



Action against skin cancer in a city with high ultraviolet index

Ação contra o câncer de pele em cidade com alto índice ultravioleta

Acción contra el cáncer de piel en ciudad con elevado índice de radiación ultravioleta

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ABSTRACT

Objective: To describe the experience of university students in developing two campaigns to fight skin cancer. **Data synthesis:** Medical students from Federal University of Rio Grande do Norte, along with supervising physicians from the Brazilian Society of Dermatology, developed two cancer-fighting interventions that associated photo-protection education measures with the application of a questionnaire for future planning of more precise interventions. The actions took place on two beaches during the summer period (2020) in order to reach a greater number of beachgoers. Beachgoers, after answering the questions, were instructed about healthy photoprotection habits according to the Brazilian Consensus on Photoprotection. **Conclusion:** The volunteers considered success in the planning and execution of the action, with good acceptance on the part of beachgoers and contributing entities.

Descriptors: Skin Neoplasms; Solar Radiation; Health Promotion; Disease Prevention.

RESUMO

Objetivo: Descrever a experiência de universitários no desenvolvimento de duas ações de conscientização sobre o câncer da pele. **Síntese de dados:** Os estudantes do curso de Medicina da Universidade Federal do Rio Grande do Norte, juntamente com médicos orientadores da Sociedade Brasileira de Dermatologia, elaboraram duas ações de conscientização para o combate ao câncer de pele associando medidas de educação em fotoproteção à aplicação de um questionário, visando ao planejamento futuro de ações mais direcionadas e eficazes. As ações ocorreram em duas praias durante o período de veraneio em 2020. Os banhistas, após responderem às perguntas, receberam orientações a respeito dos hábitos saudáveis de fotoproteção de acordo com o Consenso Brasileiro de Fotoproteção. **Conclusão:** Os voluntários consideraram êxito no planejamento e execução da ação, com boa aceitação por parte dos banhistas e das entidades contribuintes.

Descritores: Neoplasias Cutâneas; Radiação Solar; Promoção da Saúde; Prevenção de Doenças.

RESUMEN

Objetivo: Describir la experiencia de universitarios para el desarrollo de dos acciones de concienciación sobre el cáncer de piel. **Síntesis de datos:** Los estudiantes del curso de Medicina de la Universidad Federal de Río Grande de Norte y los médicos tutores de la Sociedad Brasileña de Dermatología crearon dos acciones de concienciación para el combate del cáncer de piel asociando con medidas de educación en foto protección hasta la aplicación de una encuesta con el objetivo de planear acciones futuras más dirigidas y eficaces. Las acciones se dieron en dos playas durante el verano 2020. Tras contestar las preguntas, los bañistas recibieron orientaciones sobre los hábitos saludables de foto protección según el Consenso Brasileño de Foto Protección. **Conclusión:** Los voluntarios consideraron exitosos el planeamiento y la ejecución de la acción con buena aceptación de parte de los bañistas y de las entidades contribuyentes.

Descritores: Neoplasias Cutâneas; Radiação Solar; Promoción de la Salud; Prevención de Enfermedades.



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INTRODUCTION

Divided into melanoma and non-melanoma subtypes, skin cancer is the most common cancer worldwide. The estimate for Brazil was that, in the 2018-2019 biennium, 165,580 new cases of non-melanoma skin cancer and 6,260 new cases of melanoma were diagnosed⁽¹⁾. Although the numbers are already alarming, the National Cancer Institute (*Instituto Nacional do Câncer - Inca*) recommends that estimates be considered as minimal, given the high probability of under-registration and under-diagnosis⁽²⁾.

It is well established that excessive and chronic exposure to the sun is the main risk factor for the development of non-melanoma skin cancer^(3,4). As for melanoma, the greater risk is associated with personal or family history of melanoma, in addition to sporadic and intense exposure to the sun, with consequent sunburn, in more than one episode^(3,5). Skin sensitivity to the sun, immunosuppressive diseases, and occupational sun exposure are other risk factors for all types of skin cancer⁽⁶⁾.

The relationship between sun and skin cancer is explained by the direct aggression that ultraviolet radiation causes in the structure of DNA, causing structural changes and oxidation⁽⁷⁾. Studies show that Natal, the capital of the state of Rio Grande do Norte, presents extreme levels of solar radiation almost every day of the year, meaning there is a need for guidance to the population to avoid sun exposure at any time of the day. Paradoxically, because it is a city with a vast coastline, the habit of going to the beach and summering is added to the day-to-day occupational exposure, reflecting a worrying reality⁽⁸⁾.

There is evidence that awareness campaigns on the subject impact from childhood to adulthood on the habits of exposure to ultraviolet radiation (UV) and also on the incidence of skin cancer⁽⁹⁻¹¹⁾.

Given the above, the objective of the present study is to describe the experience of university students in the development of two awareness actions on skin cancer.

DATA SYNTHESIS

This article is an experience report resulting from the work of medical students from the Academic League of Dermatology at the Federal University of Rio Grande do Norte (*Universidade Federal do Rio Grande do Norte - UFRN*) in partnership with the Brazilian Society of Dermatology - Regional Rio Grande do Norte (*Sociedade Brasileira de Dermatologia - SBD - RN*) in the development of awareness actions and fight against skin cancer and to raise bathers' awareness of healthy habits and risk of burns, in order to promote health and prevent diseases, and, additionally, they elaborated and applied a questionnaire aimed at measuring sun exposure and photoprotection habits according to the Brazilian reality.

During the months of November and December 2019, bibliographic research was carried out regarding the impact of skin cancer and the results of annual campaigns for early diagnosis of skin cancer. From the SciELO, Lilacs, BVS, and PubMed database platforms, the descriptors "skin cancer", "health promotion", "prevention", "behavior", "sun exposure", "photoprotection" and "beach", in Portuguese and English were researched between 2010 and 2020.

Virtual and face-to-face meetings to discuss ideas about the structure of the campaign and to develop questionnaires for bathers took place in the same period between medical students and the advisor professor. Initially, it was noticed that there is a minimum amount of studies reporting campaigns aimed at preventing skin cancer (two studies), as well as surveys that point out the daily sun protection habits or at moments of recreational exposure (nine studies).

Interviews conducted with bathers in European countries and Latin America point out that the use of sun protection methods is inappropriate for most of the interviewees, especially for men, with a desire to look more tanned, with sunburn being frequent. All of these studies suggest that there is a need for greater commitment to health education to spread the habits of preventing photo-damage, with bathers being a strategic target⁽¹²⁻¹⁴⁾.

Because of the necessity to know the bathers profile and their habits, the need arose to develop a questionnaire with questions based on risk factors for skin cancer and preventive habits. No instrument in the literature meets these needs in the Portuguese language. Therefore, a questionnaire was developed based on the Beach Questionnaire, a Spanish questionnaire validated for research on sun exposure habits in bathers⁽¹⁵⁾.

The Beach Questionnaire was chosen due to the appropriate selection of questions, applicable for assessing the risk of developing skin cancer, as well as the way they were written - direct and easy to interpret⁽¹⁵⁾. The fact that it is not an extensive questionnaire also contributed to the choice, making it applicable to the population in moments of leisure or rest, without major discomfort. Besides, to make it more credible to the local reality, pertinent questions were asked about Brazilian habits, such as summer and tanning for aesthetic purposes. Some questions were also

added to assess the population level of knowledge on the topics of sun exposure, skin cancer, and sunburn. The instrument has been used in some studies^(15,16) and has proved to be a useful tool in epidemiological research⁽¹⁶⁾.

The first skin cancer prevention action took place on January 18, 2020, from 8 am to 12 pm, at Pirangi beach, located in the metropolitan region of Natal, Rio Grande do Norte. The date was chosen because it coincides with a day of sporting and entertainment events held by a local magazine. The second action took place on February 15, 2020, from 8 am to 12 pm, at Redinha beach, north of Natal, Rio Grande do Norte. The date was chosen because, on that day, the Ginga Festival took place, a gastronomic and cultural event organized by the city that attracted several bathers to the beach.

15 people participated in the bathers' awareness actions, including the supervising professor and medical students. SBD-RN provided transportation for the event and materials for use on the day, including clipboards, pens, questionnaire prints, and standardized shirts, from the December Orange campaign. The assembly of a stand enabled awareness of the need to use sunscreens and the distribution of some samples, by donations from pharmaceutical laboratories to SBD-RN.

By joint decision, the participants of the action split on the beach to talk individually with the bathers about the photoprotection habits and risk factors for skin cancer, as well as for the application of the questionnaire. After answering the questionnaire and receiving clarifications on the topic, bathers went to the photoprotection booth, where they presented the different sunscreen options and were instructed on how to apply them correctly, the need for periodic reapplication, and particularities for the different types of sunscreen, skin, and age.

In Brazil, surveys carried out with beach workers who suffered from occupational sun exposure, although they did not include the population as a whole, have already brought important information that cannot be ignored. In a study conducted with fishermen in Pará, for example, the results showed that 92% of respondents did not use sunscreen and more than half were unaware that UV radiation caused cancer, aging, and skin blemishes⁽¹⁷⁾. Another study, with workers on an urban beach in Natal, showed slightly better rates: 30% reported wearing protectors during work and 24% said they did not use them at any time⁽¹⁸⁾.

In Spain, in a survey concurrent with a campaign with hotel workers by the sea, respondents showed better sun exposure habits, reaching 71.3% of sunscreen use. Although not yet an ideally satisfactory number, this better percentage, compared to Brazilian surveys, may be directly related to the higher level of education and education of the Spanish population⁽¹⁹⁾.

The questionnaire developed for the action described in this report addressed daily sun protection as one of the themes, which, in most cases, is only carried out at moments of exposure to the beach or pool, with greater care for children, with the common use of UV protection clothes, sunscreen, and hat. This habit did not usually extend to parents who, when they did it, did not follow all the necessary recommendations, having to reinforce the importance and the time of reapplication of the product⁽²⁰⁾.

The students observed the main fears of the beach audience regarding sun exposure, who reported fear of skin cancer while, paradoxically, they reported not having the habit of observing their skin signs. Self-examination of the skin and the practice of self-perception of the body and its changes are not part of the custom of Brazilians and directly impact the early diagnosis and prognosis of the main types of skin cancer. To clarify this fact, a Brazilian survey reported the earlier identification of non-melanoma skin cancer in the National Campaign for the Prevention of Skin Cancer when compared to the conventional routes of the public health system. Of the diagnosed cases smaller than one centimeter in diameter, 86% came from campaigns and 71% from those referred by the conventional health system⁽²¹⁾.

In Germany, there was a greater carelessness of the population regarding self-care with their skin lesions. After comparing campaigns to track different types of cancers in women, in the case of skin cancer, they still do not seem to have a high adherence, varying between 0% and 3.7% according to the socioeconomic level of the women interviewed⁽²²⁾. Bearing in mind that campaigns for early diagnosis increase the chance of diagnosed melanoma by 0.75 mm or less by 38% and considerably reduce death from this cause⁽²³⁾, it is necessary to create strategies to increase the population's adherence to skin cancer prevention campaigns, paying special attention to those with lower socioeconomic status.

It was observed, from the application of the questionnaire during the preventive action, a change in the habit of bathers concerning the use of suntan lotion, which was commonly used in the last decades. Supporting this perception, a previous systematic review showed an increase of 10% in the use of sunscreen and a decrease of 4% in the use of suntan lotion. In this work, this improvement was correlated to the effects obtained by campaigns to fight skin cancer in different countries⁽²⁴⁾.

During the performance of the action and given the consensus of the volunteers about the perception that health education still needs to be worked on in Brazil, a discussion was reached among the group about the current financial impact this problem represents and how much, in lives and numbers, a better population education can benefit the country. For example, the Australian government has adopted a permanent preventive strategy⁽²³⁾. In that country, skin neoplasms account for the largest share of public spending among all cancers, despite being only the twentieth cause of death in the country^(25,26). According to local studies, Sun Smart, a prevention program carried out since the 1980s, will result in the reduction of 120,000 years of life lost due to disability (DALYs) for the country in a period of 20 years (2003-2022), added to the reduction in the use of health services and savings of \$2.30 for every dollar invested in campaigns⁽²⁷⁾.

Another study carried out in Australia assessed the relevance of mass education campaigns in the financial sphere. \$15.63 million was spent on the campaign, with savings of \$60.17 million in skin cancer treatments, with a cost-benefit ratio of 3.85⁽²⁸⁾. So the long-term benefit in public health is unquestionable.

The present work also brought a relevant view of the need for permanent campaigns to fight skin cancer nationwide. It is suggested that an annual punctual action for cancer diagnosis, despite what happens on the National Day for the Prevention of Skin Cancer, is insufficient to have a broad impact on the community. Therefore, financial support from the public and private entities is necessary, capable of providing an attractive place for the population to approach. Channels such as television, radio, web sites and social media could be tools for disseminating important information.

As limitations to the experience, there is the fact that it was carried out on only two beaches in a single Brazilian state and that it was unable to assess the impact of actions on changing habits among bathers, which is not the object of the action of prevention. However, it served as a basis for research and new proposals for action to raise awareness against skin cancer.

CONCLUSION

It is considered that university students successfully planned and executed the action, developing skills of creativity, cooperation, communication, and strategic development. The elaborated questionnaire allows easy collection of information and the interaction with bathers contributed to raise awareness about the importance of skin cancer prevention measures and to assess the level of knowledge of people guiding the development of future campaigns.

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CONTRIBUTIONS

All authors contributed to the preparation and design of the study; the acquisition, analysis and interpretation of data; and the writing and / or revision of the manuscript.

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