EPIDEMIOLOGICAL PROFILE OF MALIGNANT SKIN NEOPLASM IN BRAZIL FROM 2018 TO 2023

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ABSTRACT

Introduction: Malignant skin neoplasms refer to abnormal and disordered growth of skin cells due to factors such as solar radiation, genetic predisposition, and other carcinogenic factors. The most common types are basal cell and squamous cell carcinoma, with melanoma skin cancer being the least prevalent. In this context, it is important to understand the profile of the disease in order to develop combat strategies and future studies.
Objective: To define the epidemiological profile of malignant skin neoplasms in Brazil.
Methods: This is a retrospective horizontal epidemiological profile that uses data from

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datasus with the years 2018 to 2023. Results: 44,735 hospitalizations were recorded in the period 2018-2023. As a result, more cases were observed in the age group of 60 years and over, in which 25,548 hospitalizations were reported. Discussion: The year 2020 had 6,387 hospitalizations, which represents a drop in the number of notifications compared to 2019 with 7,532 hospitalizations. When comparing the pandemic period with the post-pandemic period, an increase in the number of notifications was observed. There was possibly underreporting due to the overcrowding of hospitals during the pandemic period. Conclusion: In this sense, it is evident that the overcrowding of hospitals during the pandemic period was a determining factor for the decrease in reported cases as well as hospitalizations for skin cancer. The present study aims to inspire future public policies in the fight against malignant neoplasm of the skin.

Keywords: Treatment. Admissions. Notifications.

INTRODUCTION

Malignant skin neoplasms are an important public health problem in Brazil and worldwide, since it is considered the most common neoplasm in the Brazilian population, representing 30% of all malignant tumors registered in the country. Among skin cancers, it is possible to divide them into two larger groups, melanoma and non-melanoma cancers, within the latter, basal cell carcinoma and squamous cell carcinoma are included. That said, among skin tumors, the non-melanoma type is the one with the highest incidence and lowest mortality. (REZENDE, 2020)

According to the National Cancer Institute (INCA, 2022), the incidence rate of skin cancer is on an upward curve with national rates of 60 cases/100,000 inhabitants. Basal cell carcinoma (BCC) has gained greater prominence because it stands out as the most common type, corresponding to 70-75% of cases. Squamous cell carcinoma (SCC) is the second most frequent type, and the mortality rate of both (BCC and SCC) is low due to the reduced capacity to metastasize, but at the local level they are more recurrent and aggressive. (VERÍSSIMO, 2009)

Melanoma makes up only 4% of malignant neoplasms of the organ. It is considered the most serious type of the disease, due to its high possibility of causing metastasis. (INCA, 2022)

In this context, the risk factors pointed out as contributing to the increase in the number of cases of this type of skin lesion are excessive exposure to the sun, aging of the population, and improvement in the early diagnosis of this neoplasm (NEGREIROS, 2024). Its incidence has been progressively increasing, being more prevalent in individuals over 60 years of age. It usually presents itself as a red mole or a mole on the skin, in brownish or blackish tones, which change color, shape. Thus, the population's access to health systems emerges as a crucial factor for the early diagnosis of skin lesions with potential malignancy, to avoid possible complications, such as metastasis.

Thus, the abnormal and disordered growth of the cells of the dermis and epidermis has as its main etiological agent ultraviolet radiation, which possibly causes direct cell damage and changes in immune function, as well as genetic mutations, oxidative stress and inflammatory responses, all of which contribute significantly to skin photoaging and skin cancer. (NARAYANAN, 2010).

With regard to melanoma, the estimate of new cases in Brazil is 8,450, of which 4,200 are men and 4,250 are women (INCA, 2022). In relation to non-melanoma carcinoma, the estimate of new cases in Brazil is 176,930, of which 83,770 are men and 93,160 are women (INCA, 2022).

Furthermore, primary prevention actions are crucial, through guidance on the risks that excessive solar radiation can predispose to the skin, and, therefore, strongly recommend the frequent use of sunscreen. These actions are effective and low-cost, and should be part of health promotion programs in schools, workplaces, and health centers. Thus, there is a high cost associated with the treatment of skin neoplasms in more advanced stages, compared to treatment in early stages, in which costs are reduced, so primary prevention plays a fundamental role in both the economy and patient survival. (AZEVEDO, 2022)

For all the above, the article aims to explore the particularities involving the epidemiological profile of skin cancer in Brazil in order to inspire future studies as well as new strategies to combat this disease.

METHODOLOGY

The present study is a retrospective, observational, and descriptive epidemiological analysis, evaluating cases of malignant skin neoplasm in the geographic coverage of Brazil, in the period described between 2018 and 2023.

Annual data were searched for the Information System of the Outpatient Information System of the SUS (Sia/Sus), the Department of Information and Informatics of the SUS (DataSus), as well as data from the National Cancer Institute (INCA). In aid of the theoretical foundation, scientific articles in Portuguese were used, extracted from the Scielo, PubMed and Scopus platforms.

To better direct the research, the following clinical and diagnostic variables were considered for analysis: , age group, total cases in the years 2018 to 2022, temporal situation in relation to the Covid-19 pandemic (pre-pandemic period from 2018 to 2019, pandemic from 2020 to 2021, post-pandemic year 2022). Variables were considered in relation to color/race and sex.

RESULTS

Malignant neoplasm of the skin is the most common neoplasm in the Brazilian population, accounting for about 30% of all malignant tumors, with BCC and CEB being the most common types, corresponding to between 70 and 75% of cases (BARREIRO, G, 2016). Thus, particularities related to the quality of health services, application of a control program, low knowledge of the population about its prophylaxis, associated with the low socioeconomic status of the region, contribute significantly to socioeconomic disparities in what discerns the incidence rate in different strata of society, where the level of education

and financial conditions are factors that influence the taking of prophylactic measures to avoid the development of the disease such as the use of sunscreen (RIBEIRO, 2013). In this context, due to social factors and because it is a tropical country, skin cancer in Brazil has an incidence higher than the global average, being the main type of neoplasm in the country (WHO, 2020).

Regarding the most affected regions, (2,332) cases were registered in the Midwest region, (18,068) cases in the Southeast region, (15,778) cases in the South region, (933) cases in the North region, and (7,624) cases in the Northeast region, demonstrating a higher number of cases in the South region.

In addition, regarding malignant skin neoplasms, an average of 3,497 deaths were registered on the DataSus platform in the 2018-2023 period. The highest occurrence of cases was observed in the age group of 60 years and over, which had 4,815 hospitalizations in 2022, representing approximately 55% of total cases. Compared to the other age groups studied, from 0 to 19 years old, 2.2% and 20 to 59 years old, with approximately 42%.

Regarding the most affected color/race, 28,228 hospitalizations were reported out of a total of approximately 44,000, representing about 63% of the affected population, and is therefore the most affected. In relation to the most affected sex, males had a record of 23,063 cases in the period from 2018 to 2023, representing about 51.5% of the cases.

It is important to highlight the variation in relation to the number of cases reported in the periods: pre-pandemic of Covid 19 (2018-2019), during the pandemic (2020-2021) and post-pandemic (2022). In this context, 7,732 total cases were registered in 2018, 7,532 cases in 2019, but there was a significant reduction in the number of cases in 2020 compared to the previous two years, with 6,387 cases, which represents a drop in the number of notifications of 16%. When comparing the pandemic period with the post-pandemic period, a growth in the number of notifications of morbidity of the disease was observed, in 2021 6,468 cases were registered, and in 2022, 8,579 cases, indicating an increase of 32.4%.

DISCUSSION

However, an integrative review by (RIBEIRO, 2013) was able to demonstrate that sociodemographic and economic factors are the most preponderant for the population to have knowledge about skin cancer, with a direct relationship between unfavorable sociodemographic conditions and lack of knowledge about the disease. The data analyzed on the DATASUS data platform showed a higher incidence of cases in the Northeast and

South regions, suggesting the existence of strong demographic, racial, and climatic factors as influencers of the results demonstrated.

In general, difficulties in relation to the prevention, diagnosis and treatment of skin cancer markedly include aspects related to public management and professional practice, which coexist with economic and demographic disparities that condition early screening, in order to have repercussions on screening coverage. This was demonstrated by (SERAFIM et al, 2023), in an investigation that allowed to conclude that the greatest deficits of procedures were found in developing countries such as Brazil as well as the highest incidence rates of the disease in question, the Northeast, South and Southeast regions share the highest incidence and mortality rates for non-melanoma skin cancer, the most prevalent form of the disease in Brazil according to INCA data from 2023. It should be considered that these conditions have greatly hindered the control of malignant neoplasms of the skin in Brazil.

However, it is important to emphasize that there are multiple limiting factors in the practical application of skin cancer care in Brazil in a broad and comprehensive way. In the studies of (REIS, 2016), (PETTIGREW, 2019) obstacles related to the failure to control malignant skin neoplasm in Brazil were listed, among them the aging population being age a risk factor for the disease and the social issues inherent to developing countries thus corroborating the high incidence rates of the disease in question, especially in regions of Brazil with socio-demographic problems, as is the case of the Northeast, or where the population is older, as is the case of the South and Southeast. In addition, factors such as education and level of education in relation to the disease can be determining factors to avoid the evolution of the disease since they instruct the population to use prophylactic measures such as the use of sunscreen, but there is still a lack of numerical data regarding the parallel drawn above. From this, the complexity of the demand for improvements in health care in Brazil is evident, especially malignant skin neoplasms, due to their epidemiological relevance and accentuated morbidity and mortality, demonstrating that appropriate attitudes and practices can mitigate the risks of the appearance of cancerous lesions, contributing to the prevention of skin neoplasms (HUNG, 2022).

In this context, although no scale data were found at the Brazilian level that numerically compare the relationship between schooling and decreased incidence of skin cancer, a study promoted (SANTOS, 2018) showed that the higher the schooling, the greater the access to health services and the better the living conditions during aging, suggesting , Thus, a higher degree of education can influence the application of

prophylaxis such as the use of sunscreen as well as influence a greater frequency in the performance of routine exams useful for the early detection of the disease.

Among the variables considered, it should be noted that the temporality common to a global phenomenon such as the COVID-19 pandemic suggests clear interferences in recent years, resulting in substantial delays in skin cancer screening between 2020 and 2021. The reduction in the number of tests, added to the drop in subsequent records, may express underreporting, and the lack of clarity in these numbers brings the need to reinforce attention to the care of advanced cases. It is noteworthy that health agencies, during the period of the Sars-Cov-2 pandemic, would have advised citizens, in view of the urgency to control the public health scenario triggered by this infectious virus, that consultations, exams, and surgeries that were not urgent should be postponed, adding to the screening of malignant neoplasms such as skin neoplasms being postponed, suggesting underreporting resulting from this phenomenon.

A positive point is that the numbers of notifications according to DATASUS data increased in the post-pandemic period, suggesting an increase in the number of screening exams in the post-pandemic period, possibly even exceeding those of the pre-pandemic period, which may demonstrate a search by the population for screening in awareness of assessing health in a preventive way. Thus, it can be inferred that important regional aspects of the incidence of malignant skin neoplasm in Brazil are projected, which urgently needs an individualized and efficient administration.

CONCLUSION

The records of diagnosed cases of malignant skin neoplasm in Brazil demonstrate a need for greater coverage by the government. There was an increase in the number of hospitalizations for malignant skin neoplasms, reflecting a reality of screening and prophylaxis that is still insufficient in the Brazilian context, as well as a possible underreporting during the pandemic period, which later resulted in a greater aggravation in cases in the post-pandemic period.

In addition, it was not possible to establish a numerical and quantitative relationship between education and the number of screening tests performed, due to the lack of numerical data on the level of education of citizens in Brazil associated with the number of biopsies performed in the period analyzed.

It is concluded that the possible failures in early screening, as well as adequate prophylaxis of malignant skin neoplasia, are linked to local organizational and sociocultural issues. Therefore, it is essential to review public policies to combat skin cancer to address

the obstacles that prevent a more effective fight in the country, in addition to increasing the dissemination of information on the definition, causes, and prevention of skin cancer, as this can significantly impact the number of early diagnoses and the success of treatment.

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