

Sun protection habits of patients at a health unit in the southern region of Brazil

Hábitos de proteção solar de pacientes atendidos em uma unidade de saúde na Região Sul do Brasil
Hábitos de protección solar de los pacientes atendidos en una unidad de salud de la región sur de Brasil

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Abstract

Introduction: Skin cancer is the most prevalent cancer in Brazil, especially in the South region. Despite its high prevalence, it is a potentially preventable comorbidity with sun protection measures. **Objective:** To analyze photoprotection habits in patients in primary care. **Methods:** This was a cross-sectional study, with a quantitative approach and analytical-descriptive purposes, with a sample of 374 patients over 18 years old, selected from a primary health unit in the South region of Brazil. As instruments, the Sun Exposure Protection Index questionnaire and a sociodemographic questionnaire formulated for this study were used. **Results:** It was found that a large portion of patients are at high risk in relation to sun exposure. Nearly half do not use sunscreen, and most do not use physical barrier methods to protect themselves from the sun. The risk resulting from sun exposure was higher in men ($p=0.007$), in people with darker skin tone ($p=0.033$) and in individuals with less education ($p=0.037$). The propensity to improve photoprotection habits was lower in people with darker skin ($p=0.010$) and in individuals with less education ($p=0.019$). In general, it was found that the greater the risk of the individual, the worse the propensity to reduce it with photoprotection measures ($p<0.001$). **Conclusions:** A large portion of patients are at high risk in relation to sun exposure. It is up to health professionals to promote awareness of the risks of inadvertent exposure to the sun and guide healthy behaviors in photoprotection.

Keywords: Sunscreen agents; Knowledge; Sunlight; Health risk behaviors; Primary health care.

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Resumo

Introdução: O câncer de pele é o câncer mais prevalente no Brasil, principalmente na Região Sul. Apesar da alta prevalência, é uma comorbidade potencialmente prevenível com medidas de fotoproteção. **Objetivo:** Analisar os hábitos de proteção solar em pacientes no âmbito da atenção primária. **Métodos:** Trata-se de um estudo transversal, com abordagem quantitativa e fins analítico-descritivos, com uma amostra de 374 pacientes acima de 18 anos selecionados de uma Unidade Básica de Saúde na Região Sul do Brasil. Como instrumentos, foram utilizados o questionário *Sun Exposure Protection Index* e um questionário sociodemográfico formulado para este estudo. **Resultados:** Verificou-se que grande parcela dos entrevistados está em alto risco com relação à exposição solar. Praticamente metade não utiliza protetor solar e a maioria não adota métodos de barreira física para se proteger do sol. O risco decorrente da exposição ao sol foi maior em homens ($p=0,007$), em pessoas com tonalidade de pele mais escura ($p=0,033$) e em indivíduos com menor escolaridade ($p=0,037$). A propensão a melhorar os hábitos de fotoproteção foi menor em pessoas com pele de tonalidade mais escura ($p=0,010$) e em indivíduos com menor escolaridade ($p=0,019$). De forma geral, verificou-se que, quanto maior é o risco do indivíduo, pior é a propensão a diminuí-lo com medidas de fotoproteção ($p<0,001$). **Conclusões:** Grande parcela dos entrevistados está em alto risco com relação à exposição solar. Cabe aos profissionais de saúde promover a conscientização sobre os riscos da exposição inadvertida ao sol e orientar sobre condutas saudáveis em fotoproteção.

Palavras-chave: Protetores solares; Conhecimento; Luz solar; Comportamentos de risco à saúde; Atenção primária à saúde.

Resumen

Introducción: El cáncer de piel es el cáncer más prevalente en Brasil, especialmente en la región Sur, a pesar de su alta prevalencia, es una comorbilidad potencialmente prevenible con medidas de fotoprotección. **Objetivo:** Analizar los hábitos de protección solar en pacientes de atención primaria. **Métodos:** Se trata de un estudio transversal, con abordaje cuantitativo y fines analítico-descriptivos, con una muestra de 374 pacientes mayores de 18 años, seleccionados de una Unidad Básica de Salud de la región sur de Brasil. Se utilizaron como instrumentos el cuestionario Índice de Protección contra la Exposición Solar y un cuestionario sociodemográfico formulado para este estudio. **Resultados:** Se encontró que una gran parte de los encuestados se encuentran en alto riesgo con relación a la exposición solar. Casi la mitad no usa protector solar y la mayoría no usa métodos de barrera física para protegerse del sol. El riesgo derivado de la exposición solar fue mayor en hombres ($p=0,007$), en personas con tono de piel más oscuro ($p=0,033$) y en personas con menor educación ($p=0,037$). La propensión a mejorar los hábitos de fotoprotección fue menor en las personas con tono de piel más oscuro ($p=0,010$) y en las personas con menor educación ($p=0,019$). En general, se encontró que a mayor riesgo del individuo, peor propensión a reducirlo con medidas de fotoprotección ($p<0,001$). **Conclusiones:** Una gran parte de los encuestados se encuentran en alto riesgo con relación a la exposición solar. Corresponde a los profesionales de la salud promover la concienciación sobre los riesgos de la exposición involuntaria al sol y orientar conductas saludables en fotoprotección.

Palabras clave: Protectores solares; Conocimiento; Luz solar; Conductas de riesgo para la salud; Atención primaria de salud.

INTRODUCTION

Cancer is the main public health problem in the world, and the skin is the organ most affected by this comorbidity.¹ It is estimated that 25% of all cases of cancer in the world are of the skin,² subdivided into melanoma and non-melanoma skin cancer.^{1,2}

Of all types, non-melanoma skin cancer is the most common in both sexes worldwide,^{1,3,4} comprising two different histological subtypes: basal cell carcinoma (more common) and squamous cell carcinoma.¹ This type of neoplasia is related to chronic and continuous exposure to ultraviolet radiation.² In Brazil, it is estimated that non-melanoma skin cancer comprises 30% of the total number of cases of malignant cancers.⁵ Among skin cancers, it has the lowest mortality, but if not treated, it can leave significant sequelae, leading to loss of quality of life.^{2,5} The number of new cases of non-melanoma skin cancer expected in the country for each year of the three-year period 2020–2022 is 83,770 in men and 93,160 in women. The South Region of the country is the one that most confers risk for the development of this cancer in men, with a risk of 123.67/100,000 and for women, 98.49/100,000, behind the Central-West and Southeast regions.¹

Melanoma, in turn, accounts for about 3% of malignant cancers diagnosed in Brazil.⁶ It seems to be related to acute and intense exposure to ultraviolet radiation. Despite the lower incidence, it has a higher lethality due to its greater ability to metastasize.² New cases estimated for 2020–2022 number 4,200 in

men and 4,250 in women. In the South region, melanoma is more frequent when compared to the other regions, for both sexes.¹ The highest risk groups, in general, are represented by European descendants, located especially in the South and Southeast regions of Brazil, where the concentration of immigrants from Central Europe is greatest.⁷ In addition, the southern region of Brazil has the highest concentration of ultraviolet A radiation in the country.⁸

The main risk factors for skin cancer are prolonged exposure to the sun, especially in childhood and adolescence, exposure to artificial tanning beds and family history of skin cancer.^{1,2,9} Factors such as skin type and phenotype are also considered at risk, but sun exposure is still considered the most important cause of skin cancer.¹⁰⁻¹² Thus, photoprotection measures are important and should be part of the daily routine, regardless of sex, age or skin type. The combination of photoprotection measures is considered the most correct strategy, such as: avoiding sun exposure between 10 am and 3 pm; trying to stay in a shady place; using sunscreen with a sun protection factor (SPF) of at least 30 and reapplying it throughout the day; and wearing covering clothes, hat and sunglasses.²

Therefore, knowing the population's photoprotection habits is the first step towards possible interventions and counseling. Therefore, the objective of this study was to analyze the sun protection habits of patients in primary care. It was also intended, after each individual approach, to guide the participant on how and why to protect themselves from sunlight, which makes this study a health education project for the local community.

METHODS

This was a cross-sectional study with a quantitative approach and analytical-descriptive purposes, carried out in a basic health unit (UBS) located in a municipality in the metropolitan region of Curitiba, Paraná.

The study took place between April 2021 and July 2021, and began after approval by the Research Ethics Committee, under Certificate of Presentation for Ethical Appreciation (CAAE) 42487321.3.0000.9587. A sample of 374 patients was selected, considering a sampling error of 5% and a confidence level of 95%, based on the estimated population comprised by the UBS (12,884 inhabitants). As research instruments, the Sun Exposure Protection Index (SEPI) questionnaire (Questionnaire 1) and a sociodemographic questionnaire formulated for this study (Questionnaire 2) were applied.

The SEPI questionnaire was validated in Sweden and Australia, in 2015, in a study with participants aged at least 18 years, which included primary health care patients and university students.¹³ This questionnaire was validated in Portuguese by Villa et al.¹⁴ The SEPI scoring instrument consists of two sections, each of which results in a score. Part I, which maps individual exposure and protective habits, includes eight questions based on a five-grade Likert scale (0 to 4 points), resulting in a total score ranging from 0 to 32 points, and the higher the risk of exposure, the higher the score. Part II, in turn, estimates the propensity that the researched individual has to improve their photoprotection, including five questions, also on the Likert scale (0 to 4 points), which result in a total score of zero to 20 points. The higher the score, the worse the estimate of improved sun protection. Thus, a high score on both parts reflects high level of sun exposure and low propensity to change it.¹³

The sociodemographic questionnaire formulated for the study is intended to add information about the population to be studied and correlate them with the SEPI questionnaire, including sex, age, level of education and skin phototype according to the Fitzpatrick scale.

Patients were interviewed at the end of medical consultations or in the UBS waiting room, always by the same researcher, who was solely responsible for the interviews to standardize and avoid systematic divergences during data collection. Patients 18 years and over, who signed an informed consent form and who were not in physical and/or psychological situations that could harm their well-being during the research were included. Those who answered the questionnaire incompletely and/or failed to meet the inclusion criteria were excluded. The individual classification of skin phototype was discussed together with each participant by the researcher responsible for data collection, as he was qualified for this purpose.

After completing the questionnaires, the participant was given a pamphlet on sun exposure according to information from the Brazilian Society of Dermatology (SBD)¹⁵ (Figure 1). The information contained therein was explained to the participant, including the risks and damage caused by solar radiation and how to apply adequate photoprotection.



Source: Sociedade Brasileira de Dermatologia 2021. In: <<https://www.sbd.org.br/dermatologia/pele/cuidados/cuidados-diarios-com-a-pele/>>.

Figure 1. How to protect yourself from sunlight daily?

Data analysis was conducted using the R statistical computing software, and p-values below 0.05 were considered statistically significant. Qualitative variables were described by absolute and relative frequencies, while quantitative variables (scores) were described by means and standard deviations. To compare scores between sexes, Student's *t* test for independent samples was used. For the comparison between age ranges, the Snedecor F test of analysis of variance was used. The Spearman correlations was used to verify the association between scores and levels of education and skin phototype. To verify the association between SEPI I and II scores, Pearson's linear correlation was used

RESULTS

The majority of respondents were female (78.1%), aged between 20 and 59 years (38%). With regard to education, most had completed high school (34.2%). The most frequent skin phototype was III (53.5%), and lighter phototypes (between I and III) corresponded to 72.4% of the total.

The answers given in the SEPI questionnaire are described according to their frequencies in Table 1. The mean score obtained with the SEPI I was 11.0 ± 4.3 (SD) points and with the SEPI II, 8.8 ± 4.3 points.

Table 1. Answers to the questionnaire Sun Exposure Protection Index.

SEPI I	
Variable	Frequency (%)
How often do you sunbathe with the intention to get tanned?	
Never	156 (41.7)
Seldom	136 (36.4)
Occasionally	52 (13.9)
Often	17 (4.5)
Always	13 (3.5)
How many times have you been sunburnt (redness and smarting) during the last 12 months?	
None	260 (69.5)
1–2 times	87 (23.3)
3–5 times	18 (4.8)
6–10 times	2 (0.5)
More than 10 times	7 (1.9)
How long do you usually stay in the sun (on average) between 11 am and 3 pm on a typical day off?	
<30 min	215 (57.5)
30 min–1 h	93 (24.9)
1–2 h	42 (11.2)
2–3 h	11 (2.9)
More than 3 h	13 (3.5)
How often do you take a holiday with the intention of spending more time in the sun?	
Never	155 (41.4)
Seldom	144 (38.5)
1–2 weeks a year	48 (12.8)
3–5 weeks a year	15 (4.0)
More than 5 weeks a year	13 (3.2)
When exposed to the sun, how often do you use sunscreens?	
Always	137 (36.6)
Often	54 (14.4)
Occasionally	66 (17.6)
Seldom	45 (12.0)
Never	72 (19.3)
When in the sun, how often do you use covering clothes for sun protection?	
Always	38 (10.2)
Often	30 (8.0)
Occasionally	58 (15.5)
Seldom	76 (20.3)
Never	172 (46.0)

Continue...

Table 1. Continuation.

SEPI I	
Variable	Frequency (%)
When in the sun, how often do you use a sun hat or cap for sun protection?	
Always	79 (21.1)
Often	33 (8.8)
Occasionally	52 (13.9)
Seldom	58 (15.5)
Never	152 (40.6)
How often do you stay indoors or in the shade in order to protect yourself from the sun?	
Always	145 (38.8)
Often	106 (28.3)
Occasionally	66 (17.6)
Seldom	33 (8.8)
Never	24 (6.4)
SEPI II	
Variable	Frequency (%)
Sunbathing	
I have never thought of giving up sunbathing.	107 (28.6)
I could think of giving up sunbathing.	25 (6.7)
I intend to give up sunbathing.	10 (2.7)
I have recently given up sunbathing.	21 (5.6)
I have for a long time avoided sunbathing.	211 (56.4)
Sunscreens	
I have never thought of using sunscreens.	57 (15.2)
I could think of using sunscreens.	44 (11.8)
I intend to start using sunscreens.	41 (11.0)
I recently started using sunscreens.	60 (16.0)
I have for a long time used sunscreens.	172 (46.0)
Covering clothes	
I have never thought of using covering clothes for sun protection.	184 (49.2)
I could think of using covering clothes for sun protection.	77 (20.6)
I intend to start using covering clothes for sun protection.	27 (7.2)
I have started using covering clothes for sun protection.	15 (4.0)
I have for a long time used covering clothes for sun protection.	71 (19.0)
Sun hat or cap	
I have never thought of using a sun hat or cap for sun protection.	126 (33.7)
I could think of using a sun hat or cap for sun protection.	76 (20.3)
I intend to start using a sun hat or cap for sun protection.	32 (8.6)
I have started using a sun hat or cap for sun protection.	23 (6.1)
I have for a long time used a sun hat or cap for sun protection.	117 (31.3)
The shade	
I have never thought of trying to stay in the shade during the hours of strongest sun.	53 (14.2)
I could think of trying to stay in the shade during the hours of strongest sun.	46 (12.3)
I intend to start trying to stay in the shade during the hours of strongest sun.	9 (2.4)
I have started trying to stay in the shade during the hours of strongest sun.	20 (5.3)
I have for a long time tried to stay in the shade during the hours of strongest sun.	246 (65.8)

SEPI: Sun Exposure Protection Index.

The comparison between sexes and the SEPI questionnaire are shown in Table 2. A significant difference was found between SEPI 1 scores by sex ($p=0.007$), and women scored on average 1.5 points less than men.

No significant differences were found between SEPI I and II scores by age (SEPI I, $p=0.78$; SEPI II, $p=0.465$). The data are presented in Table 3.

Significant negative correlations were found between levels of education and SEPI scores (SEPI I, $p=0.037$; SEPI II, $p=0.019$), indicating a decrease in scores with increasing level of education. The correlation was of low intensity (Table 4).

Significant positive correlations were found between skin phototype levels and scores (SEPI I, $p=0.033$; SEPI II, $p=0.010$), indicating an increase in scores with increasing level. The correlation was of low intensity (Table 5).

Table 2. Sun Exposure Protection Index scores (mean, SD) with comparison between sexes.

Score	Sex		p-value (t test)
	Females	Males	
SEPI I	10.7 (4.2)	12.2 (4.4)	0.007
SEPI II	8.6 (4.3)	9.5 (4.5)	0.103

SEPI: Sun Exposure Protection Index.

Table 3. Sun Exposure Protection Index scores (mean, SD) with comparison between age ranges.

Score	Age (years)			p-value (F test)
	18 to 29	30 to 59	60 or older	
SEPI I	10.8 (3.8)	11.2 (4.5)	11 (4.3)	0.78
SEPI II	8.9 (3.7)	8.9 (4.6)	8.1 (5.0)	0.465

SEPI: Sun Exposure Protection Index.

Table 4. Sun Exposure Protection Index scores (mean, SD) with comparison between levels of education.

Score	SEPI I	SEPI II
Education		
Illiterate	9.6 (4.2)	7.2 (5.0)
Read and write	15 (8.5)	12.0 (5.6)
Incomplete primary education	12.2 (5.2)	9.7 (5.2)
Complete primary education	9.8 (3.4)	8.1 (5.7)
Incomplete high school	12.3 (4.4)	9.1 (3.8)
Complete high school	11.1 (4.2)	9.0 (4.3)
Incomplete higher education	9.8 (3.1)	8.8 (3.8)
Complete higher education	10.5 (3.8)	7.9 (3.7)
Spearman correlation	-0.11 ($p=0.037$)	-0.12 ($p=0.019$)

SEPI: Sun Exposure Protection Index.

Table 5. Sun Exposure Protection Index (mean, SD), comparing skin phototypes.

Score	Skin phototype						Spearman correlation
	I	II	III	IV	V	VI	
SEPI I	7.6 (3.4)	10.0 (3.7)	11.2 (3.9)	11.6 (5.2)	11.0 (4.2)	4	0.11 ($p=0.033$)
SEPI II	5.7 (3.3)	7.5 (3.6)	9.1 (4.1)	9.0 (4.9)	9.9 (4.8)	18	0.13 ($p=0.010$)

A positive and significant correlation was found between the two scores, with Pearson's linear correlation coefficient estimated at 0.65 with p-value <0.001. The correlation was strong and demonstrated that higher SEPI I scores were associated with higher SEPI II scores.

DISCUSSION

Skin cancer is the most prevalent cancer in the world. In Brazil, it gains prominence mainly because of the country's geographic position, which has a constant radiation intensity during all seasons and in a good part of the land.¹⁶ Despite the well-established relationship between sun exposure and the development of skin cancer, protective measures are not universally taken.¹⁷ Prevention is the greatest ally in the fight against this type of cancer, and therefore, it is necessary to understand the difficulties presented by individuals in relation to photoprotection.

Within the scope of prevention against the harmful effects of solar radiation, there are physical barriers, such as covering clothes, sunglasses and hats, as well as chemical barriers, represented by sunscreens.² Sunscreen is seen by specialists as the first line of defense against the harmful effects of radiation.¹⁸ In the present study, 51% of respondents reported using sunscreen frequently or whenever exposed to the sun, and the rest (49%) used it occasionally, seldom or never. Of those interviewed, 15.2% even admitted never having thought of using the product. In 2016, SBD, together with DataFolha, released a survey carried out with 2.069 million Brazilians, in 130 municipalities, which revealed that 63% of Brazilians did not use sunscreen in their daily lives,¹⁹ even more alarming data when compared to the results of this study. Szklo et al. carried out a population-based survey in 15 Brazilian capitals and the Federal District, and they observed that, of the capitals in the South region, the one with the highest proportion of people using sunscreen was Florianópolis (20–25% of respondents), while in Curitiba and Porto Alegre only 15–20% of respondents used it.²⁰ Still regarding the South Region, in a study by Silva and Dumith with a population survey in a city in Rio Grande do Sul, the prevalence of not using sunscreen was 38.2%.²¹ Research carried out by Bardini et al. at the Medical Outpatient Clinic of Dermatology at the University of Southern Santa Catarina, in Tubarão, Santa Catarina, revealed that 57.8% of respondents did not use sunscreen daily.²² Also in a study by Dallazem et al., with 371 students at a university in Rio Grande do Sul, only 34% reported frequent use of sunscreen.²³

In comparison, although the proportion found for the use of sunscreen was slightly higher in the present study, we observed the following: 21.9% of respondents still sunbathed with the intention of tanning, whether always, often or in a casual way; 28.6%, even of those who seldom sunbathed, admitted never having thought about giving up the habit; 20% took at least one week off a year with intending to spend more time in the sun; 30.5% had at least one sunburn in the last 12 months; and 17.6% were exposed to the sun more than one hour a day during peak radiation hours. Thus, a substantial portion of respondents were still had risky habits.

In addition to the use of sunscreen, the use of physical barriers enhances the effect of the body's defense,²⁴ such as the use of covering clothes, hats and sunglasses. In the present study, it is noteworthy that a large number of respondents did not use these sun protection methods: 66.3% reported never or seldom wearing covering clothes to protect themselves from the sun, and 49.2% of the total never thought of wearing them. Furthermore, 56.1% reported never or seldom wearing a hat or cap to protect themselves from the sun, and 33.7% never thought of using such. The most common form of sun protection was related to staying indoors or in the shade to protect against the sun, with 67.1% of respondents stating

that they always or often followed this precaution. A similar proportion was found in a study by Villa et al., in which the SEPI questionnaire was also used, it was seen that the majority of the study population (300 individuals in a primary care unit in São Luís, Maranhão) wore covering clothes or hat/cap less frequently than sunscreen, and the habit of protecting oneself in the shade was adopted by the majority.¹⁴ Andrade et al. studied patients being cared for at a university outpatient clinic located in the city of Belo Horizonte, Minas Gerais obtained even more alarming data: 82.7% did not wear a hat or cap, and 81.81% did not wear covering clothes to help protect against the sun.²⁵

In the present study, most participants were female (78.1%). The score obtained in SEPI I, the part that maps exposure and individual protection habits, was significantly lower ($p=0.007$) in the female population, revealing that women showed being at a lower risk of solar radiation than men. Similar data are found in the literature in several studies.^{12,14,20,21,26,27} According to the SBD, skin aging caused by the sun is well known and studied, being a reason for concern for a portion of the population, particularly young women.² Thus, aesthetic issues seem to encourage care among the female public.^{28,29} No significant differences were found in the SEPI II score in relation to sex ($p=0.103$). Thus, it is not possible to state that men are less likely to make changes in photoprotection than women, despite being more exposed to risk.

With regard to age, most respondents were between 20 and 59 years old (47.3%). The elderly population corresponded to 14.7% of the total. No statistically significant differences were identified in SEPI I ($p=0.78$) and II ($p=0.465$) scores between age groups. A similar finding was found in the study by Villa et al., in which better behaviors regarding sun exposure (SEPI I) or greater propensity to improve photoprotection (SEPI II) were not found in older individuals.¹⁴ Dallazem et al. argue in their work that the young population is particularly more exposed to solar radiation, given the aesthetic importance of tanning and also because they engage in more outdoor activities.²³ Silva and Dumith, on the other hand, found that older people were more likely not to apply sunscreen.²¹ According to the authors, this would be because this generation advocated sun exposure as a health benefit, added to the fact that, in Brazil, the habit of using sunscreen began only as of 1980, when the first products appeared in Brazil's market.^{21,30,31}

As for education, significant correlations were found between schooling levels and SEPI scores (SEPI I, $p=0.037$; SEPI II, $p=0.019$), indicating a decrease in scores with increasing schooling level. That is, individuals with a higher level of education had a lower risk of exposure to sunlight and a greater propensity to improve photoprotection. In the study by Villa et al., no significant relationship was found between SEPI scores and education.¹⁴ Other investigations, on the other hand, report findings similar to ours.^{25,32} Dallazem et al. argue that university students represent a portion with differentiated training in relation to the general population, in which the lack of knowledge about photoprotection tends to be even more frequent.²³ Costa explains that people's education level influences the way they deal with their health, because the higher the individual's level of education, the greater the knowledge about the factors that cause damage to health. Thus, the more people know about the damage caused by sun exposure, the more they tend to adopt prevention habits.³³

Of the participants in the present study, 72.4% fit between phototypes I and III, which is expected given the high rate of descendants of European immigrants in the South region of Brazil. Thus, it was found that the higher the skin phototype classification in the present sample, the greater the risk of sun exposure was (SEPI 1, $p=0.033$) and the worse the propensity to improve photoprotection (SEPI 2, $p=0.010$). Other studies show a similar association.^{12,21} Probably due to the photoprotection conferred by melanin in more pigmented skin, skin cancers are less frequent in black patients.³⁴ However, black patients who develop skin cancer have worse morbidity and mortality, most likely as a result of lack of awareness,

diagnosis at a more advanced stage and socioeconomic factors, such as greater difficulty in accessing care.³⁵ Thus, despite the little relationship observed between black skin cancer and ultraviolet rays, skin care skin protection should be considered disease prevention factors, avoiding the belief that black skin is completely protected against cancer.³⁶

It is also noticed that higher SEPI I scores were associated with higher SEPI II scores ($p < 0.001$); that is, the greater the risk of sun exposure, the worse was the individual's propensity to improve their photoprotection. Thus, health services play an important role in guiding the population about skin cancer prevention to mitigate the risks and encourage protective habits. Bonfá et al. found that only 22.6% of participants reported having obtained information about photoexposure from their doctor.³⁷ Santos states that early diagnosis actions are the responsibility of primary health care, the population's gateway to the Unified Health System (SUS).³⁸ This population is followed by a multidisciplinary team, which therefore has a greater possibility of detecting suspicious skin cancer lesions early.³⁹ It is up to the team to provide education on photoprotection, that is, to promote awareness of the risks of inadvertent exposure to the sun and guidance on healthy behaviors that can reduce them.² At the end of the interviews with the participants, we handed out a pamphlet with information about protective measures, thus stimulating health education. It should be noted that these teachings should start at childhood, as children are more receptive than adults to guidance, and photoprotection habits acquired in childhood and adolescence can modify future behaviors, in addition to affecting parents' attitudes.² Advice on how to minimize exposure to ultraviolet radiation in young adults, adolescents, children and parents of young children, especially for individuals aged six months to 24 years with lighter skin phototypes, has been shown to have more favorable evidence than counseling in adults aged 24 years and older, according to a 2018 report by the US Preventive Task Force.⁴⁰

Finally, this study has some limitations. The SEPI questionnaire, in its question regarding sunscreen, considers its use during exposure to the sun. Thus, the data obtained do not necessarily refer to the use of sunscreen daily, which, in a way, could explain the higher proportion of users who use it than what is found in the literature. This study was also carried out during the COVID-19 pandemic, which may have underestimated the real previous and usual habits of part of the respondents, especially with regard to sunburn in the last 12 months, time of sun exposure, frequency of days off with the intention of spending more time exposed to the sun and habit of staying indoors or in the shade to protect themselves from the sun. The present study also did not delve into the possible causes and difficulties that lead respondents to not protect themselves better, thus requiring further research in the area for a more comprehensive understanding.

CONCLUSION

It is concluded, with the analysis of the sample studied, that practically half of the respondents did not use sunscreen during sun exposure and most did not use physical barrier methods to protect themselves from the sun. Other data draw attention, such as the important history of sunburns in the last 12 months, in addition to the fact that many participants still had risky habits, such as sunbathing and sun exposure at times of higher incidence of ultraviolet rays.

The risk resulting from exposure to the sun was significantly higher in men, in people with black skin and in individuals with less education. The propensity to improve photoprotection habits was also significantly lower in individuals with black skin and less education. In general, it is possible to state that the greater the risk of exposure of the individual, the worse is his propensity to reduce it with photoprotection

measures. Thus, raising awareness about the risks of inadvertent exposure to the sun and guidance on healthy practices in photoprotection are of great importance, especially in southern Brazil, one of the most affected by skin cancer in the country.

CONFLICT OF INTERESTS

Nothing to declare.

AUTHORS' CONTRIBUTIONS

PHF: Project management, Formal analysis, Conceptualization, Data curation, Writing – original draft, Writing – review & editing, Investigation, Methodology, Funding acquisition, Resources, Software, Supervision, Validation, Visualization. CSF: Project management, Formal analysis, Conceptualization, Writing – review & editing, Methodology, Supervision, Visualization. CLVM: Writing – review & editing, Methodology, Validation, Visualization.

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