



# Assessment of educational services by Patient Target Group participating in the National Skin Cancer Prevention Programme (OPPNS) based on the example of the Wielkopolska region

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## ABSTRACT

**Background:** Skin melanoma is one of the three main types of skin cancer along with basal cell carcinoma (BCC) and squamous cell carcinoma (SCC), and develops from melanocytes. 2019 saw the beginning of the National Skin Cancer Prevention Programme (OPPNS) in Poland. One of the tasks performed was a health promotion campaign for patients. To effectively educate the public, the project was preceded by a survey assessing knowledge on skin cancer prevention methods. Then, the survey was repeated to evaluate the effectiveness of the awareness raising campaign.

**Materials and methods:** both studies were conducted based on an author-developed survey. A representative sample size was determined based on the calculator available at [www.cem.pl/pl/analizy/wielkość-proby](http://www.cem.pl/pl/analizy/wielkość-proby). In addition, each participant filled in a knowledge upgrade declaration. The analysis employed basic statistical data, such as absolute numbers and structural indicators.

**Results and Conclusions:** Knowledge upgrade score of 9.16 (out of 10) was declared by 99.7% of the respondents. As many as 99.0% of them declared an intent to change their lifestyle to a healthier one. Thus, the education provided to the Programme participants was confirmed to have raised their awareness of skin cancer prevention and self-examination methods.

**Key words:** melanoma; skin cancers; skin cancer prevention; screening; social education; oncology

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## Introduction

Skin melanoma is one of the three main types of skin cancer along with basal cell carcinoma (BCC) and squamous cell carcinoma (SCC) [1], and develops from melanocytes. 2019 saw the beginning of the National Skin Cancer Prevention Programme (OPPNS) in Poland. One of the tasks performed was a health promotion campaign for patients.

To effectively educate the public, the project was preceded by a survey assessing knowledge on skin cancer prevention methods. Then, the survey was repeated to evaluate the effectiveness of the awareness raising campaign.

The aim of the study was to assess whether the education provided to the Programme participants has led to raising their awareness of skin cancer prevention and self-examination methods.

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## Materials and methods

The study was based on a survey developed by A. Dyzmann-Sroka, MD, and students of Electroradiology, Karol Marcinkowski University of Medical Sciences, Poznań. The first survey was conducted in 2019 on a group of Wielkopolska region residents aged 15+, before the start of the Programme, in order to collect data and improve the educational part. The other survey was carried out in 2023 on Programme participants to assess the quality of educational services provided. The survey consisted of 11 questions (including 9 partly open-ended, 1 open-ended, 1 close-ended; see attached a sample survey contained in Supplementary File as Annex 1). The respondents filled in a hardcopy version of the survey. A representative sample size (i.e. at least 244 respondents) was determined based on the calculator available at [www.cem.pl/pl/analizy/wielkość-proby](http://www.cem.pl/pl/analizy/wielkość-proby). Additionally, each participant that has been given educational/awareness-raising consultation completed a knowledge upgrade declaration (Supplementary File — Annex 2). The analysis employed basic statistical data, such as absolute numbers and structural indicators.

## Results

Skin melanoma is one of the three main types of skin cancer along with basal cell carcinoma (BCC) and squamous cell carcinoma (SCC) [1], and develops from melanocytes. Melanoma is often diagnosed in the advanced stage with metastasis to the small intestine, liver, lung, and brain tissues [2, 3]. Nonmelanoma skin cancer (NMSC) is the most common malignancy worldwide, and its incidence has an increasing trend as the population gets older [4–7]. Although NMSC has a low morbidity and mortality rate, it can significantly affect the patient's quality of life [4, 7]. Every year, nearly 17,000 new cases of melanoma and other skin cancers are diagnosed in Poland and 1,543 patients die from those diseases, which constitutes a major health and social issue, serious enough to have given rise to the OPPNS in 2019. The Programme consisted of:

- the educational component directed to medical staff: GPs, health promotion and health education specialists, dermatologists, oncologists, as well as people belonging to the risk group;

- the medical component involving the provision of health care services to individuals qualified to the OPPNS (videodermoscopy/dermoscopy).

In the western part of Poland, encompassing the regions of Wielkopolska, Lubuskie and West Pomerania, the Programme was implemented by the Greater Poland Cancer Centre together with its partners, the Wielkopolska Union of Healthcare Employers and Melanoma Patients Association, from 1 January 2019 to 30 September 2023. The main objective of the prevention Programme was to raise the target group's awareness of skin cancer prevention and self-examination methods. According to the Programme's guidelines, the quality assessment of the services provided under the Programme included a survey conducted on a random group of participants regarding the quality of educational services.

A total of 748 respondents aged 15+ took part in the 2019 survey and 250 in the 2023 survey. In both cases, women accounted for majority of participants (61% and 70%, respectively). The respondents varied in terms of education level and place of residence (Tab. 1).

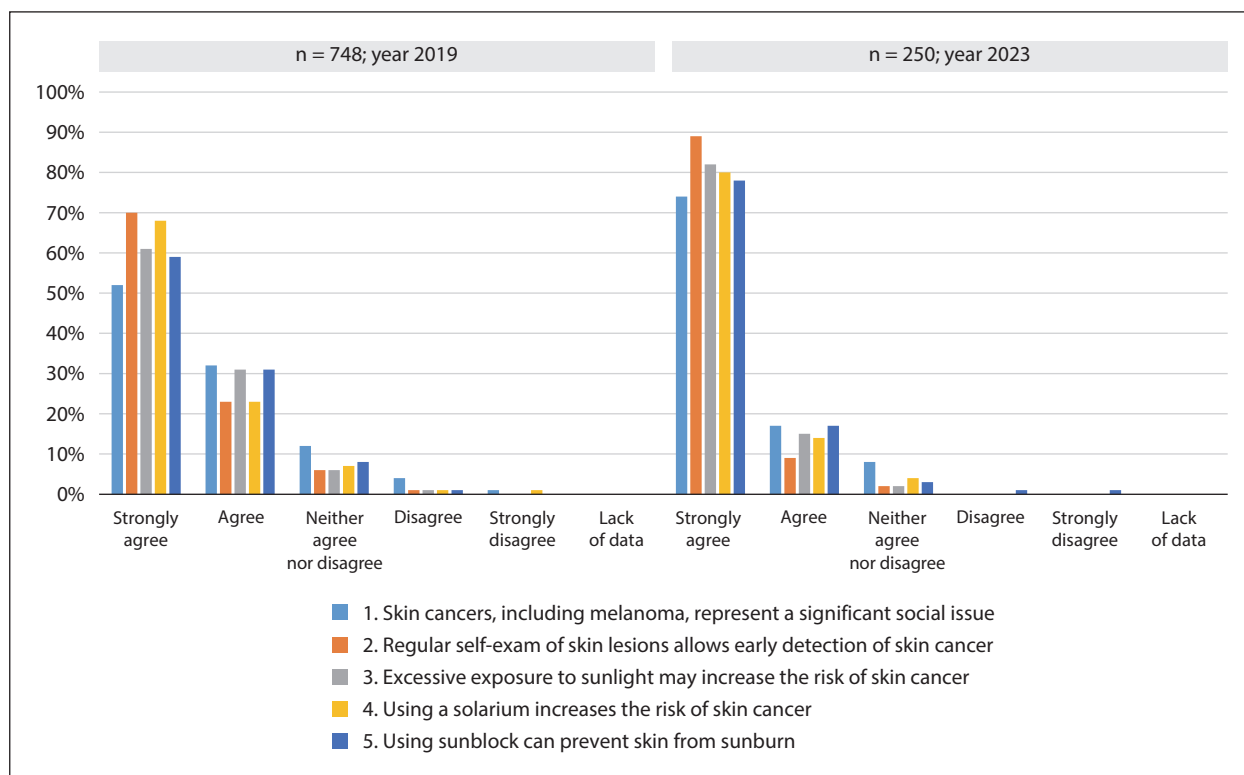
As the study shows, the education provided had a positive impact on respondents' views. In 2019, the percentage share of "Strong agree" answers to the five fundamental statements regarding skin cancer prevention ranged between 52% and 70%. In 2023, it rose to 74–89% (Fig. 1), while the proportion of respondents who know that they should avoid direct exposure to sunlight from 11:00 am. to 3:00 pm. in the spring and summer period grew from 90% to 95%!

From among listed risk factor categories, respondents were asked to choose the three that they believed to contribute the most to skin cancer in their families. In 2019, they pointed to sunburns as the top contributor followed by solarium and genetic factors; in 2023, solarium (increase by 4 pp), genetic factors (increase by 13 pp) and sunburns (drop by 3 pp) were pointed in equal proportions (Fig. 2). The percentage of respondents who knew the meaning of the abbreviation "SPF" (Sun Protect Factor) decreased by 4 pp. The proportion of respondents who apply sunblock half an hour before going out and then re-apply it regularly during sunbathing grew by an impressive 20%. The proportion of those who do not protect their skin by any sunblock cream

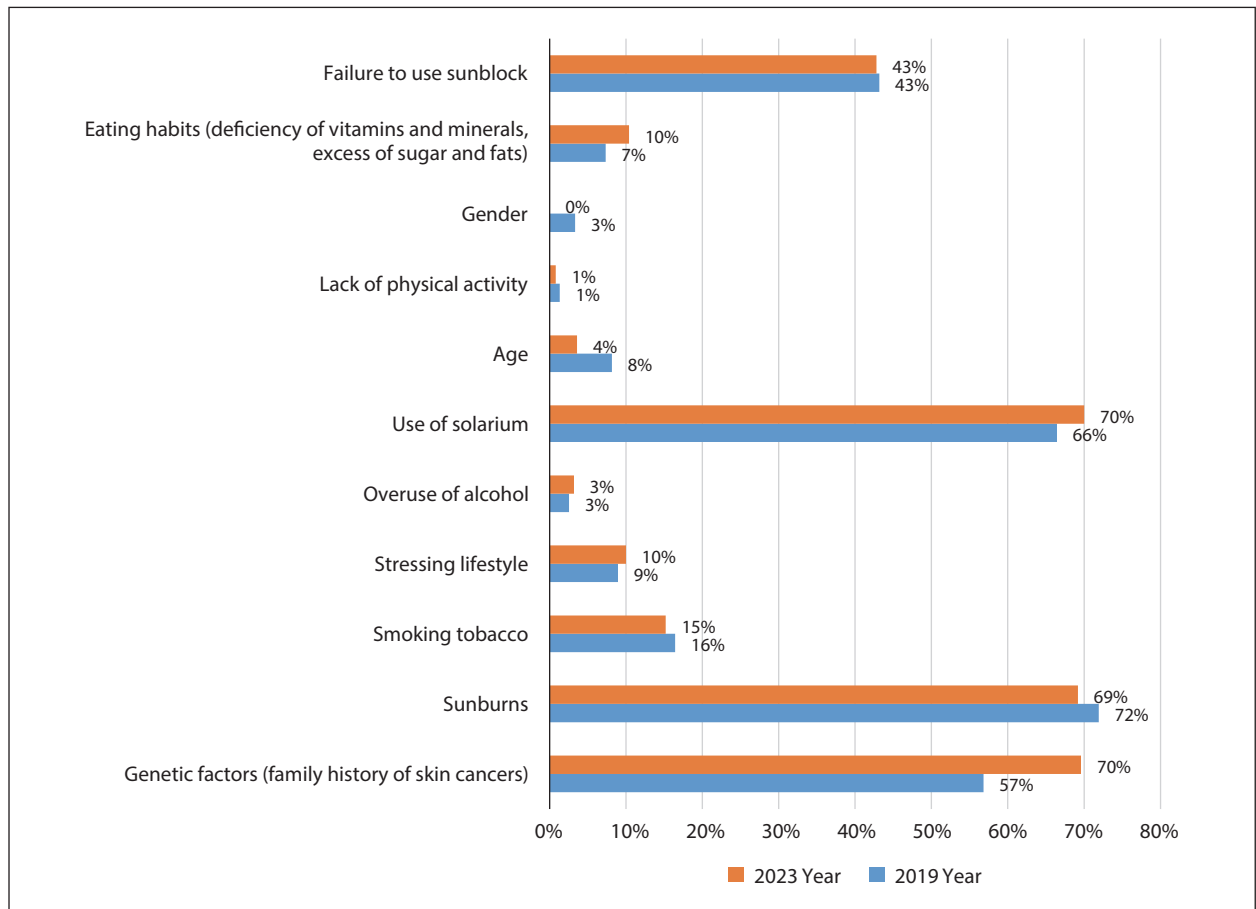
**Table 1.** Study groups — demographic data

Year		2019	2023
Sex	Female	61%	70%
	Male	38%	30%
	Other	1%	0%
Place of residence	Urban over 500,000	24%	32%
	Urban 250,000–500,000	10%	3%
	o Urban 50,000–250,000	21%	2%
	Urban below 50,000	22%	31%
	Rural	23%	31%
	Other/Lack of data	0%	1%
Education level	High (ISCED 5–8)	35%	51%
	Post-secondary (ISCED 4)	16%	9%
	Secondary (general, technical, vocational) (ISCED 3)	37%	34%
	Lower secondary (ISCED 2)	3%	2%
	Primary or less (ISCED 0–1)	9%	3%
	Lack of data	0%	1%
Age	15–49	33%	70%
	50–64	33%	25%
	65+	33%	4%
	Lack of data	0%	1%

ISCED — International Standard Classification of Education



**Figure 1.** Respondents' views



**Figure 2.** Out of the following factors, select three that you believe to contribute the most to skin cancer in your family

fell by as much as 15 pp (23% vs. 8%)! As, according to some studies, respondents' answers are often more optimistic (wishful) than their actual habits and behaviours, the survey included a control question 'When do you use UVA/UVB sunblock?' which generated a similar response (i.e. the proportion of 'I don't use at all' answers also fell from 21% to 8%).

The proportion of respondents who had never experienced sunburn went down from 42% to 35%, while the proportion of those who had occasional sunburns when they were children rose from 30% to 43%, which — despite appearances — might be good news as it reflects participants' growing awareness. The COVID-19 pandemic, particularly the lock-down periods, have significantly affected the way respondents spend their leisure time. Following the period of forced home stay and closures of forests and parks, the percentage of respondents spending their free time outdoors in spring and summer (e.g. jogging or cycling) grew by 27

pp, while the proportion of those spending that time home in front of TV fell by 14 pp. The percentage of respondents who spend an average of 2–3 hours outdoors on a spring or summer sunny day rose to 79% (i.e. by 17 pp). Unfortunately, the percentage of respondents who had never used a solarium has decreased from 71% to 44%, while the percentage of those who had used it before but not very often grew from 13% to 37%. Respondents' better awareness is well shown by the increased proportion of those self-examining their skin lesions (increase by 10 pp).

When asked which characteristics of indicated skin lesions would encourage them to consult a doctor, in 2019, the respondents pointed to bleeding as their first choice, sensitivity to touch as their second choice and colour and asymmetric look as the third one. In 2023, Programme participants pointed to asymmetry as the first symptom, followed by colour and size of the lesion. The proportion of respondents who had never gone to

**Table 2.** Do you have any comments/questions regarding the improvement of the efficacy of the Programme and skin cancer diagnosis? (n = 250)

Do you have any comments on improving the efficacy of the National Skin Cancer Prevention Programme	Number
No	133
It is hard to find a centre performing examinations under the Programme	20
It is easy to find a centre performing examinations under the Programme	7
It is hard register for examination	4
It is easy to register for examination	10
Education is not needed	2
The educational part is too long	2
The educational part is too short	0
There's no point in examining skin lesions by a GP without a dermoscope or videodermoscope; GPs should be enabled to examine lesions at least by a dermoscope	20
There's no point in examining skin lesions by a GP without a dermoscope or videodermoscope; participants should be enabled to have their lesions examined with a dermoscope by a dermatologist or surgical oncologist	18
The Programme should not end up with identifying suspected/malignant lesions, as leaving the patient alone with such a diagnosis is unethical! The Programme should be extended to include the removal of the suspected/malignant with histopathological examination!	23
The patient should be allowed to participate in the Programme again i.e. after two years	40
The risk of cancer grows with age; therefore, I think that professional inactivity or age 65+ should not exclude participation in cancer prevention programmes!	32
It's very good that such a programme has been implemented and should be continued	57
Other	2

see a doctor to have their skin lesions examined decreased from 67% in 2019 to 58% in 2023. In both questionnaires respondents indicated that they most often chose to visit a dermatologist. Majority of respondents who had had their (video) dermoscopy performed also pointed to dermatologist's surgery as the place of examination, and when asked about the date of examination, they mostly stated that their last check-up had been done more than a year before.

The proportion of respondents who had learnt from their doctor about the possibility of having (video)dermoscopy performed grew from 32% to 44%. Most respondents (82%) had not heard of any smartphone apps supporting the monitoring of skin lesions. The few (7%) who had checked them indicated *DermaScanner*, 'Other', *SkinVision*, followed by *Dermocheck* and *SkinCheck* along with 'I don't remember the name'. When asked about the reason for their not using those apps, the respondents mostly answered that it was only during the educational/awareness-raising consultation that they learnt such apps even existed.

The prevailing view in comments and questions regarding the improvement of the efficacy of the Programme and skin cancer diagnosis was

that implementing the Programme was a very good idea, that it should be continued, that participating patients should be enabled to re-take the survey, for example two years after the participation, and that professional inactivity and the age of 65+ should not be excluding factors for participation in the Programme (Tab. 2).

## Conclusion

A very important question was missing in the survey, namely: 'Do you declare the intent to change your lifestyle following the training?'. Fortunately, the implementation of the Programme was supported by the Programme IT Monitoring System where each patient, having completed the educational/awareness-raising consultation, answered anonymously if, following the training, they gained more knowledge on skin cancers, in particular with regard to self-exam and skills in using modern technologies supporting self-exam and rated their increase in knowledge out of 10 (where 10 is the highest mark). Since 7 September 2023, 4,070 participants have completed the survey, of whom 99.7% declared to have gained more knowledge, rating their increase in knowledge

at 9.16. Following an initial summary of the survey, a decision was made to extend it by including a change of lifestyle declaration. The question 'Do you declare the intent to change your lifestyle following the training?' was answered affirmatively by 499 out of 504 respondents accounting for 99.0%! Thus, the education provided to the participants of the National Skin Cancer Prevention Programme was confirmed to have raised their awareness of skin cancer prevention and self-examination methods.

### Conflict of interest

The author declare no conflict of interests.

### Funding

None declared.

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