



UNIVERSIDAD DE
COSTA RICA

CCP

Centro Centroamericano
de Población

Doi: <https://doi.org/10.15517/89g9kk31>

Volume 23, issue 1, Sci. art. July-december 2025



Población y Salud en Mesoamérica

Prevalence of lesions and alterations of the oral cavity in the Costa Rican population (Appendix)

Roberto Gerber-Mora y& Marcio-Ajudarte Lopes

How to cite this article:

Gerber-Mora, R., & Ajudarte Lopes, M. (2025). Prevalence of lesions and alterations of the oral cavity in the Costa Rican population. *Población y Salud en Mesoamérica*, 23(1). <https://doi.org/10.15517/89g9kk31>



ISSN-1659-0201 <http://ccp.ucr.ac.cr/revista/>

Revista electrónica semestral
Centro Centroamericano de Población
Universidad de Costa Rica

Prevalence of lesions and alterations of the oral cavity in the Costa Rican population

Prevalencia de lesiones y alteraciones de la cavidad bucal en la población costarricense

Roberto Gerber-Mora ¹ and Marcio-Ajudarte Lopes ²

Received: 15 jan, 2025 | **Corregido:** 02 aug, 2025 | **Aceptado:** 14 aug, 2025

8. Appendix

Table A1. Distribution of patients according to the classification of pathologies and alterations		
Reactive/traumatic lesions	Number of cases	Percentage
Fibrous hyperplasia	101	19.80%
Periapical granuloma	50	9.80%
Mucocele	47	9.20%
Pyogenic granuloma	40	7.80%
Frictional keratoses/Acanthoses	29	5.60%
Granulation tissue, nonspecific inflammation, trauma, mechanical friction.	29	5.60%
Giant cell fibroma	25	4.90%
Epulis fissuratum	21	4.10%
Traumatic ulcerative granuloma with stromal eosinophilia/chronic traumatic ulcer	20	3.90%
Morsicatio mucosae oris/self-inflicted injuries	20	3.90%
Peripheral ossifying fibroma	19	3.70%
Lymphoid hyperplasia	11	2.10%
Ranula	9	1.70%
Localized juvenile spongiotic gingival hyperplasia	8	1.50%
Peripheral giant cell granuloma	8	1.50%
Hairy tongue	7	1.30%
Sialolithiasis/Obstructive sialadenitis	7	1.30%
Verruciforme Xanthoma	6	1.10%
Hyperplastic dental follicle	6	1.10%

¹ Oroclínica Centro de Estomatología y Prevención del Cáncer Bucal, COSTA RICA. gerber.pato@outlook.com

² Faculdade de Odontologia, Universidade Estadual de Campinas UNICAMP, BRAZIL. malopes@fop.unicamp.br

Periapical fibrous scar	6	1.10%
Chronic sclerosing sialadenitis	5	1.20%
Idiopathic osteosclerosis	4	0.70%
Oral ulcer with spontaneous bone sequestration	4	0.70%
Foreign body reaction	4	0.70%
Indented tongue	3	0.50%
Mucous retention cyst	2	0.40%
Hemorrhagic bullous angina	2	0.40%
Smoker's melanosis	2	0.40%
Transient lingual papillitis	2	0.40%
Masseteric hyperplasia	1	0.20%
Osteitis condensans	1	0.20%
Gingival fibroma	1	0.20%
Traumatic neuroma	1	0.20%
Glandular cheilitis	1	0.20%
Actinic prurigo	1	0.20%
Necrotizing sialometaplasia	1	0.20%
Psychogenic xerostomia/anxiety	1	0.20%
Hyposalia due to dehydration	1	0.20%
Glycogenic acanthosis	1	0.20%
Pulp polyp	1	0.20%
Thrombus	1	0.20%
Fenestration/dehiscence	1	0.20%
Subtotal	523	100%
Bening neoplasms	Number of cases	Percentage
Oral squamous cell papilloma	87	55%
Compound/complex odontoma *	15	9.50%
Pleomorphic adenoma/myoepithelioma	7	4.40%
Lipoma/fibrolipoma	7	4.40%
Nevus	7	4.40%
Odontogenic fibroma	5	3%
Odontogenic myxoma/fibromyxoma	4	2.50%
Osteoma	4	2.50%
Central ossifying fibroma	3	1.80%
Neurofibroma	3	1.80%
Unicystic ameloblastoma	3	1.80%
Myofibroma	2	1.20%
Papillary cystadenoma	2	1.20%
Ameloblastoma	2	1.20%

Juvenile ossifying fibroma	1	0.60%
Sclerosing fibroma	1	0.60%
Sialadenoma papilliferum	1	0.60%
Dentinogenic ghost cell tumor	1	0.60%
Canalicular adenoma	1	0.60%
Inflammatory myofibroblastic tumor	1	0.60%
Adenomatoid odontogenic tumor	1	0.60%
Subtotal	158	100%
Oral potentially malignant disorders	Number of cases	Percentage
Leukoplakia (homogeneous/heterogeneous)	66	46.80%
Oral lichen planus	38	27%
Proliferative verrucous leukoplakia	15	10.60%
Erythroplasia	14	10%
Actinic cheilitis	8	5.60%
Subtotal	141	100%
Viral infectious diseases	Number of cases	Percentage
HPV infection		
Condyloma acuminatum	11	23%
Common wart	10	20.80%
Multifocal epithelial hyperplasia	4	8.30%
Oral papillomatosis/condylomatosis	4	8.30%
HHV infection		
Herpes simplex 1/2	13	27%
Varicella-Zoster	1	2%
Epstein-Barr	1	2%
HIV		
HIV/AIDS	3	6.20%
Coxsackievirus		
Herpangina	1	2%
Subtotal	48	100%
Bacterial infectious diseases	Number of cases	Percentage
Periapical/periodontal abscess/fistula/parulis	27	51%
Osteomyelitis	9	17%
Syphilis	8	15%
Necrotizing gingivitis/periodontitis	5	9.40%
Suppurative sialadenitis	1	1.80%
Tuberculosis	1	1.80%
Chronic hyperplastic gingivitis	1	1.80%

Severe periodontal disease	1	1.80%
Subtotal	53	100%
Fungal infectious diseases	Number of cases	Percentage
Candidiasis	14	93%
Histoplasmosis	1	7%
Subtotal	15	100%
Odontogenic and non-odontogenic cysts	Number of cases	Percentage
Odontogenic keratocyst	25	22%
Dentigerous cyst	22	19.30%
Inflammatory periapical cyst	19	16.60%
Simple bone cyst	9	7.90%
Lymphoepithelial cyst	8	7%
Glandular odontogenic cyst	6	5.20%
Nasopalatine duct cyst	5	4.30%
Gingival cyst	4	3.50%
Inflammatory collateral cyst	3	2.60%
Mucocele of the maxillary sinus	3	2.60%
Lateral periodontal cyst	2	1.70%
Aneurysmal bone cyst	2	1.70%
Epidermoid cyst	2	1.70%
Inflammatory antral pseudocyst	2	1.70%
Orthokeratinized odontogenic cyst	1	0.80%
Calcifying odontogenic cyst	1	0.80%
Subtotal	114	100%
Developmental disorders and alterations	Number of cases	Percentage
Vascular malformation/varicosities	34	32.40%
Cemento-osseous dysplasia	15	14.20%
Exostosis/torus	14	13.30%
Melanotic macule	14	13.30%
Angiolymphatic malformation	6	5.70%
Fibrous dysplasia	4	3.80%
Hemangioma	2	1.90%
Multiple hyperplastic dental follicles	2	1.90%
Adipose hyperplasia	2	1.90%
Fordyce granules	2	1.90%
Sebaceous hyperplasia	1	0.90%
Maxillary sinus hypoplasia	1	0.90%
Ectopic salivary gland (choristoma)	1	0.90%

Wide medullary spaces	1	0.90%
Linea alba	1	0.90%
Focal oral mucinosis	1	0.90%
Partial cleft palate	1	0.90%
Facial dermal hypoplasia	1	0.90%
Cherubism	1	0.90%
Ankyloglossia	1	0.90%
Subtotal	105	100%
Autoimmune and immune-mediated diseases	Number of cases	Percentage
Recurrent aphthous stomatitis	27	27.20%
Benign migratory glossitis	21	21.20%
Pemphigoid of mucous membranes	16	16.10%
Pemphigus vulgaris	9	9.10%
Sjögren's syndrome	8	8.10%
Lichenoid contact reaction	5	5%
Contact stomatitis	3	3.10%
Plasma cell gingivitis	3	3.10%
Erythema multiforme	3	3.10%
Contact cheilitis	2	2%
Granulomatous lichenoid cheilitis	1	1%
Spongiotic dermatitis	1	1%
Subtotal	99	100%
Malignant neoplasms	Number of cases	Percentage
Squamous cell carcinoma	55	86%
Mucoepidermoid carcinoma	3	4.80%
Non-Hodgkin Lymphoma	2	3.20%
Breast cancer metastasis	1	1.50%
Ameloblastic carcinoma	1	1.50%
Multiple myeloma	1	1.50%
Mucinous adenocarcinoma	1	1.50%
Subtotal	64	100%
Within normal limits	Number of cases	Percentage
Normal oral mucosa/normal anatomical structure	42	76.40%
Minor salivary gland with normal characteristics	12	21.80%
Physiological pigmentation	1	1.80%
Subtotal	55	100%
Iatrogenic injuries	Number of cases	Percentage

Drug-induced stomatitis	13	35%
Amalgam tattoo	11	29.90%
Lichenoid drug reaction	2	5.40%
Sialadenosis and hyposialia secondary to radioactive iodine therapy	2	5.40%
Reaction to cosmetic lip filler material	2	5.40%
Drug induced hyposialia	2	5.40%
Fluorosis	1	2.70%
Bisphosphonate-associated osteonecrosis	1	2.70%
Endogenous drug-induced pigmentation	1	2.70%
Reactive pigmentation due to illicit drug use	1	2.70%
Drug-induced immunosuppression	1	2.70%
Subtotal	37	100%
Oral manifestations of systemic diseases and conditions	Number of cases	Percentage
Systemic lupus erythematosus (lichenoid lesiones, erythematous macules, burning sensation)	5	22.70%
Cobalamin deficiency anemia (erythematous macules, burning sensation)	3	13.60%
Iron deficiency anemia (erythematous macules, tongue depapillation, burning sensation)	3	13.60%
Sialadenosis (enlargement of major salivary glands, xerostomia)	2	9%
Amiloidosis (ulcers, papules, nodules, ulcerations, burning sensation, dysphagia, dysglossia)	2	9%
Hypothyroidism (burning sensation, hairy tongue)	2	9%
Diabetes (hyposialia, severe periodontitis, candidiasis, burning sensation)	2	9%
Metabolic syndrome (mucosa hyperpigmentation)	1	4.50%
Addison's Syndrome (mucosa hyperpigmentation)	1	4.50%
Graves' disease (mucosa hyperpigmentation)	1	4.50%
Subtotal	22	100%
HPV-Human papillomavirus. HHV-Human herpes virus. HIV-Virus causes human immunodeficiency. AIDS-Human immunodeficiency syndrome. *Although it is considered a hamartoma, it is included in this group for classification purposes.		
Costa Rica, 2022, Study: Incidence of lesions and alterations of the oral cavity in the Costa Rican population		

Población y Salud en Mesoamérica

¿Quiere publicar en la revista?

Ingresa [aquí](#)

O escribanos:

revista.ccp@ucr.ac.cr



Población y Salud en Mesoamérica (PSM) es la revista electrónica que cambió el paradigma en el área de las publicaciones científicas electrónicas de la UCR. Logros tales como haber sido la primera en obtener sello editorial como revista electrónica la posicionan como una de las más visionarias.

Revista PSM es la letra delta mayúscula, el cambio y el futuro.

Indexada en los catálogos más prestigiosos. Para conocer la lista completa de índices, ingrese [aquí](#).



 Revista Población y Salud en Mesoamérica -

Centro Centroamericano de Población
Universidad de Costa Rica

