

Giuseppe Alexandre ROMITO<sup>(a,i)</sup>   
Magda FERES<sup>(b,i)</sup>   
Jorge GAMONAL<sup>(c)</sup>   
Mariel GOMEZ<sup>(d)</sup>   
Paola CARVAJAL<sup>(e)</sup>   
Claudio PANNUTI<sup>(a,i)</sup>   
Andrés DUQUE DUQUE<sup>(e)</sup>   
Hugo ROMANELLI<sup>(d)</sup>   
Cassiano Kuchenbecker RÖSING<sup>(f,i)</sup>   
Vicente ARANGUIZ  
FREYHOFER<sup>(g)</sup>   
Juliano CAVAGNI<sup>(f,i)</sup>   
Ricardo Guimarães FISCHER<sup>(h)</sup>   
Luciene FIGUEIREDO<sup>(b,i)</sup>   
Fernanda Campos de Almeida  
CARRER<sup>(i)</sup>   
Zilson MALHEIROS<sup>(i,l)</sup>   
Bernal STEWART<sup>(i,l)</sup>   
Mariano SANZ<sup>(k)</sup>   
Maria RYAN<sup>(l)</sup> 

<sup>(a)</sup>Universidade de São Paulo – USP, School of Dentistry, Department of Stomatology, São Paulo, SP, Brazil.

<sup>(b)</sup>Universidade de Guarulhos – UnG, Dental Research Division, Department of Periodontology, Guarulhos, SP, Brazil.

<sup>(c)</sup>Universidad de Chile, Faculty of Dentistry, Center for Surveillance and Epidemiology of Oral Diseases, Santiago, Chile.

<sup>(d)</sup>Maimónides University, Faculty of Health Sciences, Department of Periodontics, Buenos Aires, Argentina.

<sup>(e)</sup>Universidad CES, Faculty of Dentistry, Department of Periodontics, Medellín, Antioquia, Colombia.

<sup>(f)</sup>Universidade Federal do Rio Grande do Sul – UFRGS, Faculty of Dentistry, Department of Periodontology, Porto Alegre, RS, Brazil.

<sup>(g)</sup>Universidad de los Andes, Facultad de Odontología, Department of Cariology, Santiago, Chile.

<sup>(h)</sup>Universidade do Estado do Rio de Janeiro – UERJ, Faculty of Dentistry, Department of Periodontology, Rio de Janeiro, RJ, Brazil.

<sup>(i)</sup>Universidade de São Paulo – USP, School of Dentistry, Department of Social Dentistry, São Paulo, SP, Brazil.

<sup>(j)</sup>Latin American Oral Health Association – LAOHA, São Paulo, SP, Brazil.

<sup>(k)</sup>University Complutense of Madrid, Faculty of Odontology, Madrid, Spain.

<sup>(l)</sup>Colgate Palmolive Company, Global Technology Center, Piscataway, NJ, USA.

**Declaration of Interests:** The authors certify that they have no commercial or associative interest that represents a conflict of interest in connection with the manuscript.

**Corresponding Author:**  
Giuseppe Alexandre Romito  
E-mail: garomito@usp.br

<https://doi.org/10.1590/1807-3107bor-2020.vol34.0027>

Submitted: November 18, 2019

Accepted for publication: November 20, 2019

Last revision: November 26, 2019

## Periodontal disease and its impact on general health in Latin America: LAOHA Consensus Meeting Report

**Abstract:** Periodontal diseases are considered a worldwide public health problem, owing to their high prevalence in developed and developing countries. Periodontitis may lead to tooth loss, which can impact oral health-related quality of life. Gingivitis and periodontitis have been extensively studied regarding their etiopathogenesis, epidemiology, prevention and treatment outcomes. However, most of these aspects are studied and discussed globally, which may hamper a clear interpretation of the findings and the design of effective plans of action for specific regions or populations. For example, in Latin America, epidemiological data about the distribution of periodontal diseases is still scarce, mainly when it comes to nationwide representative samples. This Consensus aimed to address the following topics related to periodontal diseases in Latin America: a) The impact of the global burden of periodontal diseases on health: a global reality; b) Periodontal diseases in Latin America; c) Strategies for the prevention of periodontal diseases in Latin America; d) Problems associated with diagnosis of periodontal conditions and possible solutions for Latin America; e) Treatment of Periodontitis. This consensus will help to increase awareness about diagnosis, prevention and treatment of periodontal diseases, in the context of Latin American countries.

**Keywords:** Periodontitis; Periodontal Diseases; Gingival Diseases.

### Introduction

The Meeting coordinated by the Latin American Oral Health Association (LAOHA) was held on January 30, 2019, in São Paulo, Brazil. “Periodontal disease and its impact on general health in Latin America – Consensus Meeting” was the theme of this event that aimed to examine the main oral health problems in Latin America and to propose individual and collective recommendations to address these problems.

Sixty guests invited from 18 countries (15 Periodontal Associations from Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, El Salvador, Ecuador, Mexico, Panama, Peru, Puerto Rico,



Uruguay, and Venezuela) attended the meeting, and important organizations were represented at the event: the Ibero-American Federation of Periodontics (Federación Iberoamericana de Periodoncia, FIPP), the Brazilian Association of Dental Education (Associação Brasileira de Ensino Odontológico, ABENO), the Brazilian Division of International Association for Dental Research (Sociedade Brasileira de Pesquisa Odontológica, SBPqO), the Caribbean Division of International Association for Dental Research, the Latin American Dental Federation (Federación Odontológica Latinoamericana, FOLA), Caribbean Oral Health Initiative (COHI) and the Ibero-American Observatory of Public Policies in Oral Health.

The opening address was given by Zilson Malheiros and Bernal Stewart (Executive Directors of LAOHA and Colgate-Palmolive regional directors) and Maria Ryan (Chief Dental Officer of Colgate-Palmolive Company). Subsequently, LAOHA's president, Giuseppe Alexandre Romito (University of São Paulo, SP, Brazil) presented the mission and the main goals of the Association. Five speakers each prepared a scientific paper on their specific topic of expertise, which was peer reviewed by the moderator of each session. The topics of the papers were as follows: (i & ii) two introductory presentations on the impact of the global burden of periodontal diseases on health in the world and Latin America, (iii) prevention, (iv) diagnosis and (v) periodontal treatment. The presentations were based on the content of each paper and followed by discussions including the guests and presenters. A final session presenting general conclusions of all topics presented during the meeting was conducted by Mariano Sanz (University Complutense of Madrid, Madrid, Spain). Closing remarks were made by Maria Ryan and Giuseppe Alexandre Romito.

LAOHA appreciates the support received from its members and students. This meeting was sponsored by LAOHA and the Colgate Palmolive Company (Piscataway, NY, USA). The key messages of the papers and the general recommendations sections are presented below.

## **Program overview and summary of key conclusions**

### **Session 1. Impact of the global burden of periodontal diseases on health: Global reality**

**Speaker:** Jorge Gamonal (University of Chile, Chile)

**Moderator:** Mariel Gomez (Maimónides University, Argentina)

#### **Key messages**

Periodontitis is a chronic non-communicable disease (NCD) that impacts on quality of life and represents a major public health problem around the world. Oral diseases (caries and periodontal diseases, such as gingivitis and periodontitis) are now recognized as being both an epidemic and one of the most important public health problems in the world. In 2015, 3,500 million people were suffering from untreated dental conditions; 2,500 million people with untreated decay in permanent teeth; 573 million children with untreated decay in temporary teeth; 538 million people with severe periodontitis; and 276 million people with total loss of teeth. Moreover, the number of people affected by periodontal diseases will increase even further, and their prevalence will be concentrated on the most vulnerable groups, thus becoming a significant source of social inequality. Periodontal treatment and traditional actions of promotion and prevention carried out in the dental unit are not enough to control the onset of periodontal diseases and access to health care systems is unfair, which reinforces health inequities and maintains the current situation of oral diseases around the world. Therefore the epidemiological indicators will only be modified by the implementation of public policies focused on health equity and comprehensive care.

### **Session 2. Periodontal diseases in Latin America**

**Speaker:** Paola Carvajal (University of Chile, Chile)

**Moderator:** Giuseppe Alexandre Romito (University of São Paulo, Brazil)

#### **Key messages**

The main risk factors and indicators for periodontal diseases in Latin American populations are: gender

(male), education/schooling, socio-economic status, smoking and obesity. Periodontitis is not homogeneously distributed among the Latin American populations but establishing the actual prevalence and distribution of this disease is not a simple task, especially because there is a lack of a standardized “case definition system” to be used in epidemiological studies. The development of such a tool would help to generate reliable data regarding periodontitis in the region. Gingivitis and periodontitis are prevalent in subjects of all ages, including children and adolescents. However, epidemiological data are scarce in Latin America, particularly with respect to nationwide representative studies. On an average, gingivitis affects 34.7% of young Latin American individuals. In the Latin American adult population the prevalence of gingival inflammation reached 96.5% to 100%. In Latin American adolescents from 15 to 18 years of age, the prevalence of CAL  $\geq$  3 mm is 32.6%, and the prevalence of the probing pocket depth  $\geq$  4 mm is 59.3%. In addition, the prevalence of severe periodontitis in adults reached 7.8% to 25.9% from middle age to seniors, respectively. Raising awareness of the prevalence and consequences of periodontal diseases is still low in Latin America; thus, the use of social media and networks were suggested as an effective strategy to increase awareness about periodontal diseases in the population. Therefore, the implementation of a periodontal screening procedure during Primary Care is now being recommended, so that those who present clinical signs and symptoms of periodontal disease can be referred to specialists (periodontists) for complete periodontal examination and periodontal treatment, if necessary. This strategy would improve to the diagnosis of periodontal diseases in their early stages, and consequently improve the prognosis. Moreover, interlocations between oral health associations and Academia were proposed in order to address topics related to diagnosis and prevention of periodontitis in undergraduate programs, specialist training and post-graduate programs in comprehensive care context.

### **Session 3. Strategy for the prevention of periodontal diseases in Latin America**

**Speaker:** Andres Duque (University of CES, Colombia)

**Moderator:** Hugo Romanelli (Maimónides University, Argentina)

### **Key messages**

Prevention of periodontal disease in Latin America has mainly been focused on oral hygiene instruction for reducing dental biofilm by means of motivational schemes, increasing patients’ knowledge about the disease, patient empowerment, and providing adequate oral hygiene instruction. In this context, there are two main preventive approaches that could be used: (i) at the individual level - centered on patients, and (ii) the population/community level, which would require the proactive participation of the government in decision-making. The prevention of oral diseases is crucial in terms of public health and should not be concentrated on dentists only, but on interdisciplinary groups working together. In this context, the important role of dental hygienists should be highlighted; these professionals must participate proactively in this process as health coaches, going beyond their traditional role in Latin America, which has been passive and limited to primary prevention. In addition, there is emerging evidence of the lack of knowledge of some health professionals in Latin America about periodontal diseases and their oral and systemic consequences. Furthermore, health professionals should be part of healthy lifestyle initiatives, focusing on diabetes awareness, tobacco cessation, and cardiovascular prevention programs, among others. In addition, alliances between different associations, governmental and non-governmental organizations (policymakers and stakeholders), and health systems should be encouraged in order to create a joint effort to replace Oral Health Programs by Oral Health Policies. It was suggested that such policies should emphasize the concept of “Full Mouth Health”, focused on comprehensive care.

### **Session 4. Problems associated with diagnosis of periodontal conditions and possible solutions for Latin America**

**Speaker:** Cassiano Rösing (Federal University of Rio Grande do Sul, Brazil)

**Moderator:** Vicente Aránguiz (University of the Andes, Chile)

### **Key messages**

Periodontal diseases are clinically diagnosed in two main categories: gingivitis and periodontitis. One

important issue concerning periodontal health/disease diagnosis is the divergence between parameters used in epidemiological studies and those used for individual patients. It should be emphasized that the gold standard strategy for periodontal diagnosis is full-mouth periodontal examination, and when this approach is adopted, there is little likelihood of periodontal disease being misdiagnosed. However, other simplified approaches have been proposed in an attempt to increase the number of dentists routinely performing periodontal examinations. A common and effective tool for use in epidemiological studies and screenings in Public Health services in Latin America should be established. However, it should be borne in mind that although screening is an effective way of evaluating a higher percentage of the population more rapidly, it is not a diagnostic tool. In 2018, the European Federation of Periodontology and the American Academy of Periodontology launched a new classification system for periodontal and peri-implant diseases and conditions. This new classification system was meant for individual diagnosis, not for epidemiological studies/screening initiatives. In Latin America, dental professionals should routinely perform individual periodontal clinical examination, and researchers should attempt to develop a standardized diagnostic test that could help the clinical periodontal screening (for epidemiological studies). In addition, dental professionals should be trained at undergraduate level to appropriately diagnose periodontal diseases at their early stages.

### Session 5. Treatment of periodontitis

**Speaker:** Ricardo Fischer (Rio de Janeiro State University, Brazil)

**Moderator:** Magda Feres (Guarulhos University, Brazil)

#### Key messages

In most patients, along with an oral hygiene maintenance program, Non-surgical (NSPT) and surgical periodontal treatment (SPT), good plaque control and regular maintenance programs are predictable procedures for treating periodontitis. However, NSPT and/or SPT alone may not be sufficient to re-establish periodontal health in patients with severe periodontitis or with associated

risk factors. Therefore, other adjunct therapies, such as lasers, systemic antibiotics, host-modulators and probiotics have been suggested. Among these protocols, systemic metronidazole and amoxicillin is an adjunctive treatment backed by strong scientific evidence for its use in daily clinical practice. Periodontal diseases are associated with a negative impact on oral health-related quality of life (OHRQoL), especially on function and esthetics, and NSPT and SPT lead to a significant improvement in patients' OHRQoL. In addition, Patient-Reported Outcomes (PROs) used in medicine have been proposed to assess the impact of periodontal treatment on patients' OHRQoL. The development of an effective instrument to assess PRO in periodontal treatment could contribute to fully assessing the benefits of different protocols. It would also be helpful to increase the participation of periodontists in the decision-making about tooth extraction, implant reconstruction, and management of advanced, complex periodontal cases. Dentists are trained to preserve teeth. Periodontitis has been associated with several systemic conditions, including adverse pregnancy outcome, cardiovascular disease, respiratory diseases, and diabetes mellitus (DM) and chronic renal disease. There is good evidence in the literature that periodontal treatment may improve glycemic control of patients with *diabetes mellitus* (DM).<sup>1</sup> Thus, the inclusion of periodontal assessment and treatment in clinical guidelines for the management of DM has been suggested. In addition, periodontists should establish stronger connections with non-dental healthcare professionals, including physicians and nurses.

### Final recommendations

In general, health authorities in Latin America have recognized that periodontitis is a non-communicable disease with severe impact in the quality of life and represents a major health problem around the world. The consensus group recognizes that periodontitis and gingivitis are socially determined diseases and that their effective combat, necessarily requires efforts and public policies to promote equity by

reducing social inequalities. Prevention should be the main measure of oral health actions, policies and programs for maintaining oral health and avoiding periodontitis through the effective management of gingivitis and promotion of healthy lifestyles at both population and individual levels. The group identified the need for implementing the below mentioned actions in order to foster the awareness, prevention, diagnosis and treatment of periodontitis in Latin America:

### Awareness and prevention

- a. Increase the awareness of both dental and non-dental health professionals regarding the prevalence and consequences of periodontal diseases for patients' oral and systemic health, using social media and networks.
- b. Establish alliances between dental associations, governmental and non-governmental organizations (policymakers and stakeholders), and health systems to emphasize the replacement of Oral Health Programs by Oral Health Policies.
- c. Encourage patient empowerment relative to oral and systemic health, by increasing patients' knowledge about adequate oral hygiene habits, the effects of oral health on systemic health.
- d. Propose Oral Health Policies with emphasis on the concept of "Full Mouth Health", focused on comprehensive care. This concept is an essential component for the general health of the human organism.
- e. Promote only products with proven clinical efficacy, including interdental devices, dental floss, toothpaste, mouthwash and toothbrushes.
- f. Latin American healthcare professionals should be part of healthy lifestyle initiatives, focusing on diabetes awareness, tobacco cessation, and cardiovascular prevention programs, among others.

### Diagnosis

- a. Implement periodontal screening procedures during Primary Care patient evaluations. "Moreover, public health care systems should offer specialized periodontal treatment for

management of the more complex cases (second level of care)."

- b. Encourage the development of a standardized diagnosis test that could be used in epidemiological studies and in public health screening exercises.
- c. Highlight the importance of the role of the dental hygienist, who must proactively participate in the process as a health coach, going beyond their traditional role in Latin America.
- d. Motivate Latin American dental professionals to routinely perform individual periodontal clinical examinations.
- e. Motivate Latin American dental professionals to avoid periodontal misdiagnosis, with the use of truly evidence-based parameters. For example, especially in cases of moderate/severe periodontitis, the use of full-mouth periodontal examination with pocket-depth and clinical attachment levels and the presence of bleeding on probing is recommended.
- f. At Dental Schools, reinforce the importance of training academic dental professionals to appropriately diagnose periodontal diseases in their early stages.

### Treatment

- a. Make clear to the periodontal community that mechanical removal of plaque and calculus, good plaque control and a regular maintenance programs are essential procedures that should be applied to all patients with periodontitis.
- b. Make clear to the periodontal community that NSPT and/or SPT alone may not be sufficient to re-establish periodontal health in patients with severe periodontitis or with associated risk factors. Therefore, other adjunct therapies, such as chlorhexidine, systemic antibiotics, lasers, host-modulators and probiotics have been suggested.
- c. Develop a validated Patient Reported Outcome instrument to evaluate the effects of different periodontal treatments on patients' quality of life.
- d. Preserving teeth should be a common and the most important goal for all dental professionals.

Collaborators	Organization	Country
Abraham Cazes	Director of Brazil Global Technology Center - Colgate-Palmolive	Brazil
Adrian Avendaño Valiente	President of the Periodontics Society of El Salvador	El Salvador
Adrian Guerrero	Vice-President of Ibero-American Federation of Periodontics (FIPP)	Spain
Alex Haas	Professor at Universidade Federal do Rio Grande do Sul, Porto Alegre, RS	Brazil
Alfonso Garcia Huerta	President of the Mexican Association of Periodontology (AMP)	Mexico
Andres Duque	Professor at Universidad CES, Medellin, Antioquia	Colombia
Andres Felipe Vieira	President of the Colombian Society of Periodontology	Colombia
Belén Retamal-Valdes	Professor at Guarulhos University, Guarulhos - Brazil	Chile
Bernal Stewart	Executive Director of LAOHA and Global Technology Center - Colgate-Palmolive	USA
Carlos Benitez	PhD Student at São Paulo University, São Paulo - Brazil	Mexico
Carlos Rubio	PhD Student at São Paulo University, São Paulo - Brazil	Venezuela
Carolina Vargas Loria	Costa Rican Academy of Periodontics Specialists (ACEP)	Costa Rica
Caroll Yibrin	President of the Venezuelan Society of Periodontology	Venezuela
Cassiano Rösing	Professor at Universidade Federal do Rio Grande do Sul, Porto Alegre, RS	Brazil
Cassio V. Carvalho	Professor at Centro Universitário Senac, SENAC/SP	Brazil
Cesar Buitrago	Director of LATAM Professional Division - Colgate-Palmolive	Colombia
Claudia Bevilacqua	President of Argentine Society of Periodontics (SAP)	Argentina
Claudia Sacio	President of the Peruvian Association of Periodontics and Osseointegration	Peru
Claudio Pannuti	Professor at São Paulo University and LAOHA Board Member	Brazil
Cristina Villar	Professor at São Paulo University and LAOHA Board Member	Brazil
David Alvarez	President of Bolivian Society of Periodontics	Bolivia
Elizabeth Lozano	President of the Periodontics Society of Chile	Chile
Enilson Sallum	Professor at Piracicaba University, UNICAMP	Brazil
Fernanda Campos	Ibero-American Observatory of Public Policies in Oral Health	Brazil
Fernando Costa	Brazilian IADR Division (SBPqO)	Brazil
Gerson Langa	PhD Student at Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil	Mozambique
Gilberto Pucca	Ibero-American Observatory of Public Policies in Oral Health	Brazil
Giuseppe A. Romito	Professor at São Paulo University and President of LAOHA	Brazil
Gloria Ramirez	PhD Student at São Paulo University, São Paulo - Brazil	Colombia
Hugo Romanelli	Professor at Maimonides University, Buenos Aires	Argentina
James Collins	President of Caribbean IADR Division	Dominican Republic
Javier Garcia	Ibero-American Federation of Periodontics (FIPP)	Spain
Jorge Gabito Mira	Uruguayan Periodontics Society	Uruguay
Jorge Gamonal	Professor at University of Chile	Chile
Juliano Cavagni	Professor at Universidade Federal do Rio Grande do Sul, Porto Alegre, RS and LAOHA Board Member	Brazil
Libia Ferreira	Scientific Affair Liaison – Southern Cone – Colgate-Palmolive	Argentina
Lisbeth Colon	Past President of the Association of Periodontics of Puerto Rico (SEPIPR)	Puerto Rico
Luciana Saraiva	Professor at Sao Paulo University and LAOHA Board Member	Brazil
Luciene Figueiredo	Professor at Guarulhos University and LAOHA Board Member	Brazil
Lupe Salazar Zurita	President of the Latin American Dentistry Federation (FOLA)	Panama
Magda Feres	Professor at Guarulhos University and LAOHA Vice-President	Brazil
Marco Medina Vega	President of Ibero-American Federation of Periodontics (FIPP) and Professor at UCE University - Ecuador	Ecuador
Maria Ryan	Chief Dental Officer of Colgate-Palmolive	USA
Mariana Almeida	PhD Student at Guarulhos University, São Paulo - Brazil	Brazil
Mariano Sanz	Professor at Complutense University, Madrid	Spain
Mariel Gomez	Professor at Maimonides University, Buenos Aires	Argentina
Marsha Butler	Vice-President Colgate-Palmolive Oral Care	USA

Collaborators	Organization	Country
Mauricio Tinajero	President of the Ecuadorian Association of Periodontology and Osseointegration	Ecuador
Monica Larcebeau	Southern Cone Professional Colgate-Palmolive	Uruguay
Monica Shedden	Panamerican Society of Periodontics	Panama
Paola Carvajal	Professor at University of Chile	Chile
Ramón Gonzales	President of Caribbean Oral Health Initiative (COHI)	Puerto Rico
Ricardo Fischer	Professor at Universidade do Estado do Rio de Janeiro, Rio de Janeiro and Brazilian Society of Periodontology (SOBRAPE)	Brazil
Saulo Rosario	President of the Dominican Society of Periodontics and Dental Implants (SODOPERIO)	Dominican Republic
Sergio Leite	Worldwide Director Colgate-Palmolive	USA
Vania Fontanella	President of Brazilian Association of Dental Education (ABENO)	Brazil
Vicente Aranguiz	Professor at los Andes University	Chile
Xiomara Gimenez	General Secretary of Ibero-American Federation of Periodontics (FIPP)	Venezuela
Zilson Malheiros	Executive Director of LAOHA and Global Technology Center - Colgate-Palmolive	Brazil



Participants of the “Periodontal disease and its impact on general health in Latin America – Consensus Meeting” (São Paulo, SP, Brazil).

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