International journal of interdisciplinary dentistry
ISSN: 2452-5588
ISSN: 2452-5596
Sociedad de Periodoncia de Chile Implantología Rehabilitación Odontopediatria Ortodoncia

Sáenz-Ravello, Gustavo; Baeza, Mauricio
Following the Inca's path to successful oral aging... no sacrifices, just nutrition.
International journal of interdisciplinary dentistry, vol. 16, no. 2, 2023, pp. 119-120
Sociedad de Periodoncia de Chile Implantología Rehabilitación Odontopediatria Ortodoncia

DOI: https://doi.org/10.4067/S2452-55882023000200119

DOI: 10.4067/S2452-55882023000200119

LETTER TO THE EDITOR

Following the Inca's path to successful oral aging... no sacrifices, just nutrition.

Gustavo Sáenz-Ravello[1,2*], Mauricio Baeza[1,2]

1. Center for Epidemiology and Surveillance of Oral Diseases (CESOD), Faculty of Dentistry, University of Chile, Santiago, Chile.
2. Department of Conservative Dentistry, Faculty of Dentistry, University of Chile, Santiago, Chile.

** Corresponding author: Gustavo Sáenz-Ravello | Address: Olivos 943, Independencia, Santiago, Chile | Post code 8380544. | Phone: +562 2978 1715 | E-mail: gustavo.saenz@odontologia.uchile.cl*
Work received on 13/03/2023
Revised work 21/03/2023
Approved for publication on 07/04/2023

ORCID

Gustavo Sáenz-Ravello:
ORCID: 0000-0001-8959-3989

Mauricio Baeza:
ORCID: 0000-0001-8910-4700

ABSTRACT

Inca civilization is a subject of great fascination due to its rapid development and successful oral aging centuries ago. Their diet was primarily plant-based, with lean animal protein, nuts, and seeds, and lacked fermentable sugars, preventing non-communicable diseases, such as caries and periodontal diseases. Developing national ageing policies and strategies to improve oral functionality and tackle economic barriers to a balanced diet, ensuring better nutrition and quality of life for older people are necessary to achieve Sustainable Development Goals (SDGs), with the World Health Organization estimating its necessity in meeting 12 of the 17 SDGs. Such policies would also honor our native ancestors.

KEY WORDS:

Incas; Successful oral aging; Healthy diet; Sustainable Development Goals.

Int. J. Inter. Dent Vol. 16(2); 119-120, 2023.

Dear Editor,

We are curious about Inca culture, as we always wonder how they achieved such development centuries before globalization. Interestingly, a passage from the book "Nutrition in Ancient Peru" by Santiago Antúnez de Mayolo (1981) quotes the following note from Bernabé Cobo (Historia del Nuevo Mundo, 1653)[1]: "they all have very good teeth and so strong that they last all their lives... they rarely suffer from toothache or tooth decay, and the old *indian* who lacks teeth is rare". Among the sacrifices made by Incas, they rarely had to sacrifice their teeth. In the following we will explain why we have to remember our Latin American nutritional roots.

According to Cobo, physicians and healers prescribed specific diets and herbs for the prevention and treatment of ailments, demonstrating their excellent health status and absence of non-communicable diseases[1]. It is curious that on the other side of the world, Greeks also practiced these recommendations, hence the phrase of Hippocrates "Let food be thy medicine and medicine be thy food". Indeed, the Inca diet abounded in a variety of fruits, vegetables, legumes, lean animal protein, nuts and seeds which, by the way, were grown and harvested by the Incas themselves. Even they had specific words that refers to "eating green things" (*paco, pacotha or cachuni*)[1]. Nowadays, a dietary pattern that leads to the same health outcomes could be the Mediterranean diet (or any other plant-based diet) [2,3]. The effect of the absence of fermentable sugars and consumption of a healthy diet on the development of carious lesions is well known[4]. Additionally, diets rich in vegetables have been shown to decrease clinical indicators of gingival inflammation and loss of periodontal support[5].

Incas knew that investing in health is better than spending on diseases. Paradoxically, nowadays, public and private expenditures for oral healthcare have reached an estimated US$ 387 billion globally, with unequal distribution across regions and countries. In high-income countries, healthcare profoundly relies on interventionist, high-technology, specialized approaches, which fail to address the causes of oral diseases and its disparities. In contrast, for low- and middle-income countries, "Westernized dentistry" is particularly inappropriate, lacking on access and affordability for the majority of the population, especially the rural poor[6].

In this sense, it is important to strengthen and develop public policies to achieve successful oral aging, not only because it improves the quality of life of older people[7], but also because it reduces the high costs of treating oral diseases. During the current demographic transition, this is especially important in terms of Sustainable Development Goals (SDGs)[8]. In fact, the World Health Organization has estimated that good nutrition is necessary for meeting 12 of the 17 SDGs[9]. Although national aging policies propose to improve the nutrition of older people, strategies to achieve this objective in terms of oral functionality and economic barrier tackling[10] have not been considered.

We must include the saying "healthy teeth and a healthy diet go hand in hand; secure both for a long and fulfilling life" in all the aging policies, to improve the quality of life of Latin American older persons, and also make proud and commemorate our native ancestors (Figure 1).

CLINICAL RELEVANCE

Decision makers and clinicians must consider the virtuous circle generated between teeth and healthy diet for the care of the aged, promoting ad-hoc policies and practices to achieve successful (oral) aging.

SOURCE OF FUNDING

This research was supported by FONDEF I+D, ID22I10101, Santiago, Chile.

CONFLICT OF INTEREST

The authors declare that they have no conflict of interest.

Figure 1. Oil painting of an Inca giving fruits and vegetables to a contemporary person. Source: created using DALL-E 2©.

References

1. Antúnez de Mayolo S. La nutrición en el antiguo Perú. 2a. ed. Banco Central de Reserva del Perú, Fondo Editorial; 1987.
2. Kahleova H, Salas-Salvado J, Rahelic D, Kendall CW, Rembert E, Sievenpiper JL. Dietary patterns and cardiometabolic outcomes in diabetes: a summary of systematic reviews and meta-analyses. Nutrients. 2019;11(9):2209. DOI: 10.3390/nu11092209.
3. Menzel J, Biemann R, Longree A, Isermann B, Mai K, Schulze MB, et al. Associations of a vegan diet with inflammatory biomarkers. Sci Rep. 2020;10(1):1933. doi: 10.1038/s41598-020-58875-x.
4. Echeverría C, Fernández CE, Valdés S, Santamaría RM, Splieth C, Paris S, et al. ¿Cómo Intervenir el Proceso de Caries en Adultos? Adaptación del Consenso de ORCA/EFCD/DGZ. Int J Interdiscip Dent. 2021;14(1):32-36. http://dx.doi.org/10.4067/S2452-55882021000100032.
5. Sáenz-Ravello G, Matamala L, dos Santos NC, Cisternas P, Gamonal J, Fernandez A, et al. Healthy dietary patterns on clinical periodontal parameters: a grade compliant systematic review and meta-analysis. Curr Oral Health Rep. 2022;9:32-55. https://doi.org/10.1007/s40496-022-00307-y.
6. Watt RG, Daly B, Allison P, Macpherson LMD, Venturelli R, Listl S, et al. Ending the neglect of global oral health: time for radical action. Lancet. 2019;394(10194):261-72. doi: 10.1016/S0140-6736(19)31133-X.
7. Atanda AJ, Livinski AA, London SD, Boroumand S, Weatherspoon D, Iafolla TJ, et al. Tooth retention, health, and quality of life in older adults: a scoping review. BMC Oral Health. 2022 Dec 18;22(1):185. doi: 10.1186/s12903-022-02210-5.
8. World Health Organization. Plant-based diets and their impact on health, sustainability and the environment: a review of the evidence: WHO European Office for the Prevention and Control of Noncommunicable Diseases. World Health Organization. Regional Office for Europe. 2021.
9. Nugent R, Bertram MY, Jan S, Niessen LW, Sassi F, Jamison DT, et al. Investing in non-communicable disease prevention and management to advance the Sustainable Development Goals. Lancet. 2018;391(10134):2029-35. doi: 10.1016/S0140-6736(18)30667-6.
10. Hirvonen K, Bai Y, Headey D, Masters WA. Affordability of the EAT–Lancet reference diet: a global analysis. Lancet Glob Health. 2020;8(1):e59-66. doi: 10.1016/S2214-109X(19)30447-4.