South American Publishing

SAP Dentistry. 2026; 4:221
doi: 10.62486/dent2026221

ORIGINAL

Oral mucosal lesions in older adults wearing removable partial dentures

Lesiones de la mucosa bucal en adultos mayores portadores de prótesis parcial removible

Dailen Guerra-Milán[1], Yoanka Puente-Oduardo[1], Yailet Velázquez-Borges[1], Yoneisy Abraham-Millán[1]

[1]Facultad de Estomatología de La Habana. Departamento de Prótesis Estomatológica. La Habana, Cuba

Cite as
Guerra-Milán D, Puente-Oduardo Y, Velázquez-Borges Y, Abraham-Millán Y. Oral mucosal lesions in older adults wearing removable partial dentures. SAP Dentistry. 2026; 4:221. https://doi.org/10.62486/dent2026221

Publication History
Submitted: 02-11-2025
Revised: 18-02-2026
Accepted: 07-05-2026
Published: 08-05-2026

Corresponding author:
Dailen Guerra-Milán

ABSTRACT

Introduction: the use of removable partial dentures is common among older adults and may be associated with various lesions of the oral mucosa. The objective of this study was to identify oral mucosal lesions in older adult patients who wear removable partial dentures.
Methods: an observational, descriptive, cross-sectional study was conducted during 2025 at the Rampa 1 clinic in the Plaza de la Revolución municipality, Cuba. The study population consisted of 432 patients aged 60 years or older. A non-probabilistic census sample of 148 patients wearing removable partial dentures was selected. Data was collected through direct clinical observation and a data collection form. The clinical examination was performed following the standard semiological sequence for oral cavity assessment, and informed consent was obtained from the participants.
Results: denture stomatitis was the most frequent lesion, occurring in 18 % of cases, and predominated in female patients (70,6 %). The hard palate was the most frequently affected site (52,7 %). Most lesions were observed in patients who had used their dentures for 10 years or more (89,7 %) and in cases involving ill-fitting dentures. Lesions such as epulis fissuratum, fibrous hyperplasia, traumatic ulcers, and fibromas were also observed exclusively in association with ill-fitting dentures. Furthermore, a higher frequency of lesions was evident in patients with poor denture hygiene.
Conclusions: oral mucosal lesions in older adults wearing removable partial dentures occurred primarily in patients exhibiting inadequate hygiene, prolonged denture use, and ill-fitting prostheses. Denture stomatitis and epulis fissuratum were the most frequently observed lesions.

Keywords: Oral Mucosa; Removable Partial Denture; Older Adult.

RESUMEN

Introducción: el uso de prótesis parcial removible es frecuente en adultos mayores y puede asociarse con diversas lesiones de la mucosa bucal. El objetivo del estudio fue determinar las lesiones de la mucosa bucal en pacientes adultos mayores portadores de prótesis parcial removible.
Métodos: se realizó un estudio observacional, descriptivo y de corte transversal durante el año 2025 en el consultorio Rampa 1 del municipio Plaza de la Revolución, Cuba. La población estuvo conformada por 432 pacientes de 60 años o más. Se seleccionó una muestra censal no probabilística de 148 pacientes portadores de prótesis parcial removible. La información se obtuvo mediante observación clínica directa y una ficha de recolección. El examen clínico se realizó siguiendo el orden semiológico para la evaluación de la cavidad bucal y se obtuvo el consentimiento informado de los participantes.
Resultados: la estomatitis subprótesis fue la lesión más frecuente, con un 18 %, predominando en el sexo femenino (70,6 %). El paladar duro fue la localización más afectada (52,7 %). La mayoría de las lesiones se presentó en pacientes con prótesis utilizadas durante 10 años o más (89,7 %) y en prótesis desajustadas. Lesiones como épulis fisurado, hiperplasia fibrosa, úlcera traumática y fibroma también se observaron exclusivamente en prótesis desajustadas. Además, se evidenció mayor frecuencia de lesiones en pacientes con higiene protésica deficiente. La estomatitis subprótesis se asoció fuertemente con el uso prolongado de la prótesis y con una higiene deficiente.
Conclusiones: las lesiones de la mucosa bucal en adultos mayores portadores de prótesis parcial removible se presentaron principalmente en aquellos pacientes con una higiene inadecuada, uso prolongado y desajuste de la prótesis. La estomatitis subprótesis y el épulis fisurado fueron las lesiones más frecuentes y las de mayor asociación con el uso prolongado de la prótesis y con una higiene deficiente.

Palabras clave: Mucosa Bucal; Prótesis Dental Parcial Removible; Adulto Mayor.

© 2026; The Authors. This Open access article is distributed under the Creative Commons Attribution 4.0 license (https://creativecommons.org/licenses/by/4.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

INTRODUCTION

Aging is a universal, dynamic, irreversible, and progressive phenomenon involving morphological, functional, and biochemical changes in the body. It is recognized as a stage of the life cycle that involves structural and physiological transformations that can increase vulnerability to various systemic and oral conditions.[1]

Globally, there has been a sustained increase in the number of people over 60 years of age; it is estimated that by 2025, there will be approximately 1,2 billion older adults.[2] In Cuba, 25,7 % of the population was 60 years of age or older in 2024, placing it among the countries with the oldest populations in Latin America and the Caribbean.[3]

The morphological and functional changes that occur in the oral cavity are part of the general aging process. These include decreased saliva flow, tooth loss, changes in periodontal tissues, and alterations in the oral mucosa—conditions that favor the development of various stomatological pathologies.[4] Tooth loss or edentulism significantly affects the functions of the stomatognathic system, such as mastication, speech, and aesthetics. Therefore, prosthetic rehabilitation is a widely used therapeutic alternative to restore these functions.[5]

The placement of dental prostheses causes changes in the oral microenvironment that require adaptation by the tissues. The design, stability, fit, and duration of use of the removable partial denture (RPD), as well as hygiene conditions, can directly affect the reaction of the oral mucosa. Poorly fabricated, ill-fitting dentures, or those used for prolonged periods without professional supervision, can contribute to the development of lesions in oral tissues.[6]

Inappropriate use of dentures can transform a restorative resource into a chronic irritant, causing alterations ranging from simple inflammatory processes to potentially malignant lesions, such as leukoplakia.[7] Oral mucosal diseases affect between 25 % and 50 % of the population, depending on the study group.[8] In older adults who wear dental prostheses, this prevalence may increase because of the presence and interaction of systemic factors inherent to aging and local factors associated with prosthetic use.

Several studies have evaluated the relationship between the use of dental prostheses and the development of oral mucosal lesions, reporting lesion prevalence rates ranging from 20 % to 40 % among users of removable prostheses, with denture stomatitis being the most common condition.[9,10,11] The presence of oral mucosal lesions caused by the use of dental prostheses negatively impacts quality of life.[12] However, the relationships between the clinical characteristics of removable partial dentures—such as their design, fit, maintenance, and duration of use—and the development of oral mucosal lesions in older adults have not yet been fully elucidated.

At the Prosthodontics Clinic of the "Raúl González Sánchez" School of Stomatology, a considerable number of older adults wearing RPDs with oral mucosal alterations have been observed. However, there are no recent studies characterizing lesions in this specific population, nor have the extent of their association with prosthetic factors such as fit, duration of use, and hygiene been quantified. In this regard, it is necessary to conduct studies that allow for a deeper exploration of the subject.

The objective of this study was to determine the frequency of oral mucosal lesions and their association with the characteristics of removable partial dentures in older adults attending the Prosthodontics Clinic at the "Raúl González Sánchez" School of Dentistry during the year 2025.

METHOD

This study was designed using a quantitative approach, employing an observational, descriptive, cross-sectional design, with the aim of determining the presence of oral mucosal lesions associated with the use of removable partial dentures in older adults. The study population consisted of all older adult patients (≥ 60 years) from the Rampa 1 medical clinic in the municipality of Plaza de la Revolución, Cuba, who visited the Prosthodontics Clinic of the "Raúl González Sánchez" School of Dentistry during 2025. From this population, a nonprobabilistic convenience sample of 148 patients who met the inclusion criteria defined for the study was selected.

Patients of both sexes who were wearing removable acrylic or metal partial dentures, who were presented with lesions clinically associated with denture use, and who provided informed consent to participate in the study were included. Patients with lesions not associated with prosthesis, psychological or mental disorders, or cognitive impairment that prevented effective communication were excluded, as were those receiving radiotherapy or chemotherapy, given the influence of these factors on the oral mucosa.

Data collection was performed through direct clinical observation, supplemented by a structured data collection form. This form included three main sections: sociodemographic data, prosthesis characteristics (duration of use, technical condition, and hygiene), and clinical characteristics of the mucosal lesion (type and anatomical location). The content validity of the instrument was evaluated by three experts in Prosthodontics and Oral Pathology, who assessed its adequacy in terms of clarity, relevance, and consistency.

The clinical examination was conducted in the dental chair, using artificial lighting, a flat oral mirror, sterile gauze, and gloves, following the recommended semiological order for evaluating the oral cavity. It was performed by a single trained examiner to avoid bias. Oral hygiene was considered effective when there was little or no bacterial plaque or dental calculus present, as well as gums with adequate clinical characteristics, without obvious signs of inflammation. In contrast, oral hygiene was defined as poor when there was visible accumulation of bacterial plaque, the presence of dental calculus, and clinical signs of gingival inflammation, such as redness, swelling, or bleeding. The variable "ill-fitting prosthesis" was considered when any of the following criteria were present: loss of retention, instability during mastication or speech, poor fit at the prosthetic margins, or the patient reporting pain or discomfort. A prosthesis was considered adequate when there was proper adaptation to the supporting tissues and adequate functionality without reported discomfort.

The initial evaluation of the mucosa was performed without the prosthesis, allowing for the identification of preexisting lesions, and subsequently, the prosthesis was placed to assess the relationship between the prosthetic device and the oral tissues. Patients

with lesions received instructions on prosthesis use, stomatological treatment on the basis of the type of lesion, and, when necessary, referral to the Maxillofacial Surgery Department for specialized care.

The variables analyzed included age, sex, duration of denture use, technical condition and hygiene of the denture, type of mucosal lesion, and anatomical location of the lesion. These variables were categorized and operationalized for statistical analysis and subsequently expressed as absolute frequencies and percentages. SPSS version 27 for Windows was used for statistical analysis. Descriptive statistics were applied by calculating absolute frequencies and percentages, and for the bivariate analysis between lesions and factors (sex, duration of use, fit, and hygiene), odds ratios were calculated with 95 % confidence intervals.

The study was conducted in accordance with the ethical principles established in the Declaration of Helsinki, ensuring respect for individuals, beneficence, and justice. Approval was obtained from the authorities at the dental prosthetics clinic, who explained the research objectives and the expected benefits for the population. All participants were provided with detailed information about the study, ensuring confidentiality and the exclusive use of data for research purposes, and their participation was formalized through the signing of an informed consent form.

RESULTS

Table 1 shows the distribution of oral mucosal lesions by sex, revealing that subprothesis stomatitis was the most common lesion, accounting for 52,7 % of the total sample, with a predominance among females (70,6 %). Fissured epulis was the second most common lesion (29,5 %), with a slightly higher prevalence among males (56 %). Notably, no patients with leukoplakia, acrylic allergies, or neoplasms were recorded in the study population**.** Notably, the sum of the percentages in the "Totals" column does not add up to 100 %, as a single patient could have presented with more than one lesion at the time of clinical evaluation. Consequently, the percentages represent the proportion of each type of lesion relative to the total sample.

Table 1. Distribution of older adults by type of mucosal lesion and sex

Type of lesion	Female		Male		Total	
	No	%	No	%	No	%
Fissured epulis	19	44	24	56	43	29,5
Subdenture stomatitis	55	70,6	23	29,4	78	52,7
Fibrous hyperplasia	3	42,9	4	57,1	7	4,73
Traumatic ulcer	2	33,3	4	66,6	6	4,05
Candidiasis	8	88,8	1	11,1	9	6,08
Fibroma	2	40	3	60	5	3,38

Table 2 presents the distribution of older adults according to the type of lesion and the age groups evaluated. Subdentate stomatitis was the most prevalent lesion, with a higher concentration of cases in the 60–64 age group, where 52,5 % of those affected were recorded, followed by the 70–74 age group, with 38,4 %. However, fissured epulis was more common in the 70–74 age group, which accounted for 32,5 % of the cases, followed by the 65–69 age group, with 28 %. The majority of patients with oral candidiasis were in the 70–74 age group, which accounted for 77,7 % of the cases. Traumatic ulcers were most common in the 60–64 age group, which was the youngest group in the study (66,6 %).

Table 2. Distribution of older adults by type of mucosal lesion and age

Type of lesion	Age Groups									
	60–64 years		65–69 years		70–74 years		Over 75 years		Total	
	No	%	No	%	No	%	No	%	No	%
Fissured epulis	9	21	12	28	14	32,5	8	18,6	43	29,5
Subdenture stomatitis	41	52,5	6	7,6	30	38,4	1	1,28	78	52,7
Fibrous hyperplasia	0	0	5	71,4	2	28,5	1	14,2	7	4,73
Traumatic ulcer	4	66,6	2	33,3	0	0	0	0	6	4,05
Candidiasis	0	0	0	0	7	77,7	2	22,2	9	6,08
Fibroma	3	60	2	40	0	0	0	0	5	3,38

Table 3 shows the distribution of oral lesions according to their anatomical location; there was greater involvement in areas of greater mechanical contact with the prosthesis. The hard palate (52,7 %) was the most affected site, suggesting the influence of removable partial dentures on the mucosal supporting tissues. Similarly, the sulcus floor was the second most frequent site (23,65 %). The remaining anatomical sites were less common, although they remain clinically relevant because of their susceptibility to prosthetic trauma.

Table 4 presents the distribution of oral lesion types according to the duration of denture use among the older adults studied. The prevalence of subdentate stomatitis (89,7 %) and fissured epulis (60,4 %) was greater among those with prolonged denture use (10 years or more). Similarly, oral candidiasis was more prevalent in patients who had used dentures for 6 to 9 years (55,5 %) and 10 years or more (44,4 %). Traumatic ulcers were observed primarily in patients who had used dentures for less than 5 years (83,3 %). Analysis of the association between the duration of denture use and the presence of mucosal lesions revealed that subdentate

stomatitis is strongly associated with prolonged use (≥10 years) (OR = 11), indicating that patients with more than 10 years of use are 11 times more likely to develop this lesion than those with shorter exposure times are. On the other hand, lesions such as traumatic ulcers, fibrous hyperplasia, candidiasis, and fibromas were observed more frequently in patients with shorter durations of use, with ORs less than 1. Fissured epulis was weakly associated (OR = 0,61) with prolonged use, suggesting that factors other than the duration of exposure may influence its development.

Table 3. Distribution of older adults according to the location of the lesion in the oral mucosa

Location	No.	%
Lip	6	4,05
Cheeks	5	3,38
Tongue	9	6,08
Floor of the mouth	5	3,38
Hard palate	78	52,7
Residual alveolar ridges	11	7,43
Sulcus floor	35	23,65

Table 4. Types of oral mucosal lesions according to duration of denture use

Type of oral mucosal lesion	Up to 5 years		6–9 years		10 years and more		Total		OR
	No.	%	No.	%	No.	%	No.	%	
Fissured epulis	5	11,6	12	28	26	60,4	43	29,5	0,61
Subdenture stomatitis	0	0	8	10,2	70	89,7	78	52,7	11
Fibrous hyperplasia	1	14,2	5	71,4	1	14,2	7	4,73	0,06
Traumatic ulcer	5	83,3	1	16,6	0	0	6	4,05	0
Candidiasis	0	0	5	55,5	4	44,4	9	6,08	0,35
Fibroma	0	0	5	100	0	0	5	3,38	0

As shown in table 5, all lesions found were more prevalent in the ill-fitting denture group. Subdental stomatitis, fissured epulis, fibrous hyperplasia, traumatic ulcers, and fibroma were recorded in 100 % of the cases in this category. However, oral candidiasis was predominantly associated with ill-fitting dentures (88,8 %), while a small percentage of cases occurred in patients with well-fitting dentures (11,1 %). Odds ratios (ORs) were calculated on the basis of the presence or absence of each type of lesion according to the technical condition of the denture. Cells with 0 in the "well-fitting denture" category yielded undefined or very high (∞) values, indicating a very strong association between ill-fitting dentures and the occurrence of lesions. The majority of lesions were concentrated in ill-fitting dentures. In the case of oral candidiasis, 8 out of 9 cases were observed in patients with ill-fitting dentures and 1 case in patients with well-fitting dentures, resulting in an OR of 0,8, indicating that there is no clear association between ill-fitting dentures and the occurrence of this lesion.

Table 5. Types of oral mucosal lesions according to the technical condition of the denture

Type of lesion	Technical condition of the denture						OR
	Well-fitting		Ill-fitting		Total		
	No.	%	No.	%	No.	%	
Fissured epulis	0	0	43	100	43	29,5	
Subdenture stomatitis	0	0	78	100	78	52,7	
Fibrous hyperplasia	0	0	7	100	7	4,73	
Traumatic ulcer	0	0	6	100	6	4,05	
Candidiasis	1	11,1	8	88,8	9	6,08	0,8
Fibroma	0	0	5	100	5	3,38	

Table 6 shows the distribution of oral lesion types according to denture hygiene in the patients analyzed. Oral mucosal lesions were concentrated primarily in the group with poor denture hygiene, such as fissured epulis (93 %), subdentate stomatitis (91 %), and candidiasis (100 %). Lesions such as fibrous hyperplasia and fibroma were more prevalent in patients with good denture hygiene, at 71,4 % and 80 %, respectively, while traumatic ulcers were equally distributed between both groups (50 % for each group). Analysis of the association between denture hygiene and the occurrence of mucosal lesions revealed that denture stomatitis and fissured epulis are strongly associated with poor hygiene, with ORs of 16,2 and 10,8, respectively. Candidiasis occurred exclusively in patients with poor hygiene, resulting in an undefined OR (∞) and indicating the strongest association. On the other hand, lesions such as fibrous hyperplasia, traumatic ulcers, and fibromas had ORs less than 1, indicating a tendency to occur in patients with good hygiene, which suggests that other factors may influence their occurrence.

Table 6. Types of mucosal lesions according to denture hygiene

Type of lesion	Dental Prosthesis Hygiene						
	Effective Hygiene		Poor Hygiene		Total		OR
	No.	%	No.	%	No.	%	
Fissured epulis	3	7	40	93	43	29,5	10,8
Subdenture stomatitis	7	9	71	91	78	52,7	16,2
Fibrous hyperplasia	5	71,4	2	28,5	7	4,73	0,19
Traumatic ulcer	3	50	5	50	6	4,05	0,49
Candidiasis	0	0	9	100	9	6,08	∞
Fibroma	4	80	1	10	5	3,38	0,12

Legend: undefined (∞)

DISCUSSION

The results of this study revealed that subdentate stomatitis was the most common lesion, followed by fissured epulis, at 52,7 % and 29,5 %, respectively, in older adults who received removable partial dentures. Recent studies in the geriatric population report subdentate stomatitis as the most common lesion associated with the use of dental prostheses.

A study conducted in older adults wearing removable dentures reported that denture stomatitis accounted for approximately 18,8 % of all mucosal lesions.[13] Similarly, another epidemiological study in older adults revealed that denture-related stomatitis accounted for 52,4 % of denture-associated oral lesions, followed by traumatic and hyperplastic lesions.[14]

This pattern can be explained by the fact that subdentate stomatitis involves a chronic inflammatory response of the mucosa in contact with the denture base, facilitated by microbial colonization, biofilm accumulation, and the continuous use of the denture. Recent literature indicates that this lesion may occur in 20–67 % of removable denture wearers, reflecting its close relationship with prosthetic and microbiological factors.[15]

With respect to sex, 70,6 % of female patients had subdenture stomatitis, whereas 56 % of male patients had fissured epulis. Different results have been reported in other studies, which have reported a higher incidence of denture-related mucosal lesions in older adult women.

An epidemiological analysis conducted in a geriatric population revealed that the prevalence of denture-related oral lesions was greater in women (46,3 %) than in men (35,7 %).[16] Furthermore, other studies have suggested that this difference may be associated with greater female longevity and greater reliance on dental prostheses in older individuals.[17]

This pattern may be due to biological and behavioral factors, such as hormonal changes associated with aging, greater female survival in the geriatric population, and patterns of longer-term use of dental prostheses.[18]

With respect to age, the results revealed a higher concentration of lesions in the 60–64 and 70–74 age groups, particularly for denture stomatitis (52,5 %) and oral candidiasis (77,7 %). This pattern has been described in recent studies indicating that certain denture-related mucosal lesions tend to occur more frequently in older adults within the geriatric population.

Epidemiological research has shown that the occurrence of these lesions is more closely associated with the duration of exposure to dental prostheses than with chronological age, which explains their higher frequency in patients who have used prostheses for long periods. This pattern can be attributed to prolonged exposure to mechanical and microbiological irritants as well as to the progressive deterioration of prosthetic materials over time.[19]

In terms of anatomical location, the hard palate was the most affected area, followed by the floor of the vestibular sulcus. Equivalent results have been described in clinical studies on lesions associated with removable dentures, where it has been reported that the palate constitutes the most vulnerable region because of its constant contact with the base of the maxillary denture.[20] Likewise, recent research has indicated that mucosal lesions develop primarily in areas where there is greater prosthetic pressure and retention of microorganisms.[21]

These findings can be explained by the combined action of mechanical pressure, repeated microtrauma, and biofilm accumulation on the inner surface of the prosthesis, which are factors that promote chronic inflammatory processes in mucosal supporting tissues.

With respect to the duration of prosthesis use, a higher frequency of subprosthetic stomatitis (89,7 %) and fissured epulis (60,4 %) was observed in patients who had used the prosthetic device for more than 10 years. This finding can be explained by the fact that prolonged use of dental prostheses promotes material wear, loss of adaptation to the supporting tissues, and biofilm accumulation—factors that increase chronic mucosal irritation. Similarly, recent studies have identified duration of use as a determining factor in the development of mucosal lesions, which could be related to continuous exposure to microtrauma and microbial colonization on the prosthetic surface.

A retrospective study conducted in older adults revealed that more than 54 % of mucosal lesions occurred in patients whose dentures were used for more than 10 years.[13] Furthermore, epidemiological studies have revealed a relationship between prolonged denture use, poor hygiene, and the development of inflammatory lesions of the oral mucosa.[22]

This phenomenon can be explained by the progressive wear of the prosthetic material, loss of adaptation to the supporting tissues, and the accumulation of microorganisms over time, which increases chronic mucosal irritation.

With respect to the fit of the prosthesis, most of the lesions found were more prevalent in patients with ill-fitting prostheses.

These results can be explained because prosthetic malocclusion generates an irregular distribution of masticatory forces and causes continuous microtrauma to soft tissues, which promotes the development of lesions. Similarly, recent studies have indicated that the loss of stability and fit of the prosthesis constitute a relevant etiological factor because of persistent mechanical irritation and increased biofilm retention in the contact areas.[23,24]

Notably, poorly fit dentures generate uneven pressure and continuous microtrauma to soft tissues, promoting the development of hyperplastic and inflammatory lesions.[25] This could explain why loss of prosthetic stability alters the distribution of masticatory forces and causes persistent irritation of the oral mucosa.

Finally, the analysis of denture hygiene revealed that most lesions were concentrated in patients with poor oral hygiene, particularly subdentate stomatitis (91 %), fissured epulis (93 %), and oral candidiasis (100 %). Recent studies have reported that biofilm accumulation on the surface of a prosthesis is a determining factor in the development of mucosal lesions, especially those of inflammatory and infectious origin. Furthermore, microbiological research has demonstrated that denture wearers exhibit greater colonization by *Candida* spp., which increases the risk of developing denture stomatitis.

This behavior can be attributed to poor oral hygiene promoting the retention of microorganisms, food debris, and exogenous pigments, altering the microbiological balance of the oral cavity and promoting inflammatory processes in the mucosa.

Among the study's limitations is the use of a nonprobabilistic convenience sample, which may introduce selection bias that affects the representativeness of the results. The ability to detect independent associations among the variables under examination is limited because no multivariate analysis was conducted to control for potential confounding factors. No microbiological investigations were conducted to confirm the specific involvement of *Candida* spp. in the diagnosed lesions, nor were relevant systemic variables analyzed, such as the use of certain medications or chronic conditions (diabetes, hypertension), which could influence the development of mucosal lesions. A strength of the study was the evaluation of the lesions by a single examiner, which ensured consistency in the analysis.

From a clinical perspective, these findings highlight the importance of establishing prevention and control strategies aimed at ensuring the proper maintenance of removable dentures. It is essential that dental health professionals perform periodic checks of prosthetic fit and ongoing assessments of the condition of the oral mucosa. Similarly, the findings support the implementation of educational programs for caregivers and older adults aimed at improving or controlling the analyzed risk factors, preventing the onset of infectious and inflammatory lesions, and minimizing the risk of long-term complications.

Implementing these policies could help reduce the burden of prosthesis-related oral diseases, optimize the quality of life for older adults, and reduce morbidity. Future research should utilize longitudinal designs, incorporate multivariate analyses to control confounding variables, and examine specific microbiological studies.

CONCLUSIONS

Subdentate stomatitis was the most prevalent oral mucosal lesion among older adults wearing removable partial dentures, with a predominance among females. Lesions were concentrated primarily in the 60–74 age group and were most frequently located on the hard palate and the floor of the vestibular sulcus. The lesions occurred primarily in patients with poor hygiene, prolonged denture use, and ill-fitting dentures. The findings highlight the importance of periodic denture check-ups, education on denture hygiene, and systematic stomatological follow-up as fundamental measures for preventing these conditions in the elderly population.

The results showed that subdenture stomatitis was strongly associated with prolonged denture use and poor hygiene, supporting its multifactorial nature, which is influenced by biofilm accumulation and chronic irritation. The remaining lesions showed a weaker association. Denture malfit was confirmed as a determining factor, as it accounted for the majority of lesions with very high associations.

CONFLICT OF INTEREST

The authors declare that there are no conflicts of interest.

FUNDING

The authors received funding to obtain the results presented in this article from the research project "Oral Diseases Affecting Older Adults" (project code NA241LH0072I).

AUTHORSHIP CONTRIBUTIONS

Conceptualization: Dailen Guerra-Milán, Yoanka Puente-Oduardo.
Research: Dailen Guerra-Milán, Yoanka Puente-Oduardo, Yailet Velázquez-Borges, Yoneisy Abraham-Millán.
Data curation: Dailen Guerra-Milán, Yoanka Puente-Oduardo.
Formal analysis: Yailet Velázquez-Borges, Yoneisy Abraham-Millán.
Methodology: Dailen Guerra-Milán, Yoanka Puente-Oduardo.
Writing – original draft: Dailen Guerra-Milán.
Writing – review and editing: Yoneisy Abraham-Millán.

REFERENCES

1. Bermúdez C, Morales T, Vásquez A. Lesiones de la mucosa bucal asociadas al uso de prótesis estomatológica en desdentados. Rev 16 abril. 2021; 55(262):9–17. https://www.medigraphic.com/cgi-bin/new/resumen.cgi?IDARTICULO=75747

2. Organización Mundial de la Salud. 2025. Ageing and health. https://www.who.int/newsroom/factsheets/detail/ageingandhealth

3. Prensa Latina. A quarter of Cuba's inhabitants are over 60 years old. Prensa Latina; 2026. https://www.plenglish.com/news/2026/01/12/a-quarter-of-cubas-inhabitants-are-over-60-years-old/

4. Yero-Mier IM, Pérez-García LM, Fernández-Serrano JM. Lesiones paraprotésicas en pacientes geriátricos portadores de prótesis removibles. Rev. Información Científica.2021;100(4):1-8.
https://www.medigraphic.com/cgi-bin/new/resumen.cgi?IDARTICULO=112931

5. Piña-Odio I, Matos-Frómeta K, Barrera-Garcell M, González-Longoria YM, Arencibia-Flandes DP. Factores de riesgo relacionados con las lesiones paraprotésicas en pacientes portadores de prótesis removibles. Medisan.2021; 25(1): 41-50. http://scielo.sld.cu/scielo.php?pid=S1029-30192021000100041&script=sci_arttext&tlng=en

6. Jainkittivong A, Aneksuk V, Langlais R. Oral mucosal conditions in elderly dental patients.Oral Dis. 2022; 8(4):218–23. https://pubmed.ncbi.nlm.nih.gov/12206403/

7. Carvalho I, Nunes J, Porto da Cunha D, Arcanjo M. Patologías asociadas al uso de prótesis totales removibles: revisión de literatura. Rev. Multidisciplinar de Psicología.2021;18(47):875-888. https://idonline.emnuvens.com.br/id/article/view/2091

8. Radwan-Oczko M, Bandosz K, Rojek Z, Owczarek-Drabińska JE. Clinical study of oral mucosal lesions in the elderly—Prevalence and distribution. International journal of environmental research and public health.2022; 19(5): 2853. https://www.mdpi.com/1660-4601/19/5/2853

9. León-Velastegui MA, Gavilanes-Bayas NA, Mejía-Navas EX. Lesiones de la mucosa oral asociadas al uso de prótesis odontológicas en pacientes edéntulos totales. Dominio de las Ciencias. 2019; 5(1):603-623. https://doi.org/10.23857/dc.v5i1.880

10. Jainkittivong A, Aneksuk V, Langlais RP. Oral mucosal lesions in denture wearers. Gerodontology. 2021; 38(1):29-36. https://doi.org/10.1111/ger.12497

11. dos-Santos MBF, Aguiar SMHCA, de-Melo LA, et al. Denture-related oral mucosal lesions among Brazilian elderly: a cross-sectional study. J Oral Rehabil. 2020;47(8):1016-1023. https://doi.org/10.1111/joor.13050

12. Zheng F, Annamma LM, Harikrishnan SS, Lee DJ. Systemic Factors Affecting Prognosis in Restorative and Prosthetic Dentistry: A Review. Dental Clinics.2024; 68(4): 751-765. https://www.dental.theclinics.com/article/S0011-8532(24)00040-5/abstract

13. Bhakti BC, Jaintilal DZ, Ankit AS, Nitesh NN, Pratiksha PS, Phani Challa RS, Nida NW. Prevalence of Denture-Related Oral Lesions among Elderly a Retrospective Study. Journal of Contemporary Clinical Practice. 2024;10(1):329-334. https://doi.org/10.61336/jccp/24-01

14. Somaraj V, Verma D, Kaur R, Kaur M, Tiwari R, Dixit H, Sharma D. Prevalence of Denture- Related Oral Lesions Among Elderly: A Retrospective Study. CME Journal Geriatric Medicine. 2023 Jul;15(2):87-90. https://doi.org/10.61336/cmejgm/2023-09-30

15. Perić M, Miličić B, Kuzmanović Pfićer J, Živković R, Arsić Arsenijević V. A Systematic Review of Denture Stomatitis: Predisposing Factors, Clinical Features, Etiology, and Global Candida spp. Distribution. Journal of Fungi. 2024; 10(5): 328. https://doi.org/10.3390/jof10050328

16. Somaraj V, Verma D, Kaur R, Kaur M, Tiwari R, Dixit H, Sharma D. Prevalence of Denture- Related Oral Lesions Among Elderly: A Retrospective Study. CME Journal Geriatric Medicine. 2023 Jul; 15(2):87-90. https://doi.org/10.61336/cmejgm/2023-09-30

17. Priya PB, Sahoo SR, Tiwari HD, Rahul RT, MC MP, .Tohid .A. Prevalence of Denture-Related Oral Lesions among the Elderly: A RetrospectiveStudy. Journal of Contemporary Clinical Practice. 2025; 11(4):819-823. https://doi.org/10.61336/jccp/25-06-55

18. Ciesielska A, Kusiak A, Ossowska A, Grzybowska ME. Changes in the Oral Cavity in Menopausal Women—A Narrative Review. International Journal of Environmental Research and Public Health.2022; 19(1): 253. https://doi.org/10.3390/ijerph19010253

19. Espin-Fernandez E, Armas-Vega A. Lesiones de la mucosa oral asociadas al uso de prótesis removibles en pacientes

geriátricos. Revisión de literatura. Polo del Conocimiento. 2025; 10(4): 1280-1291. https://doi.org/10.23857/pc.v10i4.9377

20. Adam RZ, Kimmie-Dhansay F. Prevalence of Denture-Related Stomatitis in Edentulous Patients at a Tertiary Dental Teaching Hospital. Frontiers in oral health. 2021:2, 772679. https://doi.org/10.3389/froh.2021.772679

21. Abuhajar E, Ali K, Zulfiqar G, Al Ansari K, Raja HZ, Bishti S, Anweigi L. Management of Chronic Atrophic Candidiasis (Denture Stomatitis)—A Narrative Review. International Journal of Environmental Research and Public Health.2023; 20(4): 3029. https://doi.org/10.3390/ijerph20043029

22. Bradić-Vasić M, Pejčić A, Kostić M. Influence of local denture-related factors on the inflammatory marker levels in patients with denture stomatitis. BMC Oral Health. 2025; 25: 744. https://doi.org/10.1186/s12903-025-06160-6

23. Tosun B, Uysal N. Denture care attitudes, hygiene levels and oral mucosal lesions in complete denture wearers from a single-institution cross-sectional study. Sci Rep. 2025;15: 1421. https://doi.org/10.1038/s41598-025-85885-4

24. Thakare AA. Evaluation of Removable Prostheses and Oral Conditions in Long-Term Denture Wearers: A Clinical Study. Journal of Pioneering Medical Sciences. 2025 Nov;14(11):177-181. https://doi.org/10.47310/jpms2025141125

25. El Assraoui K, Oubbaih A, Kaoun K, Bellemkhannate S. Management of Denture-induced Hyperplasia. European Journal of Dental and Oral Health.2023; 4(2): 23-26. https://eu-opensci.org/index.php/ejdent/article/view/13235