

## Skin surveillance attitudes and behaviors in relation to skin checks for early signs of skin cancer in a sample of secondary school students and teachers in Palermo, Western Sicily

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### Abstract

**Background:** Malignant melanoma (MM) can be readily treated in its earliest stages: survival rate, when detected early, is up to 95,0%. This justifies investigations on contributive factors and measures for precocious detection of skin tumors to improve early detection and to increase survival rates. The purpose of this survey was to collect information about knowledge, attitudes and behaviors on prevention in relation to skin checks for early signs of skin cancer on a sample of secondary school students and teachers.

**Methods:** A sample of secondary school students and teachers from Palermo, was recruited using the *cluster sampling method*. A self-administered questionnaire, consisting of twenty four multiple choice questions was used as the survey instrument. Statistical analysis of data obtained was performed using *Openstat software*.

**Results:** The research showed a good level of awareness about skin cancer risk factors, which seemed to be strictly correlated with age. On the contrary, practice of skin self-examination (SSE) is not as widespread, and only 4,8% regularly checked the parts of their bodies most exposed to the risk of developing skin cancer. Both students and teachers indicated that school-based health education programs are the best way to promote the importance of prevention.

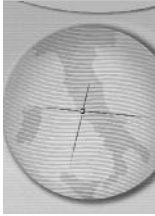
**Conclusions:** In many countries mortality is not increasing at the same rate as incidence for MM. The practice of SSE may play a vital role in improving early detection and survival rates. Therefore, school interventions to promote knowledge of the benefits of regular SSE should be implemented.

*Key words: skin self examination (SSE), skin cancer prevention, sun exposure*

### Introduction

There are three major types of skin cancer: basal cell carcinoma, squamous cell carcinoma and malignant melanoma (MM). The incidence of all three types is on the rise. Skin cancers are among the most common of all cancers in both sexes, corresponding to approximately 25,0% of the total types of cancer and MM accounting for 75,0% of the deaths from skin cancer and 3,0% of total deaths from cancer [1, 2]. Skin cancer most often develops on skin exposed to the sun and the majority of skin cancers are caused by unprotected exposure to excessive UV radiation [3, 4]. UV radiation is present in solar rays and artificial suntan-cabins [5]. These common forms of cancers can also occur on areas of the skin not necessarily exposed to sunlight [1, 2, 6]. Most skin cancers can be prevented by limiting or avoiding

exposure to ultraviolet (UV) radiation and can be detected at an early stage by paying attention to suspicious changes in the skin. With early detection, successful treatment for skin cancer may be achieved, even in the most aggressive forms [7]. Its most lethal form is malignant melanoma (MM), and some previous statistical surveys [8] have shown that it is most common among those aged 25 to 29 years. The Australian population of Queensland has the highest risk of developing a MM, recorded as 1 in 16 for men and 1 in 24 for women [9]. MM is the fifth most common tumor in men and the sixth most common malignancy in women in USA: lifetime risk among USA residents is 1 in 74 and is rising [10]. The exact causes of melanoma are not precisely known, but people with certain risk factors are more likely than others to develop it



[11]. Among these risk factors, the most important are severe, blistering sunburns as a child or teenager and ultraviolet radiation. Sunburns during childhood and intense sun exposure increase the risk of melanoma and other skin cancers later in life [12-14]. A meta-analysis conducted among people who have been sunburnt and those who have not, showed a two-fold increased risk for melanoma [15]. Skin cancers are rare in dark-skinned people; light-skinned, blue-eyed people who do not tan well but who have had significant exposure to the rays of the sun are at the highest risk [16]. Studies suggest that use of indoor tanning devices is a risk factor as well [17-19]. Depletion of the ozone layer has been indicated as one of the factors leading to the increased incidence of MM. The rates are significant and have been increasing by approximately 4,0% each year, second only to lung cancer in regard to increased annual mortality from all forms of cancer [2,8]. The possibility to stop it once it has metastasized to other parts of the body is a very low. However, it can be readily treated in the early stages: survival rate, when detected early, is up to 95,0%. This justifies the need for careful studies that examine the contributive factors for such increases as well as preventive measures such as education campaigns that, at a minimum, should include guidance regarding solar exposure and photo protection measures [20,21]. Primary prevention involves limiting exposure to UV light, avoiding sunbathing during peak UV hours, wearing sun protective clothing and applying sun screen before as well as during exposure to the sun or UV rays [22,23]. The thickness of the lesion is the best predictor of prognosis as these conditions worsen markedly, at the time of diagnosis, as the thickness of the lesion increases. In most cases, in fact, MM is curable if excised while the lesion is still thin [24]. The incidence and mortality from MM have not risen at the same rate. Earlier detection may be responsible, at least in part, for this result [25]. Skin cancer control includes total cutaneous examination (TCE) and skin self-examination (SSE). Surveillance through skin examination is thought to increase the chances of discovering lesions at a thinner state due to a developing melanoma, thereby reducing mortality rates from such cancer [26]. The efficacy of the screening, however, has not been well established [27]. Despite the lack of scientific evidence, skin screening remains an acceptable rationale for melanoma prevention and control [28]. The American Cancer Society recommends that all individuals who are between 20 and 40 years of

age should have a monthly SSE and a TCE every three years and that those who are more than 40 years of age should have a monthly SSE and an annual TCE [29]. To establish deep seeded attitudes to prevention and behaviors concerning skin cancer, especially in the development years, seems to be the only promising way to reduce mortality rates for such tumors.

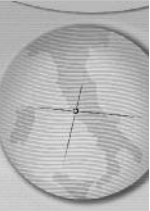
### Objectives and methods

The research aimed:

- to assess the knowledge and the perceived level of risk referred to UV rays exposure for prevention of skin cancer of a sample of secondary school students and teachers from Palermo, Western Sicily.
- to examine the skin cancer risk reduction attitudes and behaviors through correct and regular skin checks and self-examination.
- to collect information in order to identify contributive factors which could be positively or negatively correlated with a positive attitude to regular self-examination for skin cancer prevention.

### The sample

A two stage proportional stratified sampling procedure was undertaken. The individuals in the sample were randomly selected using *cluster sampling*. This offered the possibility of analysing the potential differences between secondary school students and school teachers. The schools, in Palermo, Western Sicily, were selected in such a way to respect the population's composition and ensure the representativeness of the sample. One school was selected among the ones in the center of the city, another one from the outskirts, the third from the suburbs. The schools were contacted previously and informed about the aims of the survey in order to have permit and ensure collaboration. The social context attending the schools was defined as medium in all cases. Students were frequenting in their last year of secondary school. Students and teachers were selected in different sections, in the three schools, with samples belonging to three classes of the last year for each school. Only those students who were regularly attending the school were considered as potential individuals for the sampling procedures. The sample units were chosen completely by random drawing, respectively, from the registers of students and from the list of teachers, in order to ensure the statistical reliability of the obtained results and the extrapolate the results to all secondary school students and school teachers in the City of Palermo.



### **The questionnaire**

The instrument used for the survey was a multiple choice questionnaire. Twenty four questions were proposed to examine the attitudes of students and teachers in terms of knowledge and behaviors in relation to ultraviolet exposure, its potential danger and attitudes to skin checks. Individuals interviewed provided personal information about their habitual behaviors in terms of sun protection and skin self-examination for skin cancer prevention. Some personal information was included to verify the presence of the correlation between these variables and the level of information. The questionnaire was prepared drawing items from the existing literature [30] and was pilot-tested and validated in a different context [31], of the results of which showed a good level of understanding, acceptability and reliability. Some control items were inserted to check the reliability of the collected data. Those questionnaires which did not pass the check items were considered to be erratic. A small number of abnormal questionnaires were thus classified as outliers and were not representative.

The interviewers were university students who received special training in interviewing techniques in order to reduce interviewer bias. Data was aggregated in order to ensure anonymity of participants and protect their privacy. All subjects were told that the participation in the investigation was voluntary and that the data collected would be used only for the purpose of this study. Participants were assured of the confidentiality of their response and gave informed consent. Ethical permission for the study was obtained prior to collecting data and after perusal of the results by the Polyclinic Ethic Committee and by the School Authority.

### **Statistical analysis**

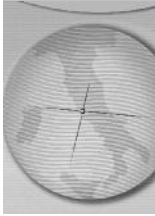
The answers to questionnaires were numerically codified and data were analyzed using *Statistica* and *OpenStat* software for the whole population and subgroups. Standard descriptive statistics (percentages, means, standard deviations) were computed to describe the sample. Chi square tests were performed to determine if there was any statistical association between gender and type of skin; perceived level of risk versus excessive sun exposure; regular performance of SSE versus being a teacher or a student. Test of two proportions were performed to check for significant differences among observed percentages between the importance of practice SSE and being a teacher or a student;

regularly checked part of the body versus being a teacher or a student. The law of large numbers assured a Gaussian distribution. A p-value < 0,05 was considered to be significant.

### **Results**

The total sample consisted of 540 individuals, (360 students and 180 teachers). The first important aspect which was evaluated, was the type of skins versus the gender of the individuals in the sample (Table 1). Females were slightly less in number than men, (44,8 vs 55,2 in percentage). The percentages of individuals with normal skin (28,5%), almost balanced that of individuals with oily skin (27,1%). The individuals with a sebaceous type of skin were the least represented class, (10,7%). Moreover, there were some differences among males and females. The largest difference was in oily skinned individuals, (19,3% versus 7,8%).

In analyzing the first distribution of skin type, it was possible to infer an association between gender and type of skin, performing a chi square test ( $\chi^2=71,7$ ,  $p<0.001$ , 4 degrees of freedom). For skin pigmentation, across the total sample, individuals with dark skin (43,7%) were more prevalent than those with normal white skin (36,6%) and as well being more prevalent than as those with light skin, (19,7%). Considering dark, normal and light skin versus gender, to evaluate the statistical association, a chi square test was used and there was once again strong evidence of a statistical association, ( $\chi^2=3.7$ ,  $p<0,01$ , 2 df). Information concerning different types of skin cancer, was, as attended, higher in teachers than in the sample of students ( $\chi^2$  - p value <0,01), however, the perceptions concerning screening for cancers in general, and, above all, what to screen, were more confused amongst the teachers than the students ( $\chi^2$  - p value <0,05). The acceptance of screening practices was psychologically set, accepted in theory but not concretely carried out, as only a few teachers, as expected, entered in a screening program in the previous year (colon rectal cancer 9, and breast cancer, 12). An important area to evaluate was the perceived risk of developing skin cancer. In particular, this risk has been linked to excessive sun exposure, which is reported as the greatest risk factor for developing skin cancer. Perceived levels of risk (0-4) are shown in Table 2. Both groups in the sample showed a sufficient level of knowledge concerning the correlation between excessive sun exposure and skin cancer risk. If the first three levels, (0, 1, 2) are set as "no or "low perceived risk", and the last two as "perceived



risk", we can conclude that both school teachers and students have an accurate idea of the correlation between the risk of skin cancer and excessive sun exposure (14,8% versus 85,2%). This perceived risk is higher for teacher than for students, (low perceived risk 8,9% teachers versus 17,8% students). Moreover, obtained values for students in levels 3 and 4 were almost equally distributed, while the perception of risk for teachers was mainly categorized as level 4.

The second section of Table 2 shows the

statistically significant difference between being student or teacher and the perceived risk, ( $\chi^2=8,5$ ,  $p<0,01$ ). This result demonstrates that teachers have a significantly greater perceived risk. Despite their consciousness of the risk associated with excessive sun exposure, protective behaviors were not as a consequence followed either by teachers or students. One third of the sample, among students and teachers, did not regularly use sunscreens, another third did not know about the classification of skin types, and

Table 1. Type of skin related to gender.

Type of skin	Gender				Total	
	Man	%	Women	%	Value	%
Normal Skin	72	13,3	82	15,2	154	28,5
Dry Skin	64	11,9	46	8,5	110	20,4
Oily Skin	104	19,3	42	7,8	146	27,1
Sensitive Skin	24	4,5	48	8,9	72	13,3
Sebaceous	34	6,3	24	4,4	58	10,7
<b>Total</b>	<b>298</b>	<b>55,2</b>	<b>242</b>	<b>44,8</b>	<b>540</b>	<b>100,0</b>
<b><math>\chi^2</math> - p value &lt;0,001</b>						
Type of skin	Gender				Total	
	Man	%	Women	%	Value	%
Normal white	112	37,6	86	35,5	198	36,6
Dark Skin	138	46,3	98	40,5	236	43,7
Light Skin	48	16,1	58	24,0	106	19,7
<b>Total</b>	<b>298</b>	<b>55,2</b>	<b>242</b>	<b>44,8</b>	<b>540</b>	<b>100,0</b>
<b><math>\chi^2</math> - p value &lt;0,01</b>						

Table 2. Perceived level of risk versus excessive sun exposure.

Levels of importance	Students	%	Teachers	%	Total	%
0	2	0,5	0	0,0	2	0,4
1	12	3,3	0	0,0	12	2,2
2	50	13,9	16	8,89	66	12,2
3	138	38,3	56	31,11	194	35,9
4	158	43,9	108	60,00	266	49,2
<b>Total</b>	<b>360</b>	<b>100,0</b>	<b>180</b>	<b>100,0</b>	<b>540</b>	<b>100,0</b>
	Students	%	Teachers	%	Total	%
0+1+2	64	17,8	16	8,9	80	14,8
3+4	296	82,2	164	91,1	460	85,2
<b>Total</b>	<b>360</b>	<b>100,0</b>	<b>180</b>	<b>100,0</b>	<b>540</b>	<b>100,0</b>
<b><math>\chi^2</math> - p value</b>	<b>&lt;0,01</b>		<b>Yates' correction - p value</b>		<b>&lt;0,01</b>	

Table 3. Perform a regular Skin Self-Examination?.

Perform regular SSE	Students	%	Teachers	%	Total	%
Never	262	72,8	10	5,5	272	50,4
One time / month	48	13,3	42	23,3	90	16,7
Some times / year	46	12,8	52	28,9	98	18,1
Every year	4	1,1	50	27,8	54	10,0
Rarely	0	0,0	26	14,4	26	4,8
<b>Total</b>	<b>360</b>	<b>100,0</b>	<b>180</b>	<b>100,0</b>	<b>540</b>	<b>100,0</b>
	Students	%	Teachers	%	Total	%
1+2	310	86,1	52	28,9	362	67,0
3+4+5	50	13,9	128	71,1	178	33,0
<b>Total</b>	<b>360</b>	<b>100,0</b>	<b>180</b>	<b>100,0</b>	<b>540</b>	<b>100,0</b>
$\chi^2$ - p value	<0,01		Yates' correction - p value		<0,01	

Table 4. What about the importance of performing regularly SSE?.

	Teachers %	Students %	Test for two proportions
I do not know	29,0	40,0	<0,01
Never done such a thing	8,0	11,0	ns
Never thought about	8,0	9,0	ns
I was thinking to get information	3,0	8,0	<0,05
It is very important	32,0	10,0	<0,01

Table 5. What part of the body would you check?.

Parts they would check	Total		Teachers		Students		Test for two proportions
	n	%	n	%	n	%	p value
Head and neck	92	17,0	32	17,8	60	16,7	ns
Arms and hands	88	16,3	23	12,8	65	18,1	ns
Feet and legs	108	20,0	64	35,6	44	12,2	<0,01
Breast and paunch	62	11,5	26	14,4	36	10,0	ns
Shoulders	10	1,9	2	1,1	8	2,2	ns
Every part	118	21,9	22	12,2	96	26,7	<0,01
Do not know	62	11,5	11	6,1	51	14,2	<0,05
<b>Total</b>	<b>540</b>	<b>100,0</b>	<b>180</b>	<b>100,0</b>	<b>360</b>	<b>100,0</b>	

Table 6. The best way to inform individuals.

Channels	Students		Teachers		Total	
	n	%	n	%	n	%
Television	4	1,1	2	1,1	6	1,1
Magazine	2	0,5	0	0,0	2	0,4
Newspaper	4	1,1	0	0,0	4	0,8
School	348	96,6	178	98,8	526	97,8
Other	2	0,5	0	1,1	2	0,3
<b>Total</b>	<b>360</b>	<b>100,0</b>	<b>180</b>	<b>100,0</b>	<b>540</b>	<b>100,0</b>

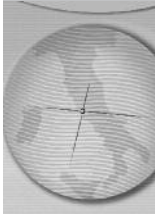


Table 7. Regression analysis between age and importance of SSE (Teachers and Students).

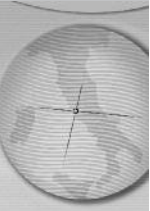
Relationship	Intercept	Angular cx	CR	R <sup>2</sup>
Age vs (Students) Importance of SSE	-45,312	2,363	97,6%	0,953
Age vs (Teachers) Importance of SSE	1,745	0,020	16,4%	0,027

the final third, knew the meaning of the words, but were not able to define their own skin type. In Table 3 the attitude of individuals towards performing their own regular skin checks in order to detect early signs of possible skin cancers or something which might alert them as a preventive practice is shown. In spite of the quite high percentage of students who perceived the risk of skin cancer associated with excessive sun exposure, very few of them performed regular SSE as a form of skin cancer prevention. In this case there was an evident difference between students and teachers. Students who never perform a SSE were 72,8% versus 5,5% of teachers. The total percentage never performing a regular SSE, however, was 50,4% compared to 4,8% of individuals who perform a regular SSE. In this last example it was only a group of teachers who answered positively, (14,4% versus 0,0%). The second section of table 3 aggregated “never” and “one time” for performing SSE versus other possibilities. In the first group there were those individuals who seemed not to consider SSE as a significant preventive method for skin cancer, versus those who demonstrated acceptance of SSE as a skin cancer risk reduction practice. Being a teacher and performing SSE was shown to be statistically significant ( $p < 0.01$ ). Students however, were not shown to perceive the practice of SSE as being an important means of preventing skin cancer.

Individuals were then asked about the importance of performing SSE on their own bodies, (Table 4). The answers given were consistent with the previous question regarding performing SSE. In fact, 29,0% of teachers did not know about the real value of performing SSE compared to 32,0% who were convinced of the importance of SSE as a preventive action. Young people, probably do not really contemplate the possibility of developing cancer and, consequently, do not engage in preventive behaviors (20,0%), while some despite thinking about it are not yet taking preventative actions (8,0%). The evidence of the statistical test for the difference for two proportions, showed a significant difference in the proportions of those teachers and students who “do not know the importance” ( $p < 0,01$ ); “who know it is very

important”, ( $p < 0,01$ ); “who are thinking to get some information”, ( $p < 0,05$ ). This shows that it is necessary to increase the level of information especially for students as they had significantly lower levels of knowledge in these three previous items.

An important point to stress in the present study was the eventuality of checking some peculiar part of individual body. Table 5 indicates the parts the individuals should check. It was practically suggested to individuals the part of the body that they should regularly check in order to prevent a skin cancer, in spite of the previous result which clearly indicated that there was not a strong awareness of the problem itself. Only 17,0% of individuals stated that they checked their neck and head, while 16,3% checked their arms and hands, 20,0% their legs and feet, 11,5% their chest and abdomen, and 1,8% their shoulders and buttocks. Many would check their belly which is not one of the most important part for prevention. Those who answered that they should check every part of the body, since they have no idea what parts should be more necessary to check, were 21,9% in the total sample. In spite of the relative small percentage of those who would check “feet and legs”, (one of the most dangerous areas), the test for two proportions showed a significant difference between the percentage of teachers and students who undertook this activity, (35,6% versus 12,2%), with a  $p < 0,01$ . The same level of statistical difference was shown with regards to the percentages of those who would check every part: in this case the students’ proportion was to be considered statistically bigger than the teachers’ one, (26,7% versus 12,2%,  $p < 0,01$ ). Last, but not least, the percentage of teachers who “do not know” what part they should check was significantly different from the students, (6,1% versus 14,2%,  $p < 0,05$ ). Both, student and teachers, agreed, (97,8%), that schools should play an important role in increasing peoples knowledge in this area (Table 6). It was useless to perform any statistical test considering the strong preferences that individuals have shown in answering the proposed item. A simple linear regression analysis, (best fit), was performed on the observed variables of the survey. Specifically, the perceived

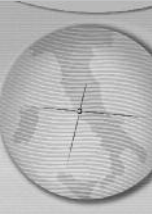


level of risk of excessive sun exposure was crossed, separately, with type of skin, age, gender, excessive sun exposure. Results obtained gave clear results only for age, (Table 7). In fact, among students, the regression analysis showed clearly that the more students grow, the more they acquire awareness of the importance of SSE, (CR=97,6%,  $R^2=0,953$ ). The same was not found for teachers, whose awareness has probably been determined while studying, (CR=16,4%,  $R^2=0,027$ ). This confirms the very important role that schools can play.

### Discussion and implications for school policies

Exposure to UV rays early in life has been found to increase the risk of developing a MM in white populations. Behavioral changes are requested to reverse the trend of the rising incidence for skin cancers in high risk groups or populations. Preventive measures include skin protection from UV and promotion of early identification of skin changes that may facilitate precocious identification of MM. MM is a tumor with high mortality rates. Survival rates, however, increase to 95,0/97,0 % if the tumor is excised while still thin. Thickness of the lesion is, in fact, the best predictor of prognosis as it worsens markedly with the increasing of the thickness of the lesion at the time of diagnosis. In many countries the trend of skin cancer has shown a slower mortality progress rate. Earlier detection may be responsible, at least in part, for the fact that mortality from MM has not risen at the same rate as the incidence. Surveillance through skin examination is a simple technique and is thought to increase the possibility of detecting thinner lesions, that may develop into MM, thereby reducing mortality rates [32]. Delay in consultation may lead to late excision of thicker lesions and, on the contrary, to increase mortality rates for melanoma [33]. Despite the lack of scientific evidence, skin screening remains an acceptable rationale for melanoma prevention and control [34]. Resistance to therapies and early metastatic activity may mean that prevention is the only possibility of cure. Practicing SSE can play a vital role in achieving this. Therefore, interventions to promote knowledge of the benefits of SSE as well as education on the effects of exposure to sun rays, with regards to the length of time one is exposed, should be implemented. The research has shown a good level of awareness of skin cancer risk correlated with excessive sun exposure and the importance of this seems to be strictly correlated with age. Level of perceived risk was reported to influence SSE [35], although

other studies did not find support for this in relatives of patients with MM [36]. In this study consequent behaviors, in fact, were not coherently paralleling the information. Both students and teachers were not that acquainted with SSE practice as a means of early skin cancer detection, in fact, the practice of SSE was not that widespread amongst the individuals sampled. Age seemed to be a discriminative factor for awareness and prevention on the studied phenomenon. Other different factors seem to influence the undertaking of protective behaviors such as SSE [37]. Students were not able to discriminate, in many cases, the different parts of the body which are more sensible to skin cancer. Doctors have agreed that there are six parts of the body that should be monitored and only a few, in our sample, stated that they checked the most dangerous areas among the six that were proposed: that is, just 20,0% of the individuals would check the feet and legs, one of the most dangerous parts which could potentially be affected by MM [38]. Most of the students have never thought about tumors. Theories of social cognition have been called for using particular information and models have been developed to predict how beliefs may influence protective behaviors [39]. Young people, in fact, do not really perceive the possibility of developing cancer and, consequently, do not engage in preventive behaviors, while there are some who do think about it but are yet to act accordingly. Evidence that sun exposure is an important risk factor for skin cancers development produced efforts to reduce levels of sun exposure. Especially in children sun exposure is documented as particularly dangerous and there are reasons to focus skin cancer prevention interventions on children and adolescents. Having a single and severe sunburn in childhood increases the risk of MM by 2 fold [40,41]. Several studies have found that there is a low level of knowledge concerning skin cancers [42]. It is clear that awareness about the importance of regular SSE should be increased, especially with regards to students. People understand the importance of being accurately educated on this matter. Education, to know the risk of sun ray exposure and on photo protection measures coupled with regular skin checks, seems to be a promising way forward for skin cancer control. Both students and teachers seem to indicate that the best way to increase the awareness of the importance on prevention is in schools. School based interventions have been at the forefront of activities and programs aimed to improve knowledge on skin cancers, to promote



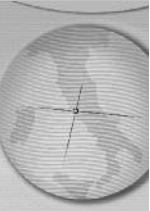
protective actions and reduce sun exposure. School based sun protection interventions, in fact, have largely been activated at all levels, involving preschoolers, primary and secondary school students, parents, nurses and pediatricians [43, 44, 45, 46, 47, 48, 49, 50, 51]. Schools, however, need to have evidence and reference data on methods and strategies suitable in gaining students attention and enhancing retention of the acquired knowledge. Sun protection programs aimed at increasing knowledge and the modification of behaviors related to the reduction of skin cancer risk, had modest results and were associated with improvements in behaviors but only in the short term. Some programs, delivered only for few days or week, or over longer periods of time have shown that the benefits did not go beyond the life of the program [52]. As children grow they became less compliant and more susceptible to the influence of peers and social pressure with regards to seeking a suntan. School-based health education intervention programs are, nevertheless, strongly requested and considered fundamental for developing a culture of preventive education in early life and especially in the formative years.

Results presented in this work, have large limitations and cannot be considered exhaustive: because these were self-reported responses and may be subjected to reporting bias; data may not be applicable to individuals from different geographic areas; these investigations would need to be repeated, in order to monitor the attitude of young people regarding prevention and behaviors related to SSE and exposure to UV rays. Further research is required to determine the most favorable age, optimal length of time, need of refresher programs and appropriate evaluation of long term effectiveness of the different programs. Schools, at last, as an educational agency, assisted by healthcare providers, are called to accept the challenge of making a fundamental contribution, to the decrease in skin cancer mortality rates during this very receptive period of a student's lifetime.

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