

## **Characterization of patients operated on with a diagnosis of skin cancer over a period of 5 years**

Caracterización de pacientes operados con diagnóstico de cáncer de piel durante 5 años

Royland Bejerano-Durán<sup>1\*</sup> <https://orcid.org/0000-0002-6333-5743>

Alejandra Armada-Capote<sup>1</sup> <https://orcid.org/0009-0000-6787-9468>

<sup>1</sup>University of Medical Sciences of Havana, Faculty of Medical Sciences “10 de octubre”. Havana, Cuba.

\*Author for correspondence. E-mail: [roylandbejerano@gmail.com](mailto:roylandbejerano@gmail.com)

### **ABSTRACT**

**Introduction:** Skin cancer is one of the most common types of cancer in the world, and it is estimated that the risk of developing it increases from 1 to 5 throughout life. Its incidence has increased considerably in recent decades.

**Objective:** To characterize the patients operated with skin cancer in the minor outpatient surgery clinic.

**Methods:** A cross-sectional descriptive observational study was conducted in the population attended in the outpatient minor surgery consultation belonging to the Lawton Teaching Polyclinic, located in Diez de Octubre municipality of the province of Havana between the years 2018 and 2022. The following variables were used: sex, age, skin complexion, lesion location and histological type. Frequency analysis was performed.

**Results:** A predominance of females was observed with 57.22%, predominating between the ages of 65 - 76 years of age, mostly of white complexion. There was an increase in the incidence during the year 2021 with 29%. The most frequent location was on the face with 27.84% of the total. The definitive diagnosis according to the biopsy results was solid basal carcinoma with 36.69%.

**Conclusions:** In the series of cases studied, the female sex, the elderly, white skin predominate, and solid basal carcinoma is more frequently present.

**Keywords:** basal cell carcinoma; minor surgical procedures; skin cancer.

## RESUMEN

**Introducción:** El cáncer de piel es uno de los tipos de cáncer más común en el mundo, y se estima que el riesgo de desarrollarlo aumenta de 1 a 5 durante toda la vida. Su incidencia ha aumentado considerablemente en las últimas décadas.

**Objetivo:** Caracterizar los pacientes operados de cáncer de piel en la consulta de cirugía menor ambulatoria.

**Métodos:** Se realizó un estudio observacional descriptivo transversal, en la población atendida en la consulta de Cirugía Menor Ambulatoria perteneciente al Policlínico Docente Lawton, ubicado en el municipio Diez de Octubre de la provincia La Habana, entre los años 2018 y 2022. Se utilizaron las variables: sexo, edad, color de la piel, localización de la lesión y tipo histológico. Se realizó un análisis de frecuencias.

**Resultados:** Se observó un predominio del sexo femenino, con un 57,22 %, predominó entre las edades comprendidas de 65 - 76 años de edad, en su mayoría de tez blanca. Existió un incremento de la incidencia durante el año 2021 con un 29 %. La localización más frecuente fue en la cara con un 27,84 % del total. El diagnóstico definitivo, según los resultados de biopsia, fue el carcinoma basal sólido con un 36,69 %.

**Conclusiones:** En la serie de casos estudiada predomina el sexo femenino, la tercera edad, la tez blanca, y con mayor frecuencia presenta carcinoma basal sólido.

**Palabras clave:** cáncer de piel; carcinoma basocelular; procedimientos quirúrgicos menores.

## INTRODUCTION

Skin cancer is one of the most common types of malignant neoplasms in the world; it is estimated that the risk of developing it increases from 1 to 5% during a lifetime.<sup>(1,2)</sup> Its incidence increased considerably in the last decades, related to preexisting risk factors.<sup>(2,3)</sup>

Skin cancer is classified as melanoma and non-melanoma, the latter being the most common malignant variant worldwide; the highest incidence rates reported in Australia and Europe with respective values of 1000/100,000 and 98/100,000 persons per year.<sup>(4)</sup> Among these tumors, basal cell carcinomas and squamous cell carcinomas together account for 99% of cases, with the former reaching a prevalence that ranges between 3 and 5 times that of the latter.<sup>(4,5)</sup>

As basal cell carcinoma is the most frequent histological type, the World Health Organization's Committee on Histological Typing of Skin Tumors<sup>(5)</sup> defines it as a slow-growing, locally invasive tumor, rarely metastatic, whose origin is the epidermal cells of the hair follicles or the basal cells of the epidermis.

The etiology of skin cancer is multifactorial, with constitutional (intrinsic) and environmental (extrinsic) factors to play an important role in its development, related to accumulated ultraviolet radiation, and to a lesser extent to other causes (ionizing radiation or chemical agents).<sup>(6)</sup> The most important risk factors are solar radiation, especially in tropical countries and tobacco consumption.

Aging causes progressive and irreversible morphological and physiological changes in the body and increases the risk of various skin diseases, including skin cancer, which according to the World Health Organization,<sup>(7)</sup> represents one out of every three cases of cancer in the world and the treatment exceeds three billion dollars; therefore it is recognized as a health problem, especially in the elderly, fair-skinned people and those with a tanning culture.

The objective of this investigation is to characterize the patients operated with skin cancer in the minor outpatient surgery clinic.

## **METHODS**

### **Type of study**

A cross-sectional descriptive observational study was carried out in the population attended in the minor outpatient surgery clinic belonging to the Lawton Teaching

Polyclinic, located in the Diez de Octubre municipality of Havana province, between the years 2018 and 2022.

### **Subjects**

The population consisted in a case series of 194 patients, who were diagnosed with skin cancer; the selection criteria were: having undergone surgery with previous diagnostic impression of malignant skin lesion, having the result of the biopsy, being over 18 years old, having informed consent and a complete individual clinical history.

### **Variables**

The following variables were collected for the study:

- Age: 29 - 40 years, 41 - 52 years, 53 - 64 years, 65 - 76 years, 77 - 88 years, 89 – 100 and 101 or more.
- Sex: male (M) and female (F).
- Years studied: 2018, 2019, 2020, 2021, 2022
- Skin complexion: white (B), mixed race (M) and black (N).
- Lesion location: face, nasal, scalp, frontal, ear, neck, shoulder, axilla, arm, forearm, hand, thorax, back, anus, genital, thigh, leg, foot, and finger.
- Histological type: cystic basal adenocarcinoma, basal cell carcinoma, adenoid basal carcinoma, squamous basal carcinoma, fibroepithelial basal carcinoma, mixed basal carcinoma, nodular basal carcinoma, solid basal carcinoma, infiltrating ductal carcinoma, epidermoid carcinoma, squamous carcinoma, malignant fibrohistiocytoma and melanoma.

### **Collection, processing and analysis of information**

All the necessary data were collected from the clinical records in spreadsheets designed for this purpose. Processing was done using Office 2016 Excel. Descriptive statistical measures of absolute and relative frequency were used; for age, the mean and standard deviation were determined.

### **Ethics**

The study design respected the ethical principles of the 13th Declaration of Helsinki <sup>(8)</sup> and was approved by the ethics committee and the scientific council of the institution, maintaining patient anonymity.

## RESULTS

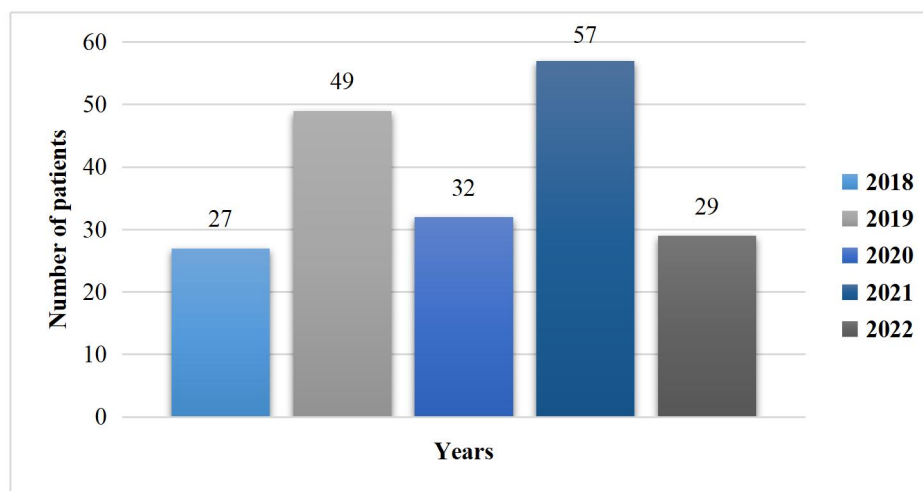
Table 1 shows a predominance of the female sex; 57.22% (n= 111), with a higher frequency between the ages of 65 - 76 years old with 17.01% (n= 33), which added to the higher frequency in the male sex with 14.43% (n= 28) represents 31.44% (n= 61) of the total number of patients. Shows that white complexion predominated with a total of 187 patients for 96.39%, with the highest frequency in the female sex for 56.19% (n= 109).

**Table 1** - Distribution in terms of age groups and sex of patients and distribution in terms of skin complexion and sex of the patients studied

Variables	Sex				Total	
	Female		Male			
	n	%	n	%	n	%
<b>Age groups (years)</b>						
29 – 40	3	1.55	5	2.58	8	4.12
41 – 52	15	7.73	10	5.15	25	12.89
53 – 64	23	11.86	16	8.25	39	20.10
65 – 76	33	17.01	28	14.43	61	31.44
77 – 88	26	13.40	21	10.82	47	24.23
89 - 100	10	5.15	3	1.55	13	6.70
101 or more	1	0.52	0	0.00	1	0.52
Total	111	57.22	83	42.78	194	100.00
Minimum value					29 years	
Maximum value					101 years	
Mean					68.29 years	
Standard deviation					14.96 years	
<b>Skin complexion</b>						
White	109	56.19	78	40.21	187	96.39
Mixed	2	1.03	5	2.58	7	3.61
Black	0	0.00	0	0.00	0	0.00

Total	111	57.22	83	42.78	194	100.00
-------	-----	-------	----	-------	-----	--------

The following graph shows that in the year 2021 there was a higher number of patients diagnosed with skin cancer for 29% (n=57) (Fig. 1).



**Fig. 1** - Distribution of the number of patients diagnosed with skin cancer according to the years studied.

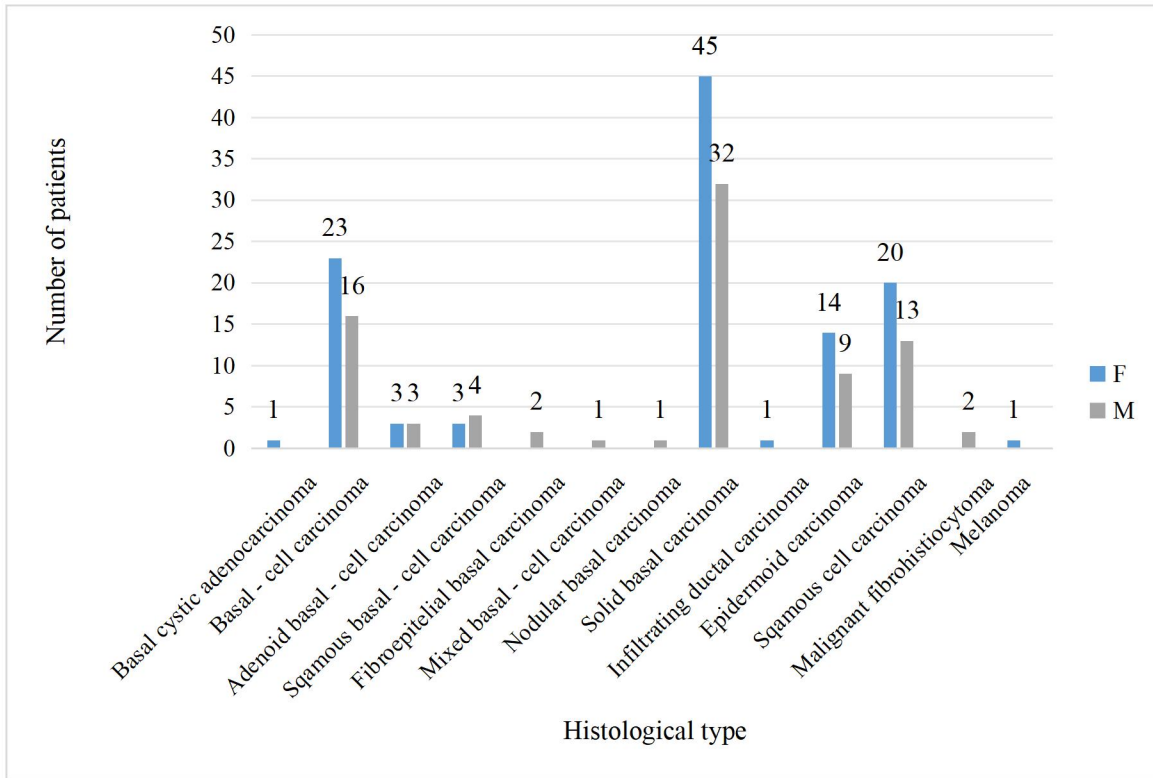
Table 2 shows the predominance of lesions on the face for 27.84% (n= 54) of the total number of patients, with a slight predominance towards the female sex with 14.95% (n= 29); followed by nasal lesions for 18.56% (n= 36), with the female sex predominating for 13.92% (n= 27).

**Table 2** - Distribution in terms of the location of the malignant skin lesions and sex of the studied sample

Location of the lesion	Sex				Total	
	Female		Male			
	n	%	n	%	n	%
Axillary lesion	1	0.52	0	0.00	1	0.52
Face lesion	29	14.95	25	12.89	54	27.84
Back lesion	6	3.09	7	3.61	13	6.70
Hand lesion	1	0.52	1	0.52	2	1.03
Ear lesions	3	1.55	5	2.58	8	4.12

Leg lesion	3	1.55	2	1.03	5	2.58
Anus lesions	1	0.52	0	0.00	1	0.52
Forearm lesion	3	1.55	3	1.55	6	3.09
Arm lesion	7	3.61	8	4.12	15	7.73
Neck lesion	2	1.03	2	1.03	4	2.06
Scalp lesion	0	0.00	2	1.03	2	1.03
Shoulder lesion	0	0.00	5	2.58	5	2.58
Thigh lesion	3	1.55	0	0.00	3	1.55
Eyelid lesion	2	1.03	0	0.00	2	1.03
Foot lesion	0	0.00	1	0.52	1	0.52
Torax lesion	10	5.15	4	2.06	14	7.22
Frontal lesion	13	6.70	6	3.09	19	9.79
Genital lesion	0	0.00	1	0.52	1	0.52
Nasal lesion	27	13.92	9	4.64	36	18.56
Finger lesion	0	0.00	2	1.03	2	1.03
Total	111	57.22	83	42.78	194	100.00

In the following graph it is observed a predominance of solid basal carcinoma for 38.69% (n= 77) with a clear predominance over the female sex for 23.19% (n= 45). In second place, the most frequent entity was basal cell carcinoma for 20.10% (n= 39), with a predominance of the female sex for 11.85% (n= 23) (Fig. 2).



**Fig. 2** - Distribution in terms of histological type of skin cancer by biopsy result and number of patients affected according to sex.

Table 3 shows that during 2018, solid basal carcinoma predominated as the most frequent type of malignant neoplasm with a total of 11 affected patients. In 2019, solid basal cell carcinoma (n= 21) and basal cell carcinoma (n= 11) predominated. An increase of solid basal cell carcinoma as the most frequent malignant tumor could be seen in 2020 with a total of 16 affected patients. During the year 2021 there was a predominance of squamous cell carcinoma with a total of 18 patients affected. In the year 2022 the most frequent histological type of cancer was solid basal cell carcinoma for a total of 13 affected patients.

**Table 3** - Distribution in terms of histology of the lesions according to their incidence in the years studied

Histological type	Years					Total	
	2018	2019	2020	2021	2022	n	%
Basal cystic adenocarcinoma	0	0	0	0	1	1	0.52



Basal-cell carcinoma	4	11	5	12	7	39	20.10
Adenoid basal-cell carcinoma	1	1	0	4	0	6	3.09
Squamous basal-cell carcinoma	1	0	0	6	0	7	3.61
Fibroepithelial basal carcinoma	1	1	0	0	0	2	1.03
Mixed basal-cell carcinoma	0	1	0	0	0	1	0.52
Nodular basal-cell carcinoma	0	0	0	1	0	1	0.52
Solid basal-cell carcinoma	11	21	16	16	13	77	39.69
Infiltrating ductal carcinoma	0	0	0	0	1	1	0.52
Cutaneous squamous-cell carcinoma	0	12	11	0	0	23	11.86
Squamous cell carcinoma	8	1	0	18	6	33	17.01
Malignant fibrohistocytoma	1	1	0	0	0	2	1.03
Melanoma	0	0	0	0	1	1	0.52
Total	27	49	32	57	29	194	100.00

## DISCUSSION

Basal cell carcinoma, is a malignant neoplasm derived from non-keratinized cells originating from the basal layer of the epidermis. Is a tumor of local invasion, slow growth, can be disfiguring and result in severe deformities or loss of function of the affected organ.<sup>(5,9)</sup> Cutaneous melanoma, is a neoplasm originating from the malignant transformation of melanocytes residing in the epidermal basal layer of the skin. It arises from a pre-existing or de novo nevus;<sup>(10,11)</sup> it has reached great importance in the last decades due to the increase in its incidence and its aggressive behavior, with frequent lymph node and distant metastases.<sup>(12)</sup>

*Hornillos M et al*<sup>(13)</sup> states in his article that the incidence of basal cell carcinoma ranges between 1.7% and 2.7% of cutaneous carcinomas. A predominance in the male sex and a higher incidence peak in the seventh decade of life is observed; which does not coincide with the study carried out, since an increase in the incidence in the female sex is clearly observed during the period between the fifth and eighth decade of life.<sup>(14)</sup>

*Álvarez A et al*<sup>(15)</sup> comments in his article that melanomas is one of the most frequent types of skin cancer, which has a worldwide increase, which coincides with the literature consulted; but on the contrary, he highlights that melanoma has a higher incidence in the male sex, which is not evident in the study performed, since melanoma had a very low incidence during the 5 years studied with only one case in the female sex. It is agreed in

the literature that the treatment of choice for these types of skin cancer is surgical resection with oncologic margins.

The increase in skin cancer suggests that primary prevention measures are failing and therefore highlights the need to promote this type of prevention, with emphasis on exposure to ultraviolet radiation and tobacco consumption as the main modifiable risk factors.<sup>(16)</sup> The implementation of preventive actions from an early age could be one of the mechanisms that would allow the establishment of healthy behavior patterns.<sup>(16,17)</sup>

In the series of cases studied, the female sex, the elderly, white skin predominate, and solid basal carcinoma is more frequently present.

## BIBLIOGRAPHIC REFERENCES

1. Avalos N, Sepúlveda C. Pacientes añosos con cáncer de piel no melanoma: consecuencias del tratamiento tardío. *Piel (Barc)*. 2019 [acceso: 23/07/2023]; 34(8):[aprox. 4 d.]. Disponible en: <https://www.clinicalkey.es/#!/content/playContent/1-s2.0-S0213925118303265?returnurl=null&referrer=null>
2. Molina Linares II, Mora Marcial GR, González Pérez S, Morales Rodríguez CM, Ferrer Calero OL, Broche Manso Y. Características clínico-epidemiológicas de pacientes con lesiones malignas en la piel. *Medicentro Electrónica*. 2020 [acceso: 23/07/2023]; 24(2):305-19. Disponible en: [http://scielo.sld.cu/scielo.php?script=sci\\_arttext&pid=S1029-30432020000200305&lng=es](http://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S1029-30432020000200305&lng=es)
3. Veja Abascal J, Álvarez Fernández A, Ventura Nieves K, Fernández Hidalgo A, Nodal Trujillo S. Tratamiento con HeberFERON® del carcinoma basocelular en la Atención Primaria de Salud en Cuba. *Rev Cubana Med Gen Integr*. 2021 [acceso: 23/07/2023]; 37(2):e1340. Disponible en: [http://scielo.sld.cu/scielo.php?script=sci\\_arttext&pid=S0864-21252021000200020&lng=es](http://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S0864-21252021000200020&lng=es).
4. Nazco Torres J, Labrador Díaz JF, Castro Crespo D, Aguiar Ferro Y, Rodríguez Hernández Y. Tratamiento de tumores de piel con SENSUS SRT-100TM en el Centro

Oncológico Pinareño. Rev Ciencias Médicas. 2019 [acceso: 23/07/2023]; 23(6):817-26. Disponible en: [http://scielo.sld.cu/scielo.php?script=sci\\_arttext&pid=S1561-31942019000600817&lng=es](http://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S1561-31942019000600817&lng=es)

5. Batista Peña M, Arzuaga Hernández E, González Piloto S, Pérez Polanco ES. Tratamiento no quirúrgico, quirúrgico y reconstructivo del carcinoma basal de párpados. Rev Cubana Oftalmol. 2021 [acceso: 23/07/2023]; 34(3):e1066. Disponible en: [http://scielo.sld.cu/scielo.php?script=sci\\_arttext&pid=S0864-21762021000300015&lng=es](http://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S0864-21762021000300015&lng=es)

6. Vázquez Blanco E, Domínguez Moralobo RA, Zamora León I, Valerino Guzmán E, Vázquez Ortíz HJ. Caracterización clínica y epidemiológica del carcinoma basocelular en el Hospital Celia Sánchez Manduley, 2017- 2019. Rev Ciencias Médicas. 2021 [acceso: 23/07/2023]; 25(5):e5053. Disponible en: [http://scielo.sld.cu/scielo.php?script=sci\\_arttext&pid=S1561-31942021000500008&lng=es](http://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S1561-31942021000500008&lng=es)

7. Cabrera Naranjo DL, Sánchez Linares V, Román Simón M, Rondón Madrigal E, Bello Rivero I. Carcinoma basocelular tratado con HeberFERON, seguimiento clínico, histológico y ecográfico. Reporte de caso. Gac Méd Espirit. 2020 [acceso: 23/07/2023]; 22(3):119-28. Disponible en: [http://scielo.sld.cu/scielo.php?script=sci\\_arttext&pid=S1608-89212020000300119&lng=es](http://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S1608-89212020000300119&lng=es)

8. Asociación Médica Mundial. Declaración de Helsinki de la AMM – Principios éticos para las investigaciones médicas en seres humanos. Fortaleza: 64ª Asamblea General; 2013. [acceso: 23/07/2023]. Disponible en: <https://www.wma.net/es/policies-post/declaracion-de-helsinki-de-la-amm-principios-eticos-para-las-investigaciones-medicas-en-seres-humanos/>

9. Sánchez Linares V, Cifuentes Suarez JP, Martínez Cuervo JJ, Román Simón M, Pérez García C, Bello Rivero I. Carcinoma basocelular del rostro tratados con HeberFERON. Gac Méd Espirit. 2019 [acceso: 23/07/2023]; 21(2):87-97. Disponible en: <http://scielo.sld.cu/pdf/gme/v21n2/1608-8921-gme-21-02-87.pdf>

10. Sociedad Española de Oncología Médica. Márquez Rodas I. Melanoma; Madrid: SEOM. 2020. [acceso: 23/07/2023]. Disponible en: <https://seom.org/info-sobre-el-cancer/melanoma?showall=1>
11. Martín Pozo Y, Apolinario Castillo EC, Pérez Fleites D, Betancourt Pérez A, Alba Castellanos L, González Rodríguez R. Relación clínica-dermatoscópica-histológica de lesiones pigmentadas de piel sugestiva de melanoma. Acta méd centro. 2022 [acceso: 23/07/2023]; 16(3):488-503. Disponible en: [http://scielo.sld.cu/scielo.php?script=sci\\_arttext&pid=S2709-79272022000300488&lng=es](http://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S2709-79272022000300488&lng=es)
12. Anderson Vildósola J, Hernández Martín A. Trastornos de la pigmentación: lentigos, nevus y melanoma. Fotoprotección. Pediatr Integral. 2021 [acceso: 23/07/2023]; 25(4):194-200. Disponible en: <https://www.pediatriaintegral.es/publicacion-2021-06/trastornos-de-lapigmentacion-lentigos-nevus-y-melanoma-fotoproteccion-2021/>
13. Hornillos de Villota M, Pozo Kreilinger JJ, del Castillo Pardo de Vera JL, Cebrián Carretero JL. Carcinoma basoescamoso diseminado. A propósito de un caso. Rev Esp Cirug Oral y Maxilofac. 2021 [acceso: 23/07/2023]; 43(4):166-9. Disponible en: [http://scielo.isciii.es/scielo.php?script=sci\\_arttext&pid=S1130-05582021000400008&lng=es](http://scielo.isciii.es/scielo.php?script=sci_arttext&pid=S1130-05582021000400008&lng=es)
14. Dirección de Registros Médicos y Estadísticas de Salud. Anuario Estadístico de Salud 2019. La Habana: MINSAP; 2020. [acceso: 23/07/2023]. Disponible en: <https://temas.sld.cu/estadisticassalud/2021/08/11/anuarioestadistico-de-salud-2020/>
15. Álvarez Lobaina A, Mir Espinosa YL. Tratamiento y supervivencia de pacientes con melanoma en el Instituto Nacional de Oncología y Radiobiología. Rev haban cienc méd. 2021 [acceso: 23/07/2023]; 20(6):e3530. Disponible en: <http://www.revhabanera.sld.cu/index.php/rhab/article/view/3530>
16. Curbelo Alonso M, Díaz Leonard D, Bernárdez Cruz Y, Suárez Rodríguez AE. Cáncer de piel no melanoma y radiaciones ultravioletas. Folia Dermatológica Cubana. 2018 [acceso: 23/07/2023]; 12(1):[aprox. 9p]. Disponible en: <http://www.revfdc.sld.cu/index.php/fdc/article/view/114/119>
17. Curbelo Alonso M, Iglesias León M. Diagnóstico sobre el abordaje del tema prevención del cáncer cutáneo en la asignatura Dermatología para la formación del

médico general. Medisur. 2021 [acceso: 23/07/2023]; 19(2):329-337. Disponible en:  
[http://scielo.sld.cu/scielo.php?script=sci\\_arttext&pid=S1727-897X2021000200329&lng=es](http://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S1727-897X2021000200329&lng=es)

### **Conflict of Interest**

The authors declare that there are no conflicts of interest or sources of funding.

### **Authorship contributions**

Conceptualization: *Royland Bejerano Durán, Alejandra Armada Capote.*

Data curation: *Royland Bejerano Durán, Alejandra Armada Capote.*

Formal analysis: *Royland Bejerano Durán, Alejandra Armada Capote.*

Research: *Royland Bejerano Durán, Alejandra Armada Capote.*

Methodology: *Royland Bejerano Durán.*

Project administration: *Royland Bejerano Durán.*

Validation: *Royland Bejerano Durán.*

Software: *Royland Bejerano Durán.*

Visualization: *Royland Bejerano Durán, Alejandra Armada Capote.*

Writing - original draft: *Royland Bejerano Durán, Alejandra Armada Capote.*

Writing - revision and editing: *Royland Bejerano Durán, Alejandra Armada Capote.*