

Oral Conditions, Occlusal Pairs, and Masticatory Function of Institutionalized Older People in Cali Colombia, 2019 *

Condiciones bucodentales, pares oclusales y función masticatoria de personas mayores institucionalizadas en Cali Colombia, 2019

Condições bucais, pares oclusais e função mastigatória de idosos institucionalizados em Cali Colômbia, 2019

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ABSTRACT

Background: There is an increase in the population of older adults in the world, which makes this population group a main target for public health, and in general for health sciences. **Purpose:** Characterize the oral conditions of the elderly in a geriatric care site in Cali, Colombia, year 2019. **Methods:** A descriptive, observational, cross-sectional study of the oral conditions of 97 patients was carried out. residents in a geriatric care setting. Sociodemographic information, presence of edentulous areas, occlusal pairs, use of dental prostheses, soft tissue injuries, root caries and oral hygiene were obtained from each older adult. Prior to the evaluation, a calibration of the observers was carried out, evaluated with Cohen's kappa index, a descriptive analysis and significant differences between some variables were carried out, through the Kruskal Wallis test. **Results:** The institutionalized population presented an average of 8 occlusal pairs, 70 % of the participants had no occlusal pairs, a diminished masticatory function, 39 % a non-functional dentition and around 25 % total absence of functionality, all the people presented edentulous areas, with a high prevalence of complete edentulism. **Conclusions:** Understanding oral health different from public health and being able to generate interventions aimed at Primary Health Care is key to improving the oral conditions of institutionalized older adults.

Keywords: Cali, Colombia; dental care for the elderly; dental prosthetics; dental public health; dentistry; edentulous arch; elderly; geriatric dentistry; health of the elderly; occlusal pairs; oral diseases; oral health; root cavity; soft tissue injuries; toothless mouth

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RESUMEN

Antecedentes: Existe un aumento de población de adultos mayores en el mundo, lo cual convierte dicho grupo poblacional en un objetivo principal para la salud pública, y en general para las ciencias de la salud. **Objetivo:** Caracterizar las condiciones bucodentales de las personas mayores de un sitio de cuidado geriátrico en Cali, Colombia, año 2019. **Metodos:** Se llevó a cabo un estudio de tipo descriptivo, observacional, de corte transversal, de las condiciones bucodentales de 97 residentes en un sitio de cuidado geriátrico. Se obtuvo información sociodemográfica, presencia de zonas edéntulas, pares oclusales, uso de prótesis dental, lesiones de tejidos blandos, caries radicular e higiene oral de cada adulto mayor. Previamente a la evaluación se realizó una calibración de los observadores, evaluada con el índice kappa de Cohen, se realizó análisis descriptivo y diferencias significativas entre algunas variables, a través de la prueba de Kruskal Wallis. **Resultados:** La población institucionalizada presentó en promedio 8 pares oclusales, 70 % de los participantes ningún par oclusal, una función masticatoria disminuida, 39 % una dentición no funcional y alrededor de un 25 % ausencia total de funcionalidad, la totalidad de personas presentó zonas edéntulas, con una alta prevalencia de edentulismo completo. **Conclusiones:** Entender la salud bucodental diferente desde la salud pública y poder generar intervenciones orientadas a la Atención Primaria en Salud es clave para mejorar las condiciones orales de los adultos mayores institucionalizados.

Palabras clave: Anciano; atención odontológica al Anciano; arcada edéntula; boca desdentada; Cali; caries radicular; enfermedades bucales; odontología; odontología de salud pública; odontología geriátrica; pares oclusales; prótesis Dental; salud bucal; salud del anciano; lesiones tejidos blandos.

RESUMO

Antecedentes: Existe um aumento da população de idosos no mundo, o que torna este grupo populacional um dos principais alvos da saúde pública e, em geral, das ciências da saúde. **Objetivo:** Caracterizar as condições bucais de idosos em um centro de atendimento geriátrico em Cali, Colômbia, ano de 2019. **Métodos:** Foi realizado um estudo descritivo, observacional e transversal das condições bucais de 97 pacientes residentes em um ambiente de cuidados geriátricos. Informações sociodemográficas, presença de áreas edêntulas, pares oclusais, uso de próteses dentárias, lesões em tecidos moles, cárie radicular e higiene bucal foram obtidas de cada idoso. Previamente à avaliação, foi realizada calibração dos observadores, avaliados com índice Kappa de Cohen, análise descritiva e diferenças significativas entre algumas variáveis, por meio do teste de Kruskal Wallis. **Resultados:** A população institucionalizada apresentou em média 8 pares oclusais, 70% dos participantes não apresentavam pares oclusais, uma função mastigatória diminuída, 39% uma dentição não funcional e cerca de 25% ausência total de funcionalidade, todas as pessoas apresentavam áreas edêntulas, com alta prevalência de edentulismo total. **Conclusões:** Compreender a saúde bucal diferente da saúde pública e ser capaz de gerar intervenções voltadas para a Atenção Primária à Saúde é fundamental para melhorar as condições bucais de idosos institucionalizados.

Palavras-chave: assistência odontológica para idosos; arco edêntulo; boca desdentada; Cálí, Colômbia; cárie radicular; doenças bucais; idoso; lesões de tecidos moles; odontologia; odontologia em saúde pública; odontologia geriátrica; pares oclusais; prótese dental; saúde bucal; saúde do idoso

INTRODUCTION

The world population is aging, most countries in the world are experiencing an increase in the proportion of older people (1). Projections establish that between 2020 and 2030, the percentage of the planet's inhabitants over the age of 60 will increase by 34 %. By the end of this decade, one in six people in the world will be over the age of 60, which is equivalent to an increase from 1 billion to 1.4 billion. In the year 2050, the world population of people in this age group will have doubled (2.1 billion); In

addition, a longer-lived population is expected, where the number of people aged 80 or over triples between 2020 and 2050, reaching approximately 426 million (2).

The Latin American region is no stranger to the phenomenon that is experienced in the world, accelerated aging is attributed, among other causes, to the progressive increase in the population, rapid urbanization, the strong tendency to decrease fertility rates and the increase in the expectation of life at birth. Those aged 75 and over will be the age group that is expected to grow the fastest, doubling in the next 50 years (3). In Colombia for the year 2018, the older adult population is equivalent to around 13% (4), it is estimated that by the year 2030 the older population will grow to 9,739,701 people, that is, it will represent 17.5 % of the total population of the country at that time, life expectancy has tended to increase by an average of 28.4 years in the course of only one hundred years (5).

The aging of the population is about to become one of the most significant social transformations of the 21st century, with consequences for almost all sectors of society, including the labor and financial markets and the demand for goods and services, as well as for family structure and intergenerational ties. One consequence of this is that public policy has established that the general conditions of the aging process should be oriented towards healthy aging in the 2020-2030 decade (6).

The increase in older people with social and health care needs has generated an exponential increase in care institutions for this population. These sites have gone from being a simplistic complex for accommodation and coverage of basic needs to centers that must serve a new typology of some users with or without complexities; which is derived from situations of disability and dependency secondary to functional deterioration; that could appear after a pathology and/or hospitalization, comorbidity, the presence of geriatric syndromes, dementia, hip fractures, cerebrovascular accidents and edentulism, among others (7). Senior centers provide a wide range of services and often play important information and referral and focal point roles (8, 9).

According to approximate data, Colombia has 1,200 social protection centers or long-term centers for the elderly, which provide services to 120,000 elderly people and have a staff of 55,000; among them health workers (who carry out tasks of maintenance, care, promotion and prevention of health); It is worth mentioning that these centers are of a social nature and not for the provision of health services, for the most part. The care and attention centers for the elderly in the country already have quality conditions and guidelines in the health services provided by the Ministry of Health, including Law 790 of 2002, Decree 205 of 2003 and circular 0028 of 2013. (10).

Population aging and the appearance of geriatric care sites have implications for the aging process. Within health, the oral cavity also presents different characteristics regarding the oral tissues and their functions, increasing the loss of teeth due to periodontal disease, caries and oral mucosa lesions (11-13), these conditions, the lack of teeth, absence of dental prosthesis and masticatory function, could produce changes in systemic conditions, including nutrition (14).

The person's self-realization and personal acceptance is also affected because it generates shame, low self-esteem, pain, and discomfort in front of other people during mealtimes and socialization moments, a process that has been specifically analyzed for the quality of life in oral health (15). Previous approaches have shown the positive impact that good oral health programs have on the quality of life of older adults when they nest in geriatric care settings; there is no doubt that it could have a protective effect on the perception of oral quality of life (16).

Some characterizations have been described in international literature regarding the oral health conditions of institutionalized patients, in Cuba, in a care center, it was possible to demonstrate, regarding the use of prostheses, that 78.5 % of the elderly presented related lesions with the use of the prosthesis, 95.8% had deteriorated prostheses, and in all of them, the prostheses had been used for 21 years or more (17). In Venezuela, a care center was described where dental caries with 61.87 % and gum lesions with

60.43 % on average in institutionalized adults (18). Previous descriptions in Colombia show a big problem, where 48.5 % of the population is completely edentulous, 85.7 % of the older adults presented caries, 74.1 % presented a high-risk factor in the bacterial plaque index. The oral conditions of the institutionalized population in the city of Cali are not yet known in detail (19).

Currently and at the time of the review there are few oral characterizations of institutionalized patients in Colombia, there are population studies about the oral health conditions of older adult patients (20, 21) both clinical and self-reported, however not many in patient institutionalized, some approaches oriented to quality of life (15, 22) and others to a specific characterization (19), none of them have evaluated occlusal pairs and masticatory function, an aspect that is key in the consolidation of an adequate masticatory process. In Colombia there is currently a research gap since there are no broad characterizations of oral health of institutionalized patients, knowing the situation will allow actions in public health, necessary for this population group.

It is expected that the institutionalization of patients works as a protective factor against unfavorable oral health conditions, in addition to giving clear guidelines to health workers on the conditions of this population, which allows the consolidation of plans and programs for this type of people. older, that is why this is the population used in this study.

Based on this premise, this article aims to carry out a complete evaluation of dental conditions, occlusal pairs, masticatory function, dental prostheses and soft tissues in older adults institutionalized in a care center in the city of Cali in 2019.

MATERIALS AND METHODS

A descriptive, cross-sectional study was carried out at the Hospital Geriatrico y Ancianato San Miguel (HGASM), in the city of Cali, a state social enterprise that offers shelter, hospitalization, and health services, care, and low-complexity care. to the elderly in southwestern Colombia. It is currently a first level ESE with nursing care, dentistry, general and integrative medicine, and geriatrics, complemented by an interdisciplinary service in gerontology, physiotherapy, respiratory therapy, nutrition, speech therapy, and psychology. The shelter provides services as a day center, halfway house and residence for approximately 280 vulnerable elderly people, distributed in several rooms with differentiation according to economic contribution or state aid, physical and health condition, their degree of functionality and independence.

Of all the patients in the HGASM (280), 180 could not be part of the study due to their mental condition or difficulty in the clinical examination, based on recommendations from the institution's nursing staff, these patients were recorded in a format With the specific reason for exclusion, 100 patients were part of the general sample, in which the general questions and the complete intraoral examination were asked, 3 data were discarded since they did not have age information, being an important inclusion criterion. , it is decided to remove these observations from the database, to have a total of 97 valid records. This sample is considered adequate for the entire population, considering a confidence of 95 % and a beta error of 8 %.

The project was approved by the Ethics Committee of the Universidad del Valle (CIREH -UV No 008-19) and the ethical approval of the care institution. A theoretical and practical calibration was carried out, including gerontological aspects and evaluation of the complete oral cavity, a Kappa analysis was performed and a score above 0.8 was accepted to be part of the information collection group. , the calibration process included a gold standard that were the main researchers; 3 patients were included and evaluated in the entire information collection instrument by a gold standard and one of the diagnosticians. In addition to this, a pilot test of 10 older adults was carried out prior to the beginning of the collection

of clinical evaluations. After the pilot test, small corrections were made to the information collection instrument. Data collection was carried out by filling out a format previously designed specifically for the research and prior signing of informed consent by the participating adults.

The information collection instrument included sociodemographic variables, attendance at the dental service (institutional, private or health promoting entity), history and dental evaluation. The oral observation of each patient had an average time of 20 minutes with an instrument based largely on the variables considered by the ENSAB IV for the study of the elderly population (20) and including some key aspects for the institutionalized population.

Oral Assessment

A standardized protocol was followed, which included systematic observation of dental status, soft tissue status, and prosthetic status through direct vision, using sterile basic instruments (mirror and explorer) in an individual bag, and glasses with led light with equal intensity to facilitate examination. process, standardize and have a better visualization. The data were directly taken at the institution.

Edentulism

Initially, the presence of total edentulism was evaluated, in the case of partial edentulousness, the Edward Kennedy classification of 1925 was used, which is based on the upper and lower arch topography, that is, it is based on the relationship between the zones. edentulous with respect to the remaining teeth, establishing four categories: class I: bilateral edentulous areas located posterior to the remaining teeth, class II: unilateral edentulous area located posterior to the remaining natural teeth, class III: unilateral edentulous area with natural teeth on each side of her and class IV: simple or unique and bilateral edentulous area located anterior to the remaining natural teeth, crossing the midline (23).

Dental Exam

It was established as a criterion to consider teeth those that were clearly visible in the oral cavity, submerged root remains were not considered, nor implants without coronal restoration and in fixed prostheses only prosthetic abutments were counted as teeth. The records were through the completion of the complete odontogram, registration of number and upper and lower position; the presence and severity of root caries based on the international system of detection and modified visual diagnosis (International Caries Detection and Assessment - ICDAS), in which some codes can be identified, code E, shows that the surface is not exposed to the examination, 0: The root surface does not show any unusual coloration, 1: There is a clearly demarcated area on the root surface or at the cemento-enamel junction (CEJ), but no cavity is present, and 2: There is a clearly delimited area on the surface of the root or in the SCU and there is a loss of anatomical contour greater than 0.5 mm (24).

In the case of upper and/or lower prostheses, the use, type of prosthesis (total removable, total fixed, partial removable, partial fixed, and implants with coronal rehabilitation) were identified; the time it had been used until that moment and the time of daily use; and as indicators for removable dentures (partial and total), the use or not of prosthetic adhesives and the time it has been in use. To complement the dental and prosthetic categorization, the function of occlusal pairs (opposing teeth in occlusion) is examined, these are equivalent to the registration of the same found in the oral cavity, relationship of upper and lower hemiarch, the registration is carried out in a diagram containing the number and position of structures involved, the pairs were classified with the option of pairs of natural and/or prosthetic teeth.

The evaluation of soft tissues included the inquiry about the perception of Xerostomia (dry mouth) and the oral examination to identify lesions associated with the use of removable prostheses such as traumatic ulcer, hyperplasia defined as growth or abnormal inflammation of the mucosa (20, 21). In addition to this, the presence of subprosthetic stomatitis, defined as inflammation of the supporting mucosa of the prosthesis according to Newton's classification in I, reddish dots on the mucosa, II, hyperemia, elevation, mucosal atrophy, III, nodular appearance or granular that does not disappear (25). Regarding dental, soft tissue and prosthetic hygiene, information was obtained on the implementation or not, frequency and the report of which implements are used.

For the statistical analysis plan, the Stata 14 program was used, considering the type of variables, summary measures were obtained from them, descriptive statistics were performed, in some cases the Kruskal-Wallis test was used to determine if there were significant differences in relation to the study variables sex.

RESULTS

Calibration Process

The Kappa average is found in all diagnosticians above 0.85; this means that the field personnel have the adequate competence to carry out the process of collecting the instrument (26).

Of the selected sample, around 34 % were women and 66% men. Regarding the educational level, around 60 % of the population failed to complete primary school and only 11 % had a bachelor's degree, one of those evaluated was categorized as professional. In terms of health regime, around 90% belong to the subsidized regime and only 10 % belong to the contributory regime. 4 of the people included have a pension and more than 90 % of the population base their livelihood on government subsidy.

Regarding attendance at the dental service, around 46 % of the patients attend the dental service they have in the institution and around 48 % do not attend any service.

Table 1 describes the sociodemographic characteristics of the evaluated population, the table shows the difference by gender, depending on the nature of the variable, statistical significance tests were performed, the Kruskal Wallis test showed that there is no statistical difference between men. and women.

TABLE 1
Sociodemographic characteristics of San Miguel Geriatric Hospital and Nursing Home, 2019

	Men	Women	P
Age/Years			
60 - 69	16	2	
70 - 79	16	14	
80 -89	26	12	0.28**
90 years and more	6	5	
Skin color			
Light Skin Color	45	23	

Medium Skin Color	19	9	0.90**
Dark Skin Color	0	1	
Time in the Institution Less than 1 year	11	6	
1-4	43	18	
5 years and more	7	4	0.95**

** Prueba Kruskal Wallis

Table 2 describes the oral health conditions found in the patients, all of them present edentulous areas. The significance test shows significant differences by gender in oral hygiene and all prosthetic variables.

TABLE 2
Oral health characteristics of the San Miguel geriatric hospital and nursing home, 2019

Variable	Indicator	Sex – n (percentage)		P
		Male	Female	
Oral Hygiene- time/day	1	19 (29.69)	4 (12.12)	>0.05
	2	24 (37.50)	18 (54.55)	
	3	21 (32.81)	11 (33.33)	
Number of Upper teeth				
	None	29 (45.31)	9 (27.27)	0.07
	1-5	22 (34.38)	17 (51.52)	
	6-10	6 (9.38)	5 (15.15)	
	Mayor a 10	7 (10.94)	2 (6.06)	
Number of teeth Bottom				
	None	23 (35.94)	6 (18.18)	0.09
	0-5	22 (34.38)	15 (45.45)	
	6-10	14 (21.88)	10 (30.30)	
	>10	5 (7.81)	2 (6.06)	
Type of upper prosthesis				
Removable partial		9 (14.06)	8 (24.24)	0,03
Full, Removable		22 (34.38)	16 (48.48)	
Does not use		33 (51.56)	9 (27.27)	
Tipo de prótesis Inferior				
Removable partial		11 (17.19)	3 (9.09)	>0.05
Does not use		12 (18.75)	6 (18.18)	
Does not use		41 (64.06)	24 (72.73)	

Años usó prótesis			
< 1	11 (33.33)	1 (4.55)	>0.05
1 - 5	15 (45.45)	14 (63.64)	
6-10	7 (21.21)	7 (31.82)	
Use of prosthesis			
Day	20 (57.14)	14 (58.33)	>0.05
Day and night	14 (40.00)	10 (41.67)	
Just to eat	1 (2.86)	0 (0.00)	
Upper denture hygiene / day			
1	7 (22.58)	1 (4.17)	
2	12 (38.71)	14 (58.33)	>0.05
3	12 (38.71)	9 (37.50)	
Higiene prótesis Inferior			
1	7 (28.00)	0 (0.00)	
2	10 (40.00)	6 (66.67)	>0.05
3	8 (32.00)	3 (33.33)	

**** Kruskal Wallis test**

In addition to what is presented in Table 2, it was possible to establish that 55 patients used some type of prosthesis, either upper or lower or both, while 42 did not use prostheses, as oral hygiene accessories they mostly used a toothbrush and toothpaste, only 3 % of those evaluated presented xerostomia.

Some additional aspects showed that of the people who used removable prostheses, the majority reported using it always, a small percentage reported using it occasionally, in addition to hygiene of the prostheses around 90 % use a toothbrush and toothpaste and a small percentage, less 10 % adds to hygiene the use of bicarbonate.

Regarding the analysis of the dental adhesive, of the prostheses found, only 1 person evaluated reported using it in the upper and lower area.

Chewing Functionality

Nested to the definition proposed by the WHO in which a person presents a masticatory functionality above 20 teeth in the mouth, the analysis of the number of dental organs present in the oral cavity of the elderly of the nursing home was carried out, from the sample Selected only around 27 % have functionality above satisfactory, around 9 % minimal masticatory function, 39% non-functional dentition and around 25 % total absence of functionality.

Table 3 shows the classification of the edentulous arches, evidencing edentulous areas or total loss of teeth, no fully dentate older adult was found, most of the residents of the care site are Angle Class I in the lower arch or completely edentulous. In the upper arch.

TABLE 3
Classification of Edentulous Arches San Miguel Geriatric Hospital and Nursing Home

	Clasificación Arco Superior /%	Clasificación Arco Inferior /%
Class I	28 (28,87)	45 (46,39)
Class II unilateral	3 (3,09)	7 (7,22)
Class III bilateral	3 (3,09)	2 (2,06)
Class III	8 (8,25)	7 (7,22)
Class IV	4 (4,12)	1 (1,03)
Edentulous	51(52,58)	35 (36,08)

Soft Tissue Analysis

Tissue overgrowth by prosthesis was not found in around 80 %, 20 % presented in the upper arch, no tissue overgrowth was found in the lower arch.

Traumatic ulcers due to prosthesis were found in 3 % of the sample, in the upper arch; no lesions of this type were found in the lower arch. Finally, the presence of sub-prosthetic stomatitis was evaluated, it was found in around 23 % of the participants, sometimes in combination in the upper and lower arch, when discriminating by dental arch, it was slightly higher in the upper than in the lower arch. in lower, no grade III diagnosis was found, the distribution is described in Table 4.

TABLE 4
Description Denture Stomatitis

	Prótesis dental Superior	Prótesis Dental Inferior
Grado I	12 (12,37)	6 (6,19)
Grado II	10 (10,31)	2 (2,06)

Root Caries Analysis

Root caries was evaluated, through the analysis of the surfaces in the teeth present and from the ICDAS diagnosis, around 55 % of the patients evaluated did not present Root Caries, in 45 % of them some type was present, around 20 % of patients present between 1 and 2 grade I lesions, around 17% present between 1 and 2 grade 2 lesions, the prevalence of root caries is high.

Analysis of Occlusal Pairs

A low average of occlusal pairs was found, in general the population presents around 8 occlusal pairs on average per older adult. It was possible to establish that in 70 % of the teeth present there is no occlusal pair; In the case of the Tooth-Prosthesis pairs, around 72 % did not have any pairs and finally, in the case of Prosthesis - Prosthesis, around 73 % did not have any occlusal pairs. The average number of occlusal pairs by age is represented in the Figure 1.

It can be seen in the graph that as age increases. Tooth-tooth occlusal pairs decrease, while denture-prosthesis pairs tend to increase.

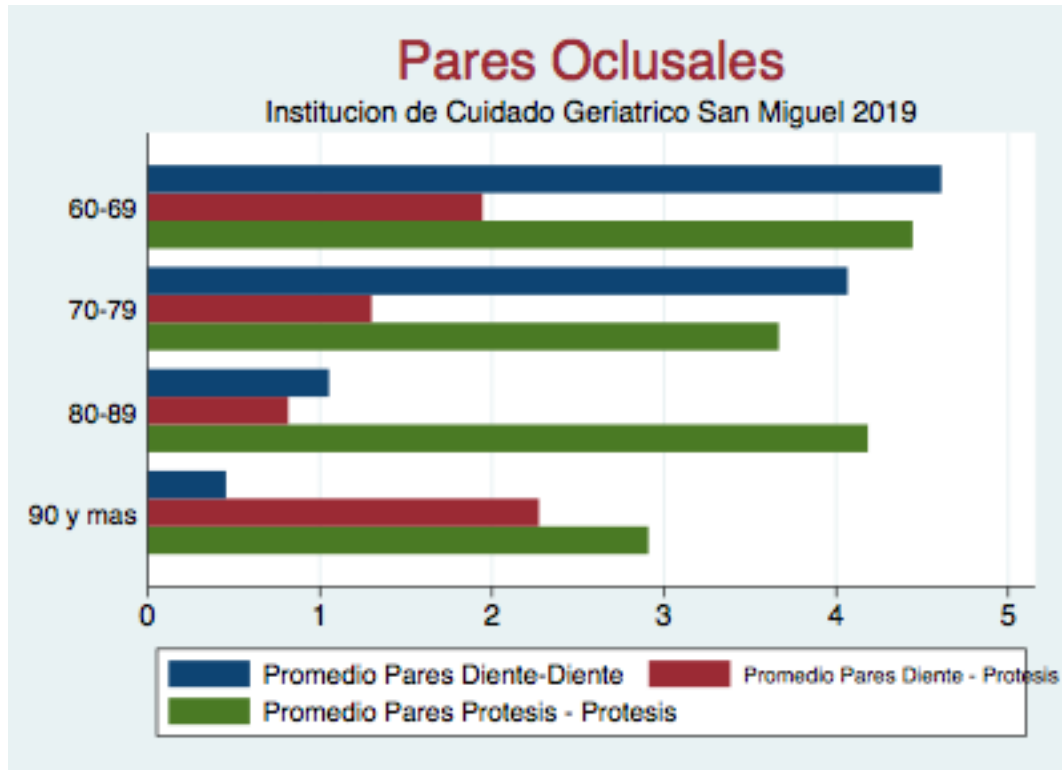


FIGURE 1
Analysis of occlusal pairs by age

DISCUSSION

The characterization carried out aims to make evident a problem, already recognized in the world, but little reported in Colombia, responding to the need and gap found, a complete analysis of the oral cavity of socio-economically disadvantaged institutionalized older adults in the city is carried out. From Cali. The collection of information presents strengths such as the correct and standardized diagnosis by the evaluators and the population willing to be part of the study at home.

The population showed differential characteristics to others already reported, in the majority of homes, the patients are mostly women, in the case of the characterization in the HGASM the majority were men, a phenomenon similar to that found in other national characterizations (27).

One of the great concepts that is discussed in aging processes in terms of the oral cavity is edentulism, which according to the dictionary of prosthodontic terms is defined as the absence of teeth or the loss of them, which could be partial or overall (28). A clear finding that has been recurrent in population and institutionalized studies is dental loss as age increases, these are evident findings, the institutionalized population is not far from it (29), this aspect is corroborated in the study, which presents entirely edentulous areas or complete edentulism.

Prosthetic hygiene at the site was found to be highly related to the use of cream and brush in prostheses, which are mostly removable. The review has shown that many forms of hygiene can be

adequate, however, each particular case and patient requires differential interventions and various strategies to establish appropriate behaviors (30). It is necessary to work on hygiene plans that, as we know, prevent dental loss and promote behaviors, this will contribute to conserving structures to improve masticatory functions and occlusal pairs in an adequate manner and for the elderly to receive adequate instructions (31).

Generally subprosthetic stomatitis is less than that found in the study, probably 12-13 % of the populations evaluated (32). In Colombia, the general population presents around 40% of the presence of stomatitis in the elderly (20), in this population a prevalence of around 23 % was found, it is necessary to review or modify behaviors in order to improve the appearance of stomatitis and avoid the increase of pathogens in the cavity, this aspect is highly related to oral hygiene.

One of the important findings and analysis is the masticatory function, which is defined by the World Health Organization (WHO) as follows: Optimal: presence of 28 teeth due to the exclusion of third molars, Adequate Masticatory Function: between 24 and 27 teeth present. Satisfactory Masticatory Function: between 20 and 23 teeth present; Minimum Masticatory Function: between 16 and 19 teeth, Non-Functional Dentition: 15 teeth or less. In Colombia under the reference of the IV national study of oral health, a total absence was observed in 32 % of the population over 65 years of age, non-functional in 45%, minimal function in around 8 % and functional only in 3 % (twenty). This is important even when evaluating chewing efficiency, which seeks to evaluate the number of chewing blows required to prepare the food to be swallowed, an especially important component in the elderly. The closeness that exists between the values of occlusal functionality between non-institutionalized populations and specifically the institutionalized population of this study is striking. The latter should present better conditions, even due to the access to dentistry and its location in the urban area. eliminating variables such as rurality and functionality.

Regarding the average number of occlusal pairs, the general population in Colombia presents an average of 9.5 occlusal pairs, considering natural and rehabilitated teeth (20), in the HGASM an average of around 8 pairs were found, being a little less. compared to the national average, considering that the first figure falls on people with high social vulnerabilities.

Nested to the collection of information and the oral findings found, the oral health conditions of the elderly have been the subject of study in the world literature, the surveillance of aspects such as edentulism, periodontal disease, dental caries and other aspects., have shown that they are major causes of years of life lost due to disability (DALYs or DALYs) and express a high correlation with an inadequate quality of life (33).

The older adult population, in general, who is in care centers or nursing homes, requires a much more adequate follow-up of oral health, an association has been found between oral and dental conditions with systemic compromises such as hypertension, diabetes and fragility, (34, 35). Occlusal forces, number of teeth, and perse age are associated with fragility (36). Oral frailty is even a predictor of systemic frailty conditions, being a risk factor for early death (37).

Another of the systemic aspects that have been seen to be related to oral health conditions are nutritional processes, poor oral hygiene, lack of teeth, inadequate chewing capacity and xerostomia, are related to inadequate nutritional processes (38, 39). The population studied did not present a high prevalence of xerostomia, however, it meets the other characteristics to find nutritional deficiencies. Edentulism and the lack of adequate masticatory function are related to overweight or malnutrition in the elderly (40). In addition, the association of the oral health conditions of the elderly with their quality of life has been studied, even in the Colombian population (15).

The study provides oral information in the institutionalized population; however, oral health should not be seen as distanced from systemic conditions, health requires new epistemological frameworks of

analysis that contribute to the understanding of systemic health and vice versa. Understanding oral health conditions from the point of view of complexity is key to improving the point of view of health problems and starting to speak more than from a disease concept of a health discourse, specifically oriented to Primary Health Care, in the life cycle (41, 42).

Public policy in Colombia requires the appropriation of new inputs to provide the conditions in which the Colombian elderly begin to create awareness of the importance of their oral health as part of general health and that contributes in a transversal way to the control of global disease objectives, Colombia has been managing and reducing edentulism for 20 years, however there is still much to do (43). In addition to the connection of this public policy with the professional and technician who is in charge of oral health.

The speech, even political, of geriatric oral health or dental geriatrics should be related to the concept of society and self-care, professionals treating the oral cavity must insert ourselves and learn from the positive concept of aging, paradigmatic changes that incur in theories such as aging active or healthy aging are necessary as part of the investigative and academic process of the profession, it is necessary not to talk about disease but about health and a concept of social participation, in which the gerontological discipline has a great place (44, 45).

It is important to understand the population characteristics of the new aged population in Colombia and how these factors should or should not mean risk to oral cavity conditions, it is noteworthy that in a population like this (institutionalized) sociodemographic factors should not constitute a risk factor. risk for mediated edentulism, as has been widely described in the literature (46-48), perhaps the history of dental floss did play a transversal role in the oral conditions found.

The results are limited to the geriatric care institution where it was carried out. It is important to have broader results and more robust methodologies that allow the creation of statistics, in favor of more precise decisions and interventions for the entire population group. New investigations are required within the framework of the systemic relationship with this type of oral conditions, frailty, nutrition, dementia and functional aspects require specific questions with oral health. In addition to this, it is also necessary to understand the approaches within the framework of quality of life that require more in-depth investigations, even more considering pandemic processes such as those experienced in the second decade of the 20th century (46).

CONCLUSIONS

This article updates and provides an approximation of oral health conditions in an institutionalized population in Cali, Colombia, performs a complete analysis of occlusal pairs and masticatory function. The general conditions found in the oral cavity show the importance and need for intervention processes in the Colombian elderly institutionalized population.

RECOMMENDATIONS

In the future, the institutionalized elderly population in Colombia requires additional analysis and approximations, establishing issues such as quality of life in the face of oral health conditions that occur in the mouth in the institutionalized population, in addition, carrying out analyzes with related systemic conditions, including frailty and nutritional aspects, both for institutionalized and non-institutionalized. Research on apprehension in dental care for older adults by patients and professionals is also key to understanding oral health conditions.

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