAL APPROVAL: 659.006

P06 - Quality of life of pre-schoolers after treatment of microcavitaded caries lesions-randomized clinical trial

Magnabosco RA[1], Gnoatto EC[1], Colombi VG[1], Gimenez T[2,3], Tedesco TK[2,3], Floriano I[2], Imparato J[1,2].

[1]São Leopoldo Mandic School, Campinas, SP, Brazil.
[2]Department of Orthodontics and Pediatric Dentistry, School of Dentistry, University of São Paulo, São Paulo, SP, Brazil.
[3]Ibirapuera School, São Paulo, SP, Brazil.

OBJECTIVE: To evaluate the quality of life of pre-school children after treatment of microcavitated caries lesions (ICDAS 3) in primary teeth. MATERIALS AND METHODS: The study was carried out as part of a multicentre clinical trial comparing the use of resin sealant versus toothbrushing with fluoride dentifrice. 4-7 years old children who sought for dental treatment at the Basic Health Units in the cities of Uruçuí/PI and Nova Venécia/ES, and at a dental clinic in the city of

Jundiaí/SP were selected. Interproximal radiographs were taken and examined by previously calibrated examiners, at the beginning and after six months. The data were analysed in a descriptive way. The instrument used for the Brazilian version of the Early Childhood Oral Health Impact Scale (B-ECOHIS), answered by the parents before the treatment and after six months. RESULTS: Forty-nine children were included. In the toothbrushing group, in the child's impact section, the item about pain was more reported, and better perceived improvement six months later, followed for "difficulty eating certain foods" and "missed day care" items. In the family impact section, the item "felt guilty" was the most reported improvement after six months. In the resin sealant group, item referring to pain was also more reported with improvement after six months, followed by item "feeling annoyed" and "difficulty eating certain foods". In the family impact section, the item "feeling guilty" was more frequently reported by parents, and improvement in impact after six months. CONCLUSIONS: There was an improvement in the perception of parents in almost all domains of ECOHIS. Both groups studied after oral health care, both educational and minimally interventional treatment, seem to improve the quality of life of pre-school children and their families.

KEY-WORDS: Quality of life. Sealant. Tooth decay.
FINNANCIAL SUPPORT: -
ETHICAL APPROVAL: 1.005.942

P07 – Cost components of the restorative treatment in the primary dentition

Ladewig NM[1], Floriano I[1], Braga MM[1], Raggio DP[1].

[1]Department of Orthodontics and Pediatric Dentistry, School of Dentistry, University of São Paulo, São Paulo, SP, Brazil.

OBJECTIVE: This study aims to evaluate the main components of the financial cost of the restorative treatment in the primary dentition. MATERIALS AND METHODS: Children from 3 to 6 years old presenting occlusal and/or occlusoproximal cavities without pulp involvement in primary molars were selected for conventional restorative treatment with resin composite under rubber dam or for atraumatic restorative treatment (ART). The total cost was composed of the professional cost (PC), consumables (CM) and variable cost (VC), which was further subdivided into electricity and equipment and instrument depreciation. To calculate PC, the time spent in each restorative session was timed and multiplied by the average income per hour of a Dental Surgeon and of an Oral Health Assistant. For VC, the mean energy consumption of a dental office was estimated at U$ 0.15 per hour. The equipment and instrument depreciation rate was based on the useful life of 5 and 10 years, respectively, and monthly use of 160 hours. For CM, the average values of each consumable were obtained through prices inferences of three different places. The data were evaluated through descriptive statistics adjusted to the study design. RESULTS: A total of 215 restorations were performed, of which 105 were conventional and 110 were atraumatic. The mean cost of an occlusal and an occlusoproximal restoration was, respectively, U$ 8.51 and U$ 9.75 in the conventional group and U$ 3.21 and U$ 4.24 in ART. The largest cost component was the PC, contributing approximately with 60% of the final cost of both restorative techniques, establishing a quasi-linear relation with the total cost. The smallest increment is related to the variable cost, not exceeding 3%. CONCLUSIONS: Regardless of the restorative technique employed in the treatment of the primary dentition, the professional is the most expressive component in the final cost of a restoration.

KEY-WORDS: Cost Analysis. Deciduous Tooth. Permanent Dental Restoration.
FINNANCIAL SUPPORT: FAPESP 2015/11356-6
ETHICAL APPROVAL: 43925715.4.0000.0075

P08 – Quality of life after treatment of atypical cavities in primary teeth – randomized clinical trial

Moura PA[1], Gimenez T[2,3], Tedesco TK[2,3], Floriano I[2], Imparato J[1,2].

[1]São Leopoldo Mandic School, Campinas, SP, Brazil.
[2]Department of Orthodontics and Pediatric Dentistry, School of Dentistry, University of São Paulo, São Paulo, SP, Brazil.
[3]Ibirapuera School, São Paulo, SP, Brazil.

OBJECTIVE: To evaluate the impact of different restorative treatments for atypical caries lesions in primary molars on children's quality of life related to oral health. MATERIALS AND METHODS: Children aged 7 to 9 years, with atypical caries lesions in deciduous molars were allocated for treatment with Hall technique

(HT) or composite resin (CR). Participants responded to CPQ8-10 questionnaire before and after 6 months as treated. The instrument was applied by the same dentist who performed the procedures and filled in according to the answers given by children. RESULTS: For both treatments, we observed improvement in the domains related to children's quality of life between the baseline and 6-month evaluations. In the domains of oral pain-related symptoms, we had an increase from 12.5% to 50% in CR and 14.28% to 42.85% in HT. For the domains of functional limitations, we had an improvement in relation to the difficulties of chewing and feeding from 37.5% to 75% in CR and from 14.28% to 42.85% in HT while, concerning sleeping at night, an improvement from 25% to 87.5% was found. In the domains related to well-being, on the emotional side, being worried and upset or sad about their oral condition had an increase from 25% to 50% in CR and from 14.28% to 57.14% in HT, while for the social part, missing school had an increase of 50% reaching 100% for CR and 28.57% for 71.42% in HT. Besides regarding difficulty to pay attention in class from 28.57% to 85.71% in HT and nicknames or enjoyments we had an increase from 50% to 87.5% in CR. CONCLUSIONS: Patients with atypical caries lesions, when they have access to treatment, regardless of which, present improvements in quality of life, both physical, social and emotional.

KEY-WORDS: Dental caries. Quality of life. Clinical trial.
FINNANCIAL SUPPORT: -
ETHICAL APPROVAL: 1.570.469

P09 – Caries progression after selective removal in caries lesions into the inner half of dentin of primary molars

Madalena I[1], Justen G[1], Carneiro S[1], Vani P[1], Casagrande G[1], Gimenez T[3], Tedesco T[3], Floriano I[2], Parisoto T[1], Imparato JCP[1,2].

[1]São Leopoldo Mandic School, Campinas, SP, Brazil.
[2]Department of Orthodontics and Pediatric Dentistry, School of Dentistry, University of São Paulo, São Paulo, SP, Brazil.
[3]Ibirapuera School, São Paulo, SP, Brazil.

OBJECTIVE: To evaluate clinically and radiographically the progression or arrestment of caries lesions in deciduous molars submitted to selective removal of caries in comparison to the total caries removal, both followed by the same type of restoration. MATERIALS AND METHODS: The lesions were selected when visible located and well delimited radiographically in the internal half of dentin caries lesions (ICDAS score 6) both on occlusal or occlusal-proximal surfaces of primary molars. The lesions were divided by diagnostic radiographic examination, and randomly allocated to the treatments according two groups: Control Group (G1) - total removal of the caries lesion, glass ionomer lining and restoration with composite resin (N = 34) and Experimental Group (G2) - selective removal of caries lesion, glass ionomer lining and restoration with composite resin (n = 46). The patients were submitted to clinical evaluations (total retention, partial retention or loss of restoration) and radiographic findings (arrestment or progression of caries lesion) after 6 and 12 months of follow-up. Progression of the lesion was considered as failure. RESULTS: In the 6-month follow-up, both groups presented similar clinical and radiographic results. After 12 months, the G1 presented a partial fracture of the restoration, without signs of secondary caries and the restoration was repaired. In the radiographic follow-up, the G1 group presented 81% of lesion arrestment and the G2 group 90%. One tooth in G2 exfoliated before completing 12 months, making it impossible to diagnose as clinical and/or radiographic failure. CONCLUSIONS: Despite the failures over the 12 months, selective caries removal performed satisfactorily in most caries lesions, and may be a more conservative alternative to conventional treatment.

KEY-WORDS: Dental Caries. Tooth Decay. Permanent Dental Restoration.
FINNANCIAL SUPPORT: -
ETHICAL APPROVAL**:** 26240614.0.0000.5374

P10 – Sealing of outer dentine caries lesions in deciduous molars - a randomized clinical trial.

Vanni PJJ[1], Casagrande G, Bomfim LTM, Justen G, Madalena IR, Carneiro SV, Tedesco TK[3], Floriano I[2], Parisotto T, Gimenez T[3], Imparato JCP[1,2].

[1]São Leopoldo Mandic School, Campinas, SP, Brazil.
[2]Department of Orthodontics and Pediatric Dentistry, School of Dentistry, University of São Paulo, São Paulo, SP, Brazil.
[3]Ibirapuera School, São Paulo, SP, Brazil.

OBJECTIVE: To evaluate the efficacy of sealing as treatment of occlusal carious lesions located on the outer half of dentin of primary molars in children aged 4

to 9 years old. MATERIALS AND METHODS: 71 primary molars from 59 children were selected. The teeth had to have occlusal caries lesions (ICDAS score 5) and present an enamel opening smaller than or equal to 3mm and no spontaneous pain. Radiographically, lesions should be into the outer half of dentin. Children with inappropriate behaviour during dental care and patients with special needs were excluded. The teeth were randomly divided into 2 groups: Experimental Group (GE) - sealing with flowable resin (n = 46); Control Group (GC): restorative treatment with composite resin and non-selective removal of carious tissue (n = 40). The patients were followed up clinically and radiographically for 6 and 12 months, when it was assessed material retention and caries progression. RESULTS: After 6 months, GE presented complete restoration (76.08%), partial loss (19.56%), total loss (4.34%) while GC showed complete restoration (94.87%) and partial loss (5.12%). Radiographically, GE presented 93.47% with no progression while GC had 97.43% in the same condition. After 12 months, the results were similar: GE showed 88.37% of teeth with complete restoration, 2.32% with partial loss and 9.30% with total loss of restoration. Besides, GC presented 89.47% of complete restoration, 10.52% with partial loss. GE evidence no progression on radiographs in 86.04% of teeth and the same was found on 100% of teeth in GC. CONCLUSIONS: Sealing occlusal caries into outer dentine of primary molars may present positive results in the arrestment of the lesions similar to the restoration after non-selective caries removal, with the advantage of preserving the dental structure and simplifying the dental care in Pediatric Dentistry.

KEY-WORDS: Dental caries. Tooth deciduous. Sealants and fissure.
FINNANCIAL SUPPORT: -
ETHICAL APPROVAL**:** 535.960

P11 – Evaluation of the association between genetic polymorphism in the RANK/RANKL/OPG system and dental caries in the primary teeth

Kuchler EC[1], Silva RAB[1], Silva LAB[1], Antunes LS[2], Pucinelli CM[1], Vasconselos K[1], Antunes LAA[2], Nelson Filho P[1].

[1]Riberão Preto School of Dentistry of, University of São Paulo, Ribeirão Preto, SP, Brazil.
[2]Nova Friburgo School of Dentistry, Rio de Janeiro, RJ, Brazil.

OBJECTIVE: Studies with animal models have been demonstrated that RANK, RANKL and OPG are expressed in the enamel formation. Therefore, the present study aimed to evaluate the association between genetic polymorphisms in RANK, RANKL and OPG and caries experience in the primary teeth. MATERIALS AND METHODS: One hundred children, from 3 to 6 years old, that received dental treatment at the Ribeirão Preto Dental School, University of São Paulo, were examined. Caries experience was evaluated according to the dmft index. Saliva samples were collected from each patient as a genomic DNA source. Polymorphisms (rs3826620, rs9594738 e rs2073618) in RANK, RANKL and OPG were evaluated through real time PCR. The means of caries experience according to the genotype was compared using ANOVA and post-hoc Tukey, with a significant level of 5%. RESULTS: The dmft index ranged from 0 to 15. The studied polymorphisms were in Hardy-Weinberg equilibrium. There were no association of RANK, RANKL and OPG with caries experience in the primary dentition ($p>0.05$). CONCLUSION: These results suggested that the polymorphisms rs3826620, rs9594738 and rs2073618 in RANK, RANKL and OPG are not associated with caries experience in the primary dentition.

KEY-WORDS: Caries. Genes. Primary teeth.
FINNANCIAL SUPPORT: FAPESP 2015/06866-5 (ECK)
ETHICAL APPROVAL**:** 35323314.7.0000.5419

P12 – Parents, perception of treatment proposed for initial caries lesions using silver diamine fluoride

Viganó MEF[1], Mattos-Silveira J[1], Antonio LP[1], Pereira RAC[1], Ferreira FR[1], Braga MM[1].

[1]Department of Orthodontics and Pediatric Dentistry, School of Dentistry, University of São Paulo, São Paulo, SP, Brazil.

OBJECTIVE: To assess parents' perception about treatment of initial caries lesions using silver diamine fluoride 30% (SDF). Parents of children involved in two randomized clinical trials were invited for this purpose. One study included occlusal surfaces of first permanent molars and, the other, proximal surfaces of primary molars. MATERIALS AND METHODS: In the proximal study (ClinicalTrials NCT01477385), 141 children were randomly distributed between three groups: SDF, Infiltrant Resin and control group (dental flossing). In the occlusal study (ClinicalTrials NCT01508611), 183 children were divided in two groups: SDF and control group (cross-toohtbrushing technique). In both studies, during follow-ups, parents answered a questionnaire focused on the perception of children's aesthetic and oral health using a Likert scale. Poisson regression analyses were performed to evaluate the influence of treatment with SDF vs. other treatments, as well as the type of treated surface (occlusal vs. proximal) on the parents' perception. The answers were dichotomized into: no impact vs. with impact, both for the perception regarding oral health and aesthetics. RESULTS: The questionnaire was responded by 62 parents whose children had proximal surfaces treated and 146, whose children had occlusal surfaces treated. In the proximal study, 24% of children had treated tooth exfoliated and 31% could not be followed-up. In the occlusal study, 25% of children had not returned to any follow-up yet. Thus, they did not comprise the sample of the present study. About 50% of parents said there was some impact on children's tooth colour, but their perception was not related to the treatment received (SDF: 48.9%, control: 51.8%, p = 0.65). Concerning oral health, about 75% reported negative impact, either no related to the treatment (SDF: 73%, control: 83%, p = 0.67). These results were independent on whether occlusal or proximal surface had been treated with SDF. CONCLUSIONS: The treatment of initial lesions with SDF in children does not impact on parents' perception about children's oral health and aesthetics both on occlusal and proximal surfaces.

KEY-WORDS: Dental caries. Child. Treatment.
FINNANCIAL SUPPORT: CNPq (PIBIC), CAPES, FAPESP 2012/50716-0 e 2014/06925-9/
ETHICAL APPROVAL**:** 944.742

P13 – Efficacy of absolute isolation on resin sealant retention in active caries lesions cavities small

Lindemaier e Silva MV[1,2], Castro LS[1,2], Tedesco TK[3,4], Gimenez T[3,4], Floriano I[3], Imparato J[1,3].

[1]São Leopoldo Mandic School, Campinas, SP, Brazil.
[2]FAPAC/ITPAC PORTO, Porto.
[3]Department of Orthodontics and Pediatric Dentistry, School of Dentistry, University of São Paulo, São Paulo, SP, Brazil.
[4]Ibirapuera School, São Paulo, SP, Brazil.

OBJECTIVE: To verify the efficacy of the absolute isolation on the retention of pit and fissure sealants placed on active microcavitated enamel caries lesions in permanent molar. MATERIALS AND METHODS: This randomized clinical trial was conducted with 25 permanent molar teeth of children between 6 and 9 years old presenting active caries lesions- ICDAS score 3. Bitewing radiographs were taken for diagnosis and post-treatment follow-up of lesions by previously calibrated examiners. The selected teeth were randomized into two groups: placement of resin sealant with absolute isolation or placement of sealant with relative isolation. RESULTS: After 6 months of follow-up, we found, in the group with absolute isolation, 33.33% showed total retention (n=8) 12.5% showed absence of at least 1/3 of the sealant placed on the surface (n=3). In contrast, 25% of the group without absolute isolation presented total retention (n=6), 20.83% with partial loss of 1/3 (n=5) and 4.16% with partial loss of 2/3 of the surface and a total loss (n=1). CONCLUSIONS: The use of absolute isolation for sealing may offer better retention than the group without absolute isolation, suggesting the paradigm of the proper use of absolute isolation to perform the resin sealant may be important in order to improve sealant retention.

KEY-WORDS: Rubber Dams. Dental Caries. Pit and Fissure Sealants
FINNANCIAL SUPPORT: -
ETHICAL APPROVAL**:** 1.005.942

P14 – Sugar in children's diet before 2 years? - Consumption pattern among children involved in a randomized clinical trial

Yampa-Vargas JD[1], Viganó MEF[1], Ferreira FR[1], Gomes RAC[1], Pereira RAC[1], Floriano I[1], Tedesco TK[1], Braga MM[1].

[1]Department of Orthodontics and Pediatric Dentistry, School of Dentistry, University of São Paulo, São Paulo, SP, Brazil.

OBJECTIVE: To evaluate the consumption pattern of sugary foods among children from 0 to 2 years old, who are participating in a randomized clinical study, intending in the future, to direct the guidelines on this subject for the study population. MATERIALS AND METHODS: For this study, children aged 1 to 3 years old were considered, included in a randomized clinical trial, for testing possibilities of control of early caries lesions. These children were recruited at school, among those whose parents sought for dental treatment. All they had at least one active initial carious lesion. During the inclusion of these patients, a questionnaire children's dietary habits was applied to those parents/caregivers, seeking to know about sugar consumption patterns. RESULTS: 85 questionnaires were answered, 44 of them corresponding to children between 0 and 2 years old, age group for which the World Health Organization recommends a limited sugared diet, avoiding additional sugar in foods. Approximately 80% of these children ate candies or sweets regularly and 60% drank soft drinks with the same frequency. More than 40% of respondents said that their child eats more sweets than other children in the same age group did. On average, the weekly value spent on sweets by the families was R$ 17.59 (SD = 33.31). CONCLUSIONS: The vast majority of these children aged 0 to 2 years old, who attended for dental treatment, have already added sugar in their diet and consume it regularly. In this population, a family spending with sweets is equivalent at 8% of the Brazilian minimum wage. By that way, sugar consumption recommendations should be strengthen in the study population.

KEY-WORDS: Children. Sugar. Diet.
FINNANCIAL SUPPORT: Fapesp 2012/50716-0
ETHICAL APPROVAL**:** 944.742

P15 – Parents satisfaction after treatment of microcavited caries lesions with resin-based sealing versus toothbrushing.

Castro LS[1], Lindemaier e Silva MV[2], Floriano I[3], Souza RC, Gimenez T[3,4], Tedesco TK[3,4], Imparato JC[1,3].

[1]São Leopoldo Mandic School, Campinas, SP, Brazil.
[2]FAPAC/ITPAC PORTO, Porto.
[3]Department of Orthodontics and Pediatric Dentistry, School of Dentistry, University of São Paulo, São Paulo, SP, Brazil.
[4]Ibirapuera School, São Paulo, SP, Brazil.

OBJECTIVE: To evaluate the parent's satisfaction related to treatment received by children in cavitated lesions into enamel on occlusal surfaces. MATERIALS AND METHODS: In this randomized clinical study, 38 children, from 4 to 9 years old, with at least one deciduous or permanent occlusal surface with active carious microcavity clinically into enamel (ICDAS score 3) were included. The carious surface was treated according to two strategies: oral hygiene orientation with fluoride dentifrice (Group A, n = 8 patients and 9 teeth) or sealing of the lesion with resin-based sealant (Group B, n = 30 patients and 36 teeth). To verify the caregivers' satisfaction about the treatment strategy, a structured questionnaire was applied containing five objective questions where parents should respond if they were satisfied with the treatment received, if it is important to treat the tooth before it has cavitation, if the dental surgeon can do something so that the tooth of your child is no longer decayed, if with the treatment performed the tooth will no longer decay and if the treatment performed was the best indicated. The collected data were submitted to descriptive statistical analysis. RESULTS: All parents felt that the treatment performed on their child was the best indicated regardless of the group. Regarding the quality of care received by the child, 76% of the parents of Group B (n = 13) classified the care as excellent, while only 67% of the parents of Group A (n = 6) had the same opinion. Almost all parents (97.6%) responded that it is important to treat the tooth before it has cavitation. CONCLUSIONS: Those responsible for children treated with resin sealant had a higher degree of satisfaction compared to the treatment received, when compared to the parents of patients who received only oral hygiene orientation.

KEY-WORDS: Patient Satisfaction. Pit and Fissure Sealants.
FINNANCIAL SUPPORT: -
ETHICAL APPROVAL**:** 38379414.8.0000.5374

Area: TOOTH EROSION

P16 - Resistance to erosive cycling of experimental hybrid coatings applied on bovine enamel

Natal K[1], Oliveira TA[1], Aoki IV[1], Anagua EB[1], Sobral MAP[1].

[1]Department of Restorative Dentistry, School of Dentistry, University of São Paulo, São Paulo, SP, Brazil.

OBJECTIVE: The objective of this study was to qualitatively evaluate the stability resistance of 5 experimental hybrid films (HE) (TEOS / GPTMS / Y-APS) elaborated by Escola Politécnica of USP when applied on bovine dental enamel in different concentrations. MATERIALS AND METHODS: Twenty-one specimens were made from crowns of bovine teeth, maintaining a 4 x 4 mm window on the vestibular surface. The specimens were randomly assigned to 7 groups (n = 3): C- (no treatment); C+ (acid immersion); HE 1:4; HE 1:3; HE 1:2; HE 1:1; HE concentrated. HE was applied according to a protocol idealized previously. After application, all specimens (except C-) were submitted to erosive cycling (3 times): 10 ml of citric acid 0.3% (pH = 3.2) for 10min and 2min in distilled water. The treated surfaces were evaluated by scanning electron microscopy (40x, 500x and 5000x). RESULTS: All different HE concentrations in the formed layer presented similar pattern. At 40x magnification, the films are shown to be intact and regular. At the largest magnifications, the films presented an evident uniformly organized and continuous plot, evidencing the presence of silica. CONCLUSIONS: It is concluded that the different concentrations of HE are able to protect dental enamel from erosive cycling.

KEY-WORDS: Dental enamel. Tooth erosion. Prevention.
FINNANCIAL SUPORT: Fundação para Desenvolvimento Científico e Tecnológico da Odontologia (FFO - FUNDECTO)
ETHICAL APPROVAL: CEUA/FOUSP - 028/2015

Area: FLUORIDE

P17 – Silver compounds to control dental caries: a systemic review

Castelo-Branco CMC[1], Mattos-Silveira J[1], Ferreira FR[1], Braga MM[1].

[1]Department of Orthodontics and Pediatric Dentistry, School of Dentistry, University of São Paulo, São Paulo, SP, Brazil.

OBJECTIVE: This systemic review aimed at carrying out an exploratory analysis to know the silver compounds have been studied for caries control and what kind of publications have been found in this issue. MATERIAL E METHODS: Two independent reviewers performed a bibliographic search in the PubMed up to December 2016. Articles included were those that mentioned about the in vivo use of silver compounds to control dental caries. After selecting title and abstract, the potential eligible articles were read in full. One of the reviewers (MMB) cross-checked the data. RESULTS: It was identified 748 potentially relevant studies, from those, 71 studies were finally were included. From these, 41 were reviews (mainly narrative reviewes) or authors' comments while 30 were primary studies. Most studies investigated properties of silver diamine fluoride (n=24 studies). More recently some studies investigated the nano silver fluoride. China and Brazil are the countries which that have more publications about silver compounds in caries control. Number of publications in this topic increased after 2011. CONCLUSIONS: It is concluded that silver diamine fluoride is the silver compound most studied for caries control. Besides, this topic has become more investigated after 2010's and China and Brazil are the countries have mostly published primary studies about that.

KEY-WORDS: Dental caries. Cariostatic agents. Review.
FINNANCIAL SUPORT: -
ETHICAL APPROVAL: -

P18 – Parents' and/or guardians' perception and attitudes about the use of dentifrices in children

Rocha CT[1], Neves BG[1], Vasconcelos HLP[1], Carvalho NO[1].

[1]Federal University of Ceará, Sobral, CE, Brazil.

OBJECTIVE: The aim of this study was to evaluate the parents' or guardians' knowledge and attitudes and/or about fluoride, dentifrice, its use and the amount of dentifrice used when brushing children's teeth. MATERIALS AND METHODS: This is a pilot study in which a semi-structured interview script was applied by a single researcher to parents and/or guardians of children attending in the dental clinic of Federal University of Ceará- Sobral. In addition, parents and/or guardians were asked to simulate the amount of toothpaste used when brushing their children's teeth. RESULTS: All participants (n = 21) of this study agreed to participate in the interview and signed the informed consent form. The database was built and analysed in SPSS software version 22.0. A large proportion of those responsible (n = 11; 52.4%) reported that the child brushed their teeth alone without supervision. In addition, 66.7% answered, in their routine, the toothpaste could be easily reached by their children. Most responsibles (81%) pointed out that fluoride is indicated to prevent dental caries. 38.1% of the parents only initiated the oral hygiene of their children after the eruption of several deciduous teeth. In addition, 71.4% of all participants are unaware of fluoride toxicity and a large proportion of respondents do not dispense the correct amount of toothpaste used at each child\'s brushing. CONCLUSIONS: The parents' and/or guardians' perception and attitudes regarding their children's toothbrushing are deficient and limited. It is essential that they receive guidance, to be aware of the correct amount of dentifrice used in children and the adverse effects that fluoride can cause when in excess and badly administered.

KEY-WORDS: Children. Dentifrices. Fluorides.
FINNANCIAL SUPORT: -
ETHICAL APPROVAL: -

P19 – Effect of fluoride varnishes on eroded enamel evaluated by atomic force microscopy: In vitro study.

Tello G[1], Rodríguez RDV[1], Bonilla VP[1], Aillón AE[1].

[1]Central University of Ecuador.

OBJECTIVE: To evaluate the effect of different fluoride varnishes on eroded enamel evaluated through the Atomic Force Microscopy (AFM). MATERIALS AND METHODS: 30 samples of bovine incisor enamel without caries, defects in structure or fractures were divided into 3 groups (n = 10): G1: negative control, G2: Duraphat (Colgate) and G3: Clinpro White Varnish (3M ESPE). AFM was used, equipped with a non-contact tip. Parameters such as medium roughness (Ra) and the quadratic medium roughness (Rrms) were determined with images of 50 x 50 microns with a resolution of 256 X 256 pixels and 0.5 Hz. First, it was measured the initial roughness, then it was carried out an erosion with Sprite Zero and remineralization with artificial saliva. After 4 cycles of erosion and remineralization was measured the roughness of enamel as mechanic protection and the posterior 1, 2, 3 and 4 days as chemical protection. Data were analyzed statistically with ANOVA, Tukey Student T with a significance level of 5%. RESULTS: The ANOVA test showed a difference in the groups of fluoride varnishes on the 2nd, 3rd and 4th day in comparison with the control group ($p<0.05$). The Tukey test showed a difference between Duraphat and Clinpro in the values of Ra ($p = 0.03$) and Rrms ($p = 0.05$) at the 4th day. The Students T test showed no difference for Clinpro in Ra ($p = 0.14$) and Rrms (0.13) from the initial values until 4 th day. CONCLUSIONS: Clinpro White Varnish Varnish has a better action to reduce superficial roughness in the enamel surface when subjected to acidic challenges.

KEY-WORDS: Tooth erosion. Dental enamel. Fluorine
FINNANCIAL SUPORT: -
ETHICAL APPROVAL: -

Area: MICROBIOLOGY

P20 – The cariogenicity of breast milk and sucrose on microcosm biofilms.

Romero VHD[1], Azevedo MS[1], Cenci MS[1], Correa MB[1], Hartwig AD[1], Junior IF[1], Signori C[1].

[1]Federal University of Pelotas, Pelotas, RS, Brazil.

OBJECTIVE: The objective of this study was to verify the effect of breast milk isolated and associated with sucrose in the carcinogenicity of the biofilm and in the mineral loss of dental substrates in a microcosm biofilm model. MATERIALS AND METHODS: Thirty discs of enamel were randomly distributed in 6 groups added with: DMM without sucrose (DMM), DMM with 1% of sucrose (DMM+), breast milk with DMM (LM), breast milk with DMM+ (LM+), bovine milk with DMM (LB) and bovine milk with DMM+ (LB+). Microcosm biofilm were formed on the specimens for 5 days. Human saliva was used as inoculum, and the specimens were exposed 18h in DMM and 6h daily in the treatment conditions of each group. The biofilms, counted in Colony Forming Unity (CFU), were quantified in total microorganisms (TM), mutants streptococci (MS), lactobacilli (L) and acidurics counts (AC); the subtracts were evaluated through the surface micro hardness change (%PDS); and the pH what were compared between the groups during each day of the experiment. RESULTS: The data were evaluated through the T test ($p<0.05$). All the groups had significant statistics difference in %PDS to the DMM+ group; breast and bovine milks, when associated to sucrose showed more mineral loss in comparison to the respective without sucrose, but showed little difference between themselves. The DMM group was the least surface microhardness change and was only statistically different from the DMM+ and LM+ group. The pH variation was similar between DMM+ and LM+ groups. There were statistically differences in the counting of the CFU's. Bigger MT numbers were found in DMM+,LB and LB+. There was significant statistical difference in the counting of AT between LM and LB. CONCLUSIONS: It is possible to infer that breast and bovine milks have some cariogenic potential, especially if associated to sucrose, but breast feeding should not be discouraged in front of several benefits.

KEY-WORDS: Biofilm. Dental caries. In vitro. Breast milk.

FINNANCIAL SUPPORT: CNPq

ETHICAL APPROVAL: 1.550.920