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RESEARCH

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PREVALENCE OF THE USE OF PHOTOPROTECTION AND ASSOCIATED FACTORS IN MARKETERS

Prevalência do uso de fotoproteção e fatores associados em feirantes

Prevalencia del uso de fotoprotección y factores asociados en feirantes

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ABSTRACT

Objective: to estimate the prevalence of photoprotection use and to associate sociodemographic factors, phototype and risk factors in marketers. **Methods**: this is a cross-sectional study with a sample of 150 marketers registered at the Northern Minas Supply Center. A questionnaire about the sociodemographic profile, habits of sun exposure, measures of photoprotection and risk factors for cutaneous neoplasia was used. Simple frequencies and percentages were described. The bivariate analysis was performed using the chi-square test (x^2) and Fisher's Exact Test. Statistical relevance was considered $p < 0.05$. **Results**: there was a high prevalence of solar photoprotection not being used by farmers (50%). In addition, there was a significant association between photoprotection and the variables eye color ($p = 0.039$), exposure time ($p = 0.000$), exposure time ($p = 0.057$) and medical care ($p = 0.005$). **Conclusion**: dark-eyed marketers, who are exposed to the sun for more than 3 hours, all day and do not seek medical attention, do not use photoprotection.

Descriptors: Cutaneous neoplasms; Ultraviolet rays; Solar protectors; Association; Public health.

RESUMO

Objetivo: estimar a prevalência do uso de fotoproteção e associar aos fatores sociodemográficas, fototipo e fatores de riscos em feirantes. **Métodos:** trata-se de um estudo transversal com amostra de 150 feirantes cadastrados na Central de Abastecimento do Norte de Minas. Utilizou-se questionário acerca do perfil sociodemográfico, hábitos de exposição solar, medidas de fotoproteção e fatores de risco para neoplasia cutânea. Descreveram-se as frequências simples e porcentagens. A análise bivariada realizou-se por meio do teste qui-quadrado (x^2) e Teste Exato de Fisher's. Considerou-se relevância estatística $p < 0,05$. **Resultado:** observou-se elevada prevalência do não uso da

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fotoproteção solar pelos feirantes (50%). Ademais, houve uma associação significativa entre fotoproteção e as variáveis cor dos olhos (p = 0,039), tempo de exposição (p = 0,000), horário de exposição (p = 0,057) e assistência médica (p = 0,005). **Conclusão:** feirantes de olhos escuros, que se expõem ao sol por mais de 3 horas, o dia inteiro e não procuram assistência médica, não usam fotoproteção.

Descritores: Neoplasias cutâneas; Raios ultravioleta; Protetores solares; Associação; Saúde Pública.

RESUMEN

Objetivo: estimar la prevalencia del uso de fotoprotección y asociar a los factores sociodemográficos, fototipo y factores de riesgo en feriantes. **Métodos**: se trata de un estudio transversal con muestra de 150 feriantes registrados en la Central de Abastecimiento del Norte de Minas. Se utilizó un cuestionario sobre el perfil sociodemográfico, hábitos de exposición solar, medidas de fotoprotección y factores de riesgo para neoplasia cutánea. Se describieron las frecuencias simples y porcentajes. El análisis bivariado se realizó por medio de la prueba qui-cuadrado (x^2) y la prueba exacta de Fisher's. Se consideró relevancia estadística p <0,05. **Resultado**: se observó elevada prevalencia del no uso de la fotoprotección solar por los feirantes (50%). Además, hubo una asociación significativa entre fotoprotección y las variables color de los ojos (p = 0,039), tiempo de exposición (p = 0,000), horario de exposición (p = 0,057) y asistencia médica (p = 0,005). **Conclusión**: los ojos oscuros, que se exponen al sol durante más de 3 horas, todo el día y no buscan asistencia médica, no usan fotoprotección.

Palabras clave: Neoplasias cutáneas; Rayos ultravioleta; Protectores solares; Asociación; Salud pública.

INTRODUCTION

The skin is considered the largest organ of the human body and has several functions such as protection of the body against dangerous substances, microorganisms, parasites and insects, tactile, thermal and painful sensitivity, secretion of sweat and excreta that contribute to body homeostasis and protection against lightning ultraviolet.[1] Therefore, an exaggerated sun exposure, especially during times of higher incidence of solar radiation, can lead to several skin risks, from degenerative lesions and acceleration of the aging process to the development of cancers.[2]

Skin cancer is the most prevalent neoplasm in several parts of the world, including Brazil.2 According to data from the National Cancer Institute (INCA), non-melanoma skin cancer is the most prevalent cancer in both sexes (85,170 cases new among men and 80,410 in women).[3] Melanoma skin cancer has a lower incidence (2,920 new cases in men and 3,340 new cases in women), but its lethality is much higher than that of non-melanoma.[3]

Open markets generally present problems related to the lack of adequate structure, long working hours, exposure to factors and various environmental conditions harmful to health, such as excessive exposure to sunlight.[4]

In this context, it is essential to know about photoprotection, as such practices minimize the risk of developing skin cancer[5] since sun exposure is present in different professions, such as, for example, welders, fishermen, police, physical education teachers[6] and, in the focus of the present study, the marketers.

Therefore, the objective of this study was to estimate the prevalence of the use of protection against the sun and to associate it with sociodemographic factors, skin phototype and risk factors.

METHODOLOGY

This is a cross-sectional study, whose data were collected in the municipality of Montes Claros (MG), at the North Minas Gerais Supply Center (CEANORTE), by a specially trained team from August to October 2017.

The sample consisted of 150 marketers, who were selected according to the inclusion criteria: age equal to or greater than 21 years and development of work activities at CEANORTE. After accepting to participate in the research, the marketers were invited to enter a reserved room to answer the questionnaire.

The data collection instrument consisted of a questionnaire prepared by the authors about the sociodemographic profile (gender, where they live and remuneration), skin color, eye color, skin reaction when exposed to the sun, daily exposure time, time of greater exposure, source of knowledge about skin cancer, seeking medical care, sunburn, skin problems, history of unprotected sun exposure, past personal history of skin cancer, family history of skin cancer, skin lesions skin and spots on the skin.

Initially, a pilot study was carried out on a sample consisting of 15 vendors who work in the Central Montes Claros market, with the aim of verifying the time spent on collection, the previous difficulties and the viability of the data collection instruments.

For statistical analysis, the Statistical Package for Social Science (SPSS) version 20.0 was used. Initially, the simple frequencies and percentages of the analyzed variables were described. The bivariate analysis was performed using the chi-square test (x^2) and Fisher's exact test. In all statistical analyzes, statistical significance was considered p <0.05.

All participants were informed about the research and presented their consent by signing the Free and Informed Consent Form (directly or through a family member, for the illiterate). The research project was submitted to and approved by the Research Ethics Committee of Faculdades Integradas Pitágoras de Montes Claros, under opinion number 2.366.954/2017.

RESULTS

In this study it was possible to observe a high prevalence of not using photoprotection against the sun (Graph 1).

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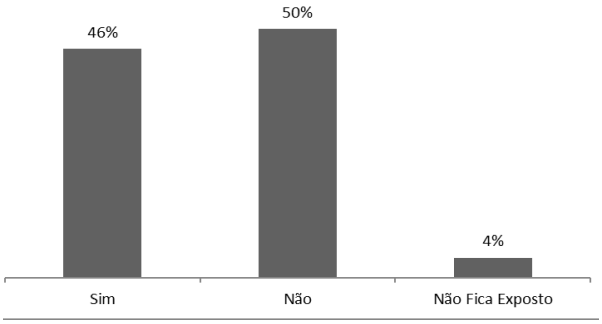
Graph 1 - Prevalence of using photoprotection. Montes Claros, MG, Brazil, 2018



When associating the use of photoprotection with sociodemographic factors and the classification of the skin phototype, the results showed that, only for the variable eye color, they were significant, evidencing that marketers with brown or black eyes are more likely not to use sun protection, when compared to the marketers with blue or green eyes (p = 0.039), according to Table 1.

Table 1 - Association between the use of sun protection and sociodemographic factors and classification of the skin phototype.

Variables (n)		YEs		No		Not exposed		P-value
		%*	N	%*	n	%*	(x^2)	
Sociodemographic factors								
Gender	Male	52	43,0	63	52,1	06	5,0	0,316
	Female	17	58,6	11	37,9	01	3,4	
Place of residence	Rural zone	48	49,0	45	45,9	05	5,1	0,515
	Urban zone	21	40,4	29	55,8	02	3,8	
Income	< 2 min. wages	41	42,3	52	53,6	04	4,1	0,415
	≥ 2 min. wages	27	51,9	22	42,3	03	5,8	
Classification of skin phototype (FITZPATRICK)								
Color	White	11	40,7	14	51,9	02	7,4	0,716
	Light brown	25	55,6	18	40,0	02	4,4	
	Moderate brown	22	45,8	24	50,0	02	4,2	
	Dark brown	05	27,8	12	66,7	01	5,6	
	Black	06	50,0	06	50,0	00	0,0	
Eye color	Brown or black	60	45,8	67	51,1	04	3,1	0,039
	Blue or green	09	47,4	07	36,8	03	15,8	

When associating the use of photoprotection with photoprotective measures, sun exposure habits and risk factors, it was observed that the variables exposure time, exposure time and medical assistance, showed significant, showing that, the marketers who stay for more than three hours exposed to the sun, make less use of sun protection, when compared to people who stay for less time (p = 0.000), those who spend the whole day exposed to the sun, presented less use of sun protection, when compared to those who they stay only one shift (p = 0.057) and marketers who do not seek medical assistance, showed a greater predisposition to not use sun protection, when compared to those who seek (p = 0.005), according to Table 2.

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Table 2 - Association between the use of sun protection and photoprotection measures, sun exposure habits and risk factors.

Variables (n)		Yes		No		Not exposed		P value
		%*	n	%*	n	%*	(x^2)	
Photoprotection measures and sun exposure habits								
When exposed to the sun	Always burns, but never tans	12	54,5	08	36,4	02	9,1	0,079
	Always burns, but tans a little	21	52,5	18	45,0	01	2,5	
	Burns moderately	09	39,1	13	56,5	01	4,3	
	Burns little and always tans	18	45,0	22	55,0	00	0,0	
	Burn rarely	07	70,0	02	20,0	01	10,0	
	Never burns	02	13,3	11	73,3	02	13,3	
Exposure time hour/ day	Less than 1 hour	06	37,5	05	31,2	05	31,2	0,000
	Between 1 and 3 hours	11	57,9	08	42,1	00	0,0	
	More than 3	52	45,2	61	53,0	02	1,7	
Time of greatest sun exposure	Morning	18	72,0	06	24,0	01	4,0	0,057
	Evening	06	42,9	08	57,1	00	0,0	
	All day	45	40,5	60	54,1	06	5,4	
Risk factors								
Source of knowledge about skin cancer	Television / magazine / radio / internet	57	52,3	47	43,1	05	4,6	0,109
	Information passed on by professionals	00	0,0	02	100,0	00	0,0	
	No knowledge	12	30,8	25	64,1	02	5,1	
Ever sought medical assistance	No	49	40,2	68	55,7	05	4,1	0,005
	Yes	20	71,4	06	21,4	02	7,1	
Had sunburns	Yes	17	58,6	11	37,9	01	3,4	0,316
	No	52	43,0	63	52,1	06	5,0	
Skin problems	Skin tanning	36	45,0	41	51,2	03	3,8	0,431
	Burns	06	60,0	04	40,0	00	0,0	
	Insolation	04	80,0	00	0,0	01	20,0	
	Changes in color, thickness or size of stains	07	43,8	08	50,0	01	6,2	
	Never had	16	41,0	21	53,8	02	51,1	
Sunbathing without protection	Yes	59	43,7	70	51,9	06	4,4	0,180
	No	10	66,7	04	26,7	01	6,7	
Any skin cancer history	Yes	05	55,6	04	44,4	00	0,0	0,711
	No	64	45,4	70	49,6	07	5,0	
Any Family member has skin cancer	Yes	10	58,8	07	41,2	00	0,0	0,720
	No	54	43,5	63	50,8	07	5,6	
	Does not know	04	50,0	04	50,0	00	0,0	
Skin lesions	No	63	46,7	66	48,9	06	4,4	0,791
	Yes, on the lower limbs	02	50,0	02	50,0	00	0,0	
	Yes, on the face	00	0,0	02	100,0	00	0,0	
	Yes, in another body region	04	44,4	04	44,4	01	11,1	
Spots on the skin	No	34	44,2	37	48,1	06	7,8	0,175
	Yes	35	47,9	37	50,7	01	1,4	

DISCUSSION

This study found a high prevalence of non-use of photoprotection in marketers associated with the skin phototype, sun exposure habits and risk factors. Some of the age-independent risk factors for skin cancer are: skin color, light eyes and hair and exposure to UVA rays, which corroborates the statistics studied.[7] Therefore, these are the people who must adopt protective measures soon as possible in order to prevent the development of the disease in the future.[7]

Regarding the eye color variable, people with light eyes are at higher risk of developing skin cancer due to the low amount of melanin, thus, this population demands greater care in relation to sun exposure[8], which corroborates with the results found in the research, which proved to be significant for eye color, showing that lighter-eyed marketers make more use of photoprotection. In contrast, most individuals diagnosed with basal cell carcinoma, the most common subtype of skin cancer, and all those with squamous cell carcinoma have brown eyes and dark brown hair.[9]

Considering the variable time of exposure, this study revealed that marketers who spend more than three hours a day exposed to the sun, do not use photoprotection. This is relevant, as continuous and cumulative sun exposure causes damage to DNA.[7] In an elderly organism, this damage is often not amenable to repair, as in addition to a decrease in the function of melanocytes (allowing for more penetration) intense UVB radiation), there is a decrease in immunity and Langerhans cells, thus creating an opportunity for the appearance of neoplasms.[7] In addition, 90% of non-melanoma skin cancers and 65% of the incidence of melanoma skin cancer are attributed to sun exposure, with cumulative exposure correlating with non-melanoma and intermittent with melanoma.[10]

Regarding the time of greatest exposure to the sun, the current literature corroborates with the results of this work that people who are more exposed to the sun do not use or use less photoprotective measures and suggests that one should avoid exposure to the sun in the open without protection among from 10am to 3pm and, in some Brazilian regions where there is summer time, until 4pm, as both morning and afternoon sun exposure or all day sun exposure are significant for both the development of skin cancers and aging early.[11]

Regarding the variable seeking medical assistance, the literature also corroborates what was evidenced by this research: individuals who do not go to the doctor, do not use photoprotective measures, and are therefore more prone to the development of skin cancer.[11] Due to the demand delayed medical assistance, there is a delay in the diagnosis of these skin tumors, which is in accordance with the study statistics, making it difficult to perform the appropriate conduct and compromising the patient's prognosis.[12]

Although the skin color variable did not show a significant association in this study, it is worrying that 51.9% of marketers who self-reported whites do not use any photoprotective measure, since, according to the literature, there was a significant increase in the incidence of melanoma in the leucoderma population.[13]

CONCLUSION

It is concluded that among the marketers analyzed, those who have dark eyes, who frequently expose themselves to the sun and who do not seek medical assistance need more attention from health authorities, as they are more exposed to risk factors for skin cancer. However, it is important to mention some limitations in the present study, such as the small sample size, the fact that the clinical examination was not performed and because it is a cross-sectional study. Therefore, further studies are necessary to better characterize the risk factors in this population.

REFERENCES

1. Souza MC, Horta TG, Melo ES, Rocha FD. Câncer de pele: hábitos de exposição solar e alterações cutâneas entre agentes de saúde em um município de Minas Gerais. Revista de Enfermagem do Centro Oeste Mineiro. 2016. [acesso em 18 mai 2019]. Disponível em: http://www.seer.ufsj.edu.br/index.php/recom/article/view/920
2. Fabris MR, Durães ES, Martignago BC, Blanco LF, Fabris TR. Assessment of knowledge of skin cancer prevention and its relation with sun exposure and photo protection amongst gym academy members on the south of Santa Catarina, Brazil. Anais brasileiros de dermatologia. 2012; 87(1):36-43. [acesso em 18 mai 2019]. Disponível em: http://www.scielo.br/pdf/abd/v87n1/v87n1a04.pdf
3. Ministério da Saúde. Instituto Nacional de Câncer José Alencar Gomes da Silva. Estimativa 2018: Incidência de Câncer no Brasil. Rio de Janeiro. [acesso em 18 mai 2019]. Disponível em: http://www1.inca.gov.br/estimativa/2018/
4. de Jesus Carvalho J, Aguiar MG. QUALIDADE DE VIDA E CONDIÇÕES DE TRABALHO DE FEIRANTES. Revista de Saúde Coletiva da UEFS. 2017 Dec 21;7(3). [acesso em 18 mai 2019]. Disponível em: http://periodicos.uefs.br/index.php/saudecoletiva/article/view/1943
5. Balogh TS, Velasco MV, Pedriali CA, Kaneko TM, Baby AR. Proteção à radiação ultravioleta: recursos disponíveis na atualidade em fotoproteção. An Bras Dermatol. 2011 Aug;86(4):732-42. [acesso em 18 mai 2019]. Disponível em: http://www.scielo.br/pdf/abd/v86n4/v86n4a16.pdf
6. Cezar-Vaz MR, Bonow CA, Piexak DR, Kowalczyk S, Vaz JC, Borges AM. Câncer de pele em trabalhadores rurais: conhecimento e intervenção de enfermagem. Revista da Escola de Enfermagem da USP. 2015;49(4):564-71. [acesso em 18 mai 2019]. Disponível em: http://www.scielo.br/pdf/reeusp/v49n4/pt_0080-6234-reeusp-49-04-0564.pdf
7. Imanichi D, Moraes CF, SoteroI RD, Gomes LO. Fatores de risco do câncer de pele não melanoma em idosos no Brasil. Diagn. tratamento. 2017;22(1):3-7. [acesso em 18 mai 2019]. Disponível em: http://docs.bvsalud.org/biblioref/2017/03/832424/rdt_v22n1_3-7.pdf
8. Cotran RS, Kumar V. Robbins & Cotran. Patologia. Bases patológicas das doenças. 7ª edição. Rio de Janeiro: Elsevier; 2005.
9. Pires CA, Fayal AP, Cavalcante RH, Fayal SP, Lopes NS, Fayal FP, dos Santos MA. Câncer de pele: caracterização do perfil e avaliação da proteção solar dos pacientes atendidos em serviço universitário. Journal of Health & Biological Sciences. 2017 Dec 13;6(1):54-9. [acesso em 18 mai 2019]. Disponível em: https://periodicos.unichristus.edu.br/jhbs/article/view/1433
10. Bardini G, Lourenço D, Fissmer MC. Avaliação do conhecimento e hábitos de pacientes dermatológicos em relação ao câncer da pele. ACM Arq Catarin Med. 2012;41(2):56-63. [acesso em 18 mai 2019]. Disponível em: http://www.acm.org.br/revista/pdf/artigos/929.pdf
11. Bomfim SS, Giotto AC, Silva AG. Câncer de pele: conhecendo e prevenindo a população. Revista de Divulgação Científica Sena Aires. 2018;7(3):255-9. [acesso em 18 mai 2019]. Disponível em: http://revistafacesa.senaaires.com.br/index.php/revisa/article/view/329

12. Espósito AC, Campos EB, Marques ME, Marques SA, Abbade LP, Stolf HO. Fatores que levam à negligência quanto aos cânceres da pele não melanoma. Diagn. tratamento. 2017 Apr;22(2):63-12. [acesso em 18 mai 2019]. Disponível em: http://docs.bvsalud.org/biblioref/2017/05/833682/rdt_v22n2_63-66.pdf

13. Castilho IG, Sousa MA, Leite RM. Fotoexposição e fatores de risco para câncer da pele: uma avaliação de hábitos e conhecimentos entre estudantes universitários. An Bras Dermatol. 2010 Mar;85(2):173-8. [acesso em 18 mai 2019]. Disponível em: http://www.scielo.br/scielo.php?pid=S0365-05962010000200007&script=sci_abstract&tlng=pt

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