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SOCIAL DETERMINANTS AND SKIN CANCER: AN ESSENTIAL APPROACH TO PRESERVE PUBLIC HEALTH

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ABSTRACT

Cancer, being the second leading cause of death globally, represents a significant challenge for public health (Ferlay et al., 2021). With the rising life expectancy and lifestyle habits of contemporary society, the increase in chronic diseases, including cancer, becomes evident. This chapter explores skin cancer, one of the most prevalent types in Brazil and worldwide, highlighting not only its pathophysiological complexity but also the access barriers that impact the patient's journey. The Brazilian scenario, marked by inequalities and social determinants, reveals the importance of public policies and prevention strategies to face the challenges associated with the diagnosis and treatment of skin cancer.

Keywords: Social Determinants. Skin Cancer. Public Health and Prevention.

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INTRODUCTION

Cancer, as the second leading cause of death globally, represents a significant challenge to public health (Ferlay et al., 2021). With the rising life expectancy and lifestyle habits of contemporary society, the increase in chronic diseases, including cancer, becomes evident. This chapter explores skin cancer, one of the most prevalent types in Brazil and worldwide, highlighting not only its pathophysiological complexity but also the access barriers that impact the patient's journey. The Brazilian scenario, marked by inequalities and social determinants, reveals the importance of public policies and prevention strategies to face the challenges associated with the diagnosis and treatment of skin cancer.

This complex context emphasizes the need for comprehensive approaches that address not only clinical aspects but also the social barriers that shape the patient experience and influence health outcomes. Thus, this chapter aims to reflect on social determinants and their relationship with skin cancer, through an approach focused on preserving public health. To this end, a literature review was carried out considering texts published between 2008 and 2023, in Portuguese and English with the keywords: health policies, social processes, and skin cancer.

SKIN CANCER, SOCIAL DETERMINANTS AND HEALTH POLICIES

According to the World Health Organization (WHO), cancer is the second leading cause of death in the world. Globally, one in six deaths are related to the disease. The aging process, habits, and lifestyle of contemporary society, undergo changes that impact the increase in life expectancy, in turn, corroborate the emergence of chronic diseases, including neoplasms.

One in five individuals will have cancer during their lifetime (Ferlay et al., 2021). The impact of incidence and mortality is increasing rapidly on the global stage. Given the complexity of the aspects of a sometimes incurable disease in the life of an individual, the network surrounding them, and the health service that provides coverage to this individual, the relevance of the topic addressed for public health is therefore evident.

Skin cancer is the most prevalent type of malignant neoplasm both in Brazil and in the world and includes several pathophysiological processes that arise from different cells of the dermis and epidermis (Wild et al., 2020). It is more common in people with fair skin over the age of 40; however, this age profile has been decreasing with the constant exposure of young people to sunlight (INCA, 2022).

A study by the Campos dos Goytacazes Neoplasia Reference Hospital scored bibliometric indicators on skin cancer in the Scopus database and found an increase in publications in Brazil and worldwide on the subject of skin cancer. The average annual growth rate in the country was 16.0% compared to 5.9% worldwide, demonstrating the strengthening of national publications in these statistics (Melo, 2019). This represents a considerable leap in terms of health promotion.

The main types of skin cancer are: squamous cell carcinoma, basal cell carcinoma, also called non-melanoma skin cancer, which accounts for the majority of cases, and melanoma skin cancer, which, although rarer, represents greater morbidity and mortality (INCA 2022). Sun exposure is the main exogenous factor involved in the genesis of skin neoplasia, especially when intermittent and intense in childhood and adolescence.

In Brazil, in 2020, there were 2,653 deaths from non-melanoma skin cancer; of these, 1,534 were in men, corresponding to a risk of 1.48 deaths per 100,000 men, and 1,119 deaths among women, a risk of 1.03 deaths per 100,000 women. For melanoma skin cancer, there were 1,923 deaths in 2020. In men, 1,120 deaths were observed, with a risk of 1.08 per 100,000 men, and in women, 803 deaths occurred, with a risk of 0.91 per 100,000 women (INCA, 2020).

According to a recent study published by the National Cancer Institute (INCA), based on the Estimate of Cancer Incidence in Brazil in 2023, the estimated number of new cases of non-melanoma skin cancer for each year of the three years from 2023 to 2025 is 220,490, which corresponds to an estimated risk of 101.95 per 100,000 inhabitants, according to Table 1 (can you include a table or just this data?), being the most common type of malignant neoplasm (INCA, 2022, p. 160).

Among the risk factors for the development of skin cancer are: personal or family history of malignant skin lesions, low phototype, blond or red hair, sun exposure, presence of solar ephelides and lentigines, presence of multiple nevi, immunocompromised patient, advanced age, male sex, artificial tanning, exposure to radiotherapy and chemical agents (arsenic, hydrocarbons, insecticides).

The disease is caused by the uncontrolled growth of the cells that make up the skin. This dysfunction is related to genetic mutations in the germline that result in damage to the antitumor repair potential. These mutations are associated with personal and external risk factors (e.g., fair skin and sun exposure), allowing a mutagenic DNA from a melanocyte to escape repair, giving rise to neoplasia. In the skin, the cells are arranged in layers and, according to which ones are affected, the different types of cancer are defined (Garbe et al., 2019).

Skin lesions that are suspicious to the naked eye follow the ABCDE rule: Asymmetrical, irregular edges, color variation, diameter > 6 mm, or with evolutionary change in color, size, or presence of local symptoms that were previously absent. In the case of a skin lesion with signs of malignancy and a history of rapid progression, a physical examination is essential. With the help of a dermatoscope, performed by a qualified professional, it allows for an earlier diagnosis, as it reveals changes before they are clinically visible on macroscopy (Municipal Health Department, 2016).

Any suspicious lesion, based on clinical and dermatoscopic findings, should undergo an excisional biopsy. Definitive surgical excision with an adequate surgical margin reduces the risk of local recurrence and should ideally be performed 4-6 weeks after the initial diagnosis. After anatomopathological evaluation, the neoplastic disease is classified and staged. In some cases, a second approach is necessary to widen the margin or even combine it with targeted therapy, such as radiotherapy. Follow-up varies greatly according to the literature, being approximately 2-4 times a year, and, depending on the type of lesion, follow-up can last between 5-10 years (Schmults et al., 2023). The identification of a health problem, as well as its proportions, as is the case with skin cancer, allows the development of public policies that involve changes in individual lifestyle habits and even working conditions that lead to greater exposure to risk factors. Public health and social life are connected, contributing to changes and social movements throughout history.

When thinking about the Middle Ages, for example, the Black Death had a profound impact on the social and economic structure of all of Europe. Likewise, during the Industrial Revolution, precarious working conditions favored disease processes that became major public health problems. However, globalization, a phenomenon that brings so many benefits to the population, has also accelerated the spread of COVID-19 to an unprecedented extent (Carvalho et al., 2023).

The current Brazilian Constitution recognizes health as a fundamental social right for all citizens and is a duty of the State. In other words, public management is responsible for guaranteeing this right and understanding the limiting factors for its execution (Brazil, 1988, chap. II, art. 196). However, it is important to highlight the process involved in this acquired right. Previously, the health system in the country had curative activities centered on hospitals, marked by social inequality and health care focused especially on the privileged classes. In the 1970s, a social and political movement took place in Brazil that culminated in the adoption of the Unified Health System (SUS), called the Brazilian Health Reform. The main objective of this process was to guarantee universal, comprehensive, and equal access to health services (Paim, 2009). The 1988 Magna Carta formalized the creation of the SUS and granted the right to access to universal public health, that is, everyone has the right to adequate treatment provided by the government. To improve the organizational structure of the SUS, in 1990, through the Organic Health Law (Law 8,080/1990), competencies and attributions were defined for the different spheres of government, detailing the organization of the system. Some fundamental attributes in this context were: decentralization, regionalization, and social participation, advocating what today represents the basic principles of the SUS: universality, equity, and comprehensiveness (Paim, 2008). The guiding principles of the SUS are the basis of the care offered to the Brazilian population, in this sense, an institution with specific attributions in the line of oncological care was created, the National Cancer Institute of Brazil (INCA), founded in 1961 to plan and support Brazil's national health policy to combat cancer, which is responsible for the provision of oncological care, prevention and early detection, production of informative materials and promotion of events (Rede Câncer, 2007). To illustrate the health promotion and prevention security provided for in the federal constitution, an example of a public policy in the area of skin cancer is Bill 4027/12 of 2012, which provides for the provision of sunscreen to employees who work outdoors, as personal protective equipment (PPE), ensuring that professionals who are exposed to UV radiation are protected. Unfortunately, this Bill has not yet been approved (Bill 4027/12, 2012). In Brazil, all states have at least one hospital qualified in oncology, where it is possible to act from diagnosis to complex treatment protocols. However, users of the health system are systematically subjected to the line of care in different institutions throughout their treatment, which prolongs their access routes to the health service (Guerra et al., 2019).

In a study that assessed the journey of Brazilian patients with melanoma in the SUS and the supplementary health system, as well as the involvement of different professionals in this scenario, oncologists reported that few patients seek an oncologist on their own (9.1%) and that 18.2% of patients are referred by other specialists. Thinking about malignant skin neoplasms, especially melanoma, the recommendation is immediate treatment upon diagnosis, patients treated at all stages more than 90 days after diagnosis presented a higher risk of death compared to patients treated within 30 days (Conic et al., 2018). In melanoma, the time between diagnosis and the start of the first treatment is crucial for a favorable prognosis of the disease (Conic et al., 2018). Law 12.732/2021 provides for the provision of therapeutic procedures for cancer treatment through the SUS and also determines that people with cancer have the right to begin their medical treatment within a maximum period of 60 days, counting from the date on which the diagnosis was confirmed in a report.

If the current legislation is not complied with, the managers responsible for the service will be subject to administrative penalties. To regulate it, the Ministry of Health issued Ordinance 874/GM/MS on May 16, 2013, which establishes the prevention and control of cancer in the health care network for people with chronic diseases within the scope of the SUS. According to the ordinance, the purpose is to reduce mortality and disability caused by cancer, reduce the incidence of some types of cancer, and contribute to improving the quality of life of users with cancer through actions of promotion, prevention, timely treatment, and palliative care (Ministry of Health, 2013).

However, the literature shows that the 60-day Law did not change the rate of cases treated in this period (Shimada, 2021), that is, although there is a public policy prioritizing timely access, in the practical scenario this has not occurred. This is due to several factors, including sociodemographic and healthcare characteristics. The study in question shows, for example, that the higher the level of education, the greater the access to the first treatment for cutaneous melanoma in 60 days, as opposed to other countries such as Sweden, for example, in which education influences the stage of diagnosis, but not the time for biopsy and curative surgery (Eriksson et al., 2013).

Based on the Cancer Surveillance Bulletin (Silva, 2020), published by INCA in 2020, there was a high flow (~33.4%) of skin cancer patients residing in the Central-West region to be treated in the State of São Paulo, Southeast of Brazil. This finding made it possible to highlight the longer paths taken by patients living in these regions to start their first treatment, corroborating the finding that diagnosis and treatment in different services can be causes of delays in the favorable treatment time.

The public health problem represented by skin cancer in Brazil is notorious, although there are many bottlenecks in the country regarding the line of oncological care, in the last ten years, it has been possible to verify an improvement in the availability and quality of information on occurrence and mortality. In 2017, the World Health Assembly approved a resolution on cancer prevention and control through an integrated approach (Cancer Prevention and Control through an Integrated Approach - WHA70.12), urging governments and the WHO to accelerate their actions to reduce the occurrence of premature deaths from cancer (Sung et al., 2020).

Cancer surveillance, within the scope of measures to control non-communicable diseases, based on updated information obtained from population and hospital cancer registries, provides support for managers to monitor and organize actions related to the control of neoplasms, in line with the Sustainable Development Goals (SDGs) of the UN (United Nations) 2030 Agenda, which establish global goals to address a series of challenges, including issues related to health, well-being, equality and sustainable development (UN, 2023).

When looking specifically at the 2030 Agenda topics, cancer is not explicitly reported as an individual element, however, several goals and targets related to health, inequality reduction, and sustainable development have been addressed and have significant implications for the prevention and treatment of chronic diseases such as malignant neoplasms. Equal access to cancer prevention, diagnosis, and treatment services is crucial to reducing health disparities.

BARRIERS TO ACCESS AND PREVENTION OF SKIN CANCER

Given the complexity and rapid progression of neoplastic disease, it is essential to ensure timely treatment for affected patients. Several bottlenecks are noted from the onset of symptoms to the introduction of therapy that negatively impact the patient's prognosis.

Often, due to a lack of knowledge, the patient takes longer to seek health services when faced with initial symptoms. The time between the first consultation and referral for investigation with a specialist depends on a regulatory queue. Then, the user of the health system needs to wait a longer period for tests requested by the specialist to be performed to obtain a diagnosis and then be directed to a specialized service to begin treatment.

Skin cancer is multifactorial, and the influence of social determinants on the health-disease process is notorious. Considering rural workers, for example, there is a high rate of people affected by this comorbidity. The development of the disease in rural workers is directly or indirectly conditioned by working conditions, lifestyle, and the nature of social relationships (Scopinho, 2010).

The lack of access to health prevention programs, even the lack of broad access to primary care for users living in rural areas, combined with social inequality, precariousness, lack of basic resources, and inadequate working conditions, are linked to their illness since there is no widespread dissemination of health promotion and prevention of chronic diseases for this group.

The social determinants of health are briefly considered by the National Commission on Social Determinants of Health as the factors: social, economic, educational, cultural, ethnic/racial, physical environments, support networks, psychological, biological, and behavioral factors that influence the occurrence of health problems and their risk factors in the population and are related to the quantity and quality of a variety of resources that society makes available to the population (FIOCRUZ, 2006).

Being essential to understanding the conditions that shape the health-disease process, for example, in the socioeconomic context, studies show that poorer individuals seek health care preferentially for reasons of illness, and richer individuals seek care for routine and preventive exams (Neri et al., 2002). The social history of the disease highlights the perceptions, treatments, and impacts of diseases, and these attributes are intrinsic to the historical and social context in which they occur.

An accurate reading of social determinants influences the creation of health policies and the organization of the system in order to favor access at different levels of complexity, breaking with social injustices expressed by differentiated opportunities depending on the social position of the individual.

Reducing regional and social disparities means seeking a better balance. The understanding is, therefore, that equity is related to the inequalities that exist between the different living conditions of the population, exposing individuals differently to the determinants of health (Malta et al., 2001). To alleviate the structural problems of the system and promote timely care for neoplastic disease, valuing equity and universality, it is essential to recognize the barriers to access and thereby minimize the disparities that arise between the population and the services.

The term access to healthcare translates different scenarios that enable each user to enter the SUS network, at its different levels of complexity and healthcare. According to Article 196 of the current Constitution (Brazil, 1988, chap. II, art. 196), the right to healthcare is offered through social and economic policies that do not only aim at healthcare but also at reducing harm and providing comprehensive healthcare, through universal access to actions and services for the promotion, prevention, and recovery of the population.

When considering Public Policies to improve access, the differences between the regions of the country should be highlighted, individualizing decision-making to decentralize action plans, thus ensuring the adequate performance of the measures. INCA coordinates the National Oncology Care Policy (PNAO), thus structuring an Oncology Care Network (Rede Câncer, 2007).

The concept of access is multidimensional and is directly related to access barriers. The most important access barrier is the availability or physical presence of services and human resources, which is a necessary condition for use. However, the supply of resources does not necessarily guarantee access. Geographical, financial, organizational, informational, cultural, and other barriers express characteristics of the supply that, in an interrelated manner, act to facilitate or hinder the use of health services. Geographical barriers reflect the resistance that space imposes on the movement of potential users of health services. Organizational barriers express the characteristics of the organization of health services and the type of quality of human and technological resources available that facilitate or limit their use. The information barrier depends on the actions developed by the health service, but also on the cultural capital of families, the level of education, and access to the various means of communication and information available (Thiede et al., 2008). Financial barriers represent a significant obstacle to the use of health services, and they act by increasing social inequalities in access to health services and are unfavorable to the poorest. These barriers were increased to control demand and expenditure on the use of health services. The incorporation of measures such as co-payment, in which people pay a portion of the value of the care received, hurts equity in access. In contrast, the policy of universalizing access aims to reduce financial barriers (Thiede et al., 2005).

In the context of skin cancer, taking into account the high incidence and costs incurred due to late diagnoses, education, and prevention are essential tools to additionally counter barriers to access in this line of care.

The following strategies for preventing melanoma skin cancer are defined: (i) Primary – preventing the appearance of melanoma; (ii) Secondary – preventing symptomatic melanoma; and (iii) Tertiary – preventing premature death from melanoma. Secondary prevention is therefore synonymous with early detection and is largely achieved through medical screening for melanoma (Gilmore, 2017).

Screening can reach the general population or higher-risk subgroups and involves regular full-body exams. It should be noted that self-screening and encouraging awareness of melanoma are also secondary prevention strategies and will be promoted by public health campaigns aimed primarily at primary prevention.

Prevention campaigns are multifaceted tools. In addition to assisting a greater number of people, many benefits arise from such actions, such as a greater number of suspicious lesions identified, direct guidance to individuals, especially those in the risk group, promotion of a culture of prevention and protection of individuals, and time to generate data on the description of lesions, which are good indicators of the status of skin neoplasms.

Primary prevention of skin cancer should have children as the main target population, since children are exposed to the sun three times more than adults, and cumulative exposure during the first 10 to 20 years of life determines the risk of skin cancer, showing that childhood is a phase particularly vulnerable to the harmful effects of the sun. Thus, a primary skin cancer prevention program necessarily involves parents and teachers, who are responsible for preventing children from being exposed to the sun during peak UV radiation hours, encouraging and creating the habit of using physical protection and also sunscreens with a protection factor (SBD, 2006).

A good example is the Orange December movement, which has been running since 2014, with the promotion of a campaign and awareness initiatives on the prevention and early diagnosis of skin cancer.

A study conducted in a metropolitan city in the country, evaluating a group of postmen, showed that the higher the level of education of the individuals, the greater the tendency to use sun protection equipment (Paim, 2008).

Corroborating the maxim that skin cancers can be prevented through health education, in the study in question all professionals received the same protective equipment, but it is essential that the subject is aware and has knowledge of the reason and importance of such prevention measures, demonstrating the impact on health.

Considering, from this perspective, that primary and secondary prevention are effective in containing access barriers and that they provide timely treatment, encouraging this discussion is a means of reducing care inequalities between different classes, promoting the efficient implementation of the attributes of equity and universality advocated by the SUS.

FINAL CONSIDERATIONS

In summary, given the complexity of the skin cancer scenario, we see the urgency of addressing not only clinical challenges but also access barriers and social determinants. The increasing incidence of this neoplasm demands actions that consider geographic, financial, organizational, and informational limitations to minimize disparities in the detection and treatment of the disease. Promoting health awareness and education emerges as an essential tool, aiming not only at early detection but also at primary prevention, especially among those with greater risk factors. By recognizing and addressing these determinants, we reinforce the importance of a comprehensive and integrated approach to address the challenges of skin cancer in Brazil, which can advance in promoting equity in access to health services and reducing inequalities in the line of skin cancer care. In this sense, it has become clear that effective strategies cannot ignore the social and economic realities that shape the patient's journey. The analysis of current public policies reveals the need for improvement and effective implementation to ensure universal and equitable access to health services. Awareness, health education, and assertive public policies are crucial to mitigate these barriers, ensuring more equitable access to care, with the ultimate goal of improving outcomes and quality of life for those affected by skin cancer.

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