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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).¹ 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.

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