

ORIGINAL RESEARCH

Knowledge and attitudes to sun exposure among adolescents in Korinthos, Greece

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ABSTRACT

Introduction: Extended sun exposure may lead to serious health problems, and evidence of this is in the increase in skin cancer and malignant melanoma worldwide. Extended sun exposure during childhood or adolescence increases the probability of skin cancer in adulthood. The aim of the study was to identify and examine the knowledge, attitude, behaviour and beliefs of Greek adolescents (high school students) related to sun exposure and its adverse effects on health. The majority of participants (89.7%) were of Greek nationality.

Methods: The study took place in 5 schools in the prefecture of Korinthos, and 816 of the total 925 students aged 15–18 years participated. The questionnaire was pilot tested and assessed for validity and reliability, both of which were adequate (Cronbach's $\alpha = 0.70$ and $r_s = 0.78$); SPSS 13.0 software was used for analysis.

Results: Only 37.9% of participants knew that melanoma was a type of skin cancer; 50% said they did not know what melanoma was. Regarding behavior, 35.5% reported that during the last summer they went to the beach on 20 to 50 occasions, and only 50% reported that they wore a sunhat or stayed in the shade. The frequency of sunscreen use was alarmingly low, with the majority of the adolescents unfamiliar with its proper use, and 50% not using a sunscreen with sufficient sun protection factor. Television was an important source of information about protection from sun exposure, while the family was the most important provider of advice.



Conclusions: Participants' knowledge of sun exposure was insufficient and they reported risky behaviours in the summer months. Despite health promotion and community education programs focusing on sun smart strategies, these young people still associated suntans with beauty. Health promotion and education programs need to challenge such beliefs. However, as a sole approach to health promotion, teaching protective measures and appropriate ways for youth to protect themselves against the harmful effects of sunbathing may be insufficient to reduce the epidemic of skin cancer.

Key words: attitudes of teenagers, Greece, melanoma, sun protection, sun protection factor.

Introduction

Extended sun exposure may lead to serious health problems, and evidence of this is in the increase in skin cancer and malignant melanoma worldwide¹. Ultraviolet radiation (UVR) is responsible for ocular damage (cataract formation), skin disorders (dermatopathy, premature skin aging) and several types of skin cancer, of which melanoma is the most dangerous². Contributing to these health risks is the depletion of the protective ozone shield due to climate change^{3,4}.

It is well-established that extended sun exposure during childhood or adolescence increases the probability of skin cancer in adulthood. Furthermore, 50–80% of the total amount of UVR is accumulated during these periods, although the mechanism for this phenomenon is unclear⁵⁻⁸.

In countries such as Australia, New Zealand and the USA the incidence of melanoma and other skin cancers (such as basal cell and squamous cell carcinoma) is increasing rapidly, as is the mortality rate attributed to melanoma⁹⁻¹². In Greece, documentation from the Euromelanoma prevention campaign has shown the incidence of skin cancer to be increasing, although the incidence is not as high as in other northern European countries¹³⁻²².

The aim of this study was to identify and examine the knowledge and attitudes of Greek adolescents (high school students) regarding sun exposure and its adverse effects on health.

Methods

Sample

This study was conducted in 5 high schools in Korinthos Prefecture, Greece (Table 1). This prefecture was selected because it has close and direct access to the beach (within 2 min from the centre of Korinthos). Korinthos contains several semi-urban towns/villages, and because students living in those areas attend high schools in Korinthos, this also provided a representative rural sample. Question 4 on the questionnaire concerned place of residence (town or village; Appendix I).

The study included the whole adolescent (15–18 years) population of the selected schools ($n = 925$). The timing of the researcher's school visits was based on the each school's grade schedule.

Ethics approval and consent

The research protocol was approved by the the Educational Institute and the Ministry of Education. The director of the Secondary Education Authority of Korinthos and the principals of the selected schools were informed of the study procedures.



Table 1: Name, location and number of students for schools selected in Korinthos prefecture

High school	Location	No. students
1 st High School of Korinthos	Urban	320
High School of Chiliomodio	Semi urban	95
High School of Loutraki	Urban	205
2 nd Vocational School of Loutraki	Urban	220
1 st Vocational School of Loutraki	Urban	85

Consent forms were distributed to each student and their parents. The parents' response rate was 96.5% ($n = 901$) while that of the students was 95.89% ($n = 864$). Students or parents who did not sign the consent form, students who did not agree to participate and those who were absent on the day of the study were excluded from the sample.

Questionnaire

A questionnaire was used to evaluate adolescents' attitudes, knowledge and beliefs about sun exposure and its impact on human health (Appendix I). The questionnaire used was modified with permission from one used in a similar study conducted by La Bat et al²³ in 2005. The original questionnaire had 15 questions, 2 of which about artificial tanning were excluded in the present study. Ten questions were added concerning demographic data and personal characteristics, as were 15 questions about the risks of UVR and disorders caused by it. Finally, 7 questions were added to examine the students' knowledge of protective measures. All additional questions were based on a question-and-answer format WHO questionnaire: this involved questions 11–23 and 41–47 (about knowledge of sun exposure) and questions 24–40 (attitudes)²⁴⁻²⁷.

The final questionnaire was piloted with 30 same-age adolescents who did not attend the schools in the study. Analysis of the pilot data revealed unclear answers to the knowledge questions, so these were converted to multiple choice questions (numbers 12, 13, 15, 18, 19, 23, 30, 32, 33 and 37 in the appendix questionnaire), with some choices being intentionally misleading to ensure maximum

reliability. The revised questionnaires were pilot tested by the same students and there was no difficulty found in collecting or processing the data. To test for internal consistency and reliability, Cronbach's α was used and found to be 0.76, establishing the reliability (>0.70) of the questionnaire.

The questionnaire also required mole counting and mapping (questions 7 & 8; Appendix I). A body sketch was provided on the questionnaire to allow students to map the position of their moles. In addition, the researcher was present while students completed their questionnaires and available to any student who needed help.

Statistical analysis

For statistical analysis SPSS software v13.0 (SPSS; Chicago, IL, USA; www.spss.com) was used. In the two-sided test $p < 0.05$ was considered significant. Due to the multiple comparisons, Bonferroni correction was used to avoid a type 1 error, thus setting α to $0.05/k$ ($k =$ number of comparisons). In addition, a χ^2 test was used to examine the correlation of variables (eg students' knowledge of the risks of sun exposure correlated to their demographics). The mean value and standard deviation described students' total knowledge score. The Kolmogorov-Smirnov test was used to determine whether the total score fell into a normal distribution ($p = 0.052$). To compare students' total knowledge scores as a quantitative variable among three or more groups, analysis of variance (ANOVA) was used, while Student's t -test was employed for the comparison of students' knowledge between two groups.



Results

There were slightly more males than females (53.1% and 46.9%, respectively) in the study population, and the majority of participants were of Greek nationality (89.7%) (Table 2).

Counting and mapping the moles revealed that more than 25% of the adolescents reported 10 or more moles and these were usually located on the upper extremities and the front of the torso (Table 3), sites where melanoma presents in highest incidence.

The main source of adolescents' information about sun exposure was family (79.8%), followed by television (68.2%), then magazines, school, doctors and friends. Of the participants 37.9% knew that melanoma was a type of skin cancer; however, 50% said they did not know what a melanoma was (Table 4).

The adolescents reported risky summer behavior with 35.5% reporting that they went to the beach on 20-50 occasions last summer, and 43% more than 50 times.

Few of the students (36%) reported going to the beach after 16.00 hours (the safest option for sun exposure). In contrast, the majority of the students (55%) went to the beach between 10.00 and 16.00.

The results show that using a hat and staying in the shade were not popular behaviors because these strategies were reported by only 50% of the participants. Furthermore, only 50% of the participants reported using sunscreen with sufficient sun protection factor (SPF; Fig1). Concerning the incidence of sunburn, 55.6% had been sunburned at least once, while 17.3% had experienced sunburn with blisters (questions examining the incidence of sunburn are numbers 36, 37 and 38). Of the sample, 44.4% had suffered no sunburn during the last summer.

When asked about their suntan beliefs, participants stated that they tanned for beauty reasons (67.7%) and for style and 'coolness' (41.9%). However, a large proportion (85.9%) indicated that they used sunscreen because they thought this would protect their health. The primary source of encouragement to use of sunscreen was family (70.8%), followed by doctors (38.4%), with television, magazines and school being unimportant.

Total knowledge and attitude

In order to examine students' sun exposure total knowledge level, a score was created by adding all correct answers to the 16 questions that assessed knowledge. The scores ranged from 0 (no knowledge) to 16 (excellent knowledge). The mean study population score was 7.7 (SD = 2.2) and the range was 1 to 14 (Fig2).

Likewise, in order to examine students' sun exposure total attitude a score was created by adding all correct answers to the 16 questions relating to attitude. The scores ranged from 0 (not a responsible attitude at all) to 16 (excellent attitude) (Fig3).

The students' knowledge was correlated with their attitude and the correlation coefficient was $r = 0.26$, $p < 0.001$, indicating a positive correlation between knowledge and having a responsible attitude to sun exposure (Fig4).

Discussion

The results of this study show that knowledge about melanoma and UVR is very poor among teenagers in the area studied. Risky behaviors, such as going to the beach between 10.00 and 16.00 (the dangerous time period for exposure to high UVR) without sunscreen were commonplace. This is of concern.



Table 2: Demographic data of the participants

Demographic	Value <i>n</i> (%)
Sex	
Male	432 (53.1)
Female	381 (46.9)
Nationality	
Greek	729 (89.7)
Other	84 (10.3)
Location of residence	
Village	289 (35.5)
Town	526 (64.5)
Grade level	
1	330 (40.6)
2	343 (42.2)
3	140 (17.2)
Age - mean (SD)	16.6 (1.6)

Table 3: Mean body distribution of moles

Body location of mole	Mean	SD	Median
Head	0.8	1.2	0
Torso (front)	1.8	2.0	1.0
Torso (back)	1.6	2.2	1.0
Lower extremities	0.8	1.4	0
Upper extremities	1.9	2.4	1.0

Table 4: Participants' basic knowledge of melanoma and ultraviolet radiation (UVR)

Knowledge	Answer	<i>n</i> (%)	Correct answer
A cutaneous melanoma is...	A type of skin cancer	309 (37.9)	Yes
	I do not know	413 (50.7)	No
UVA, UVB and UVC are...	Types of UVR	242 (29.7)	Yes
Are you aware of the meaning of sun protection factor?	Yes	813 (99.8)	Yes
Should sun exposure be avoided between 10 am and 4 pm?	Yes	693 (85)	Yes

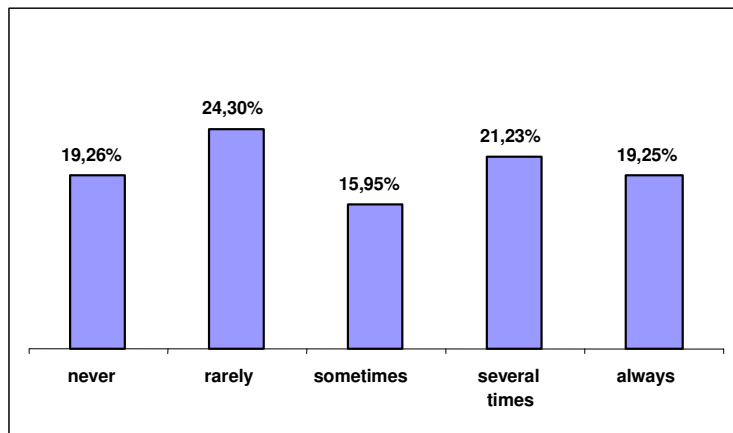


Figure 1: Students' reported use of sunscreen during the last summer.

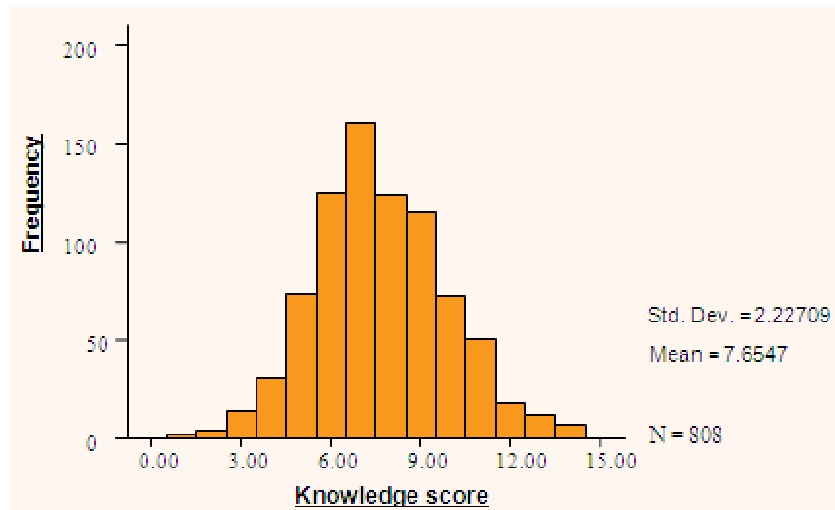


Figure 2: Students' total knowledge of sun exposure.

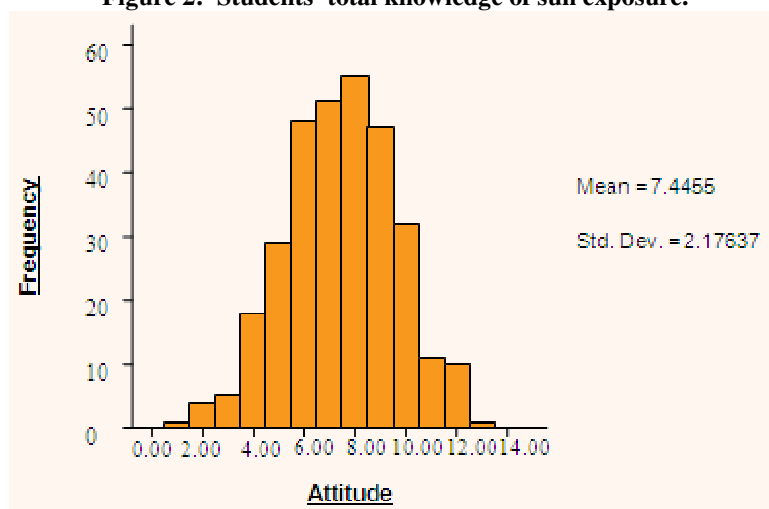


Figure 3: Students' total attitude to sun exposure.

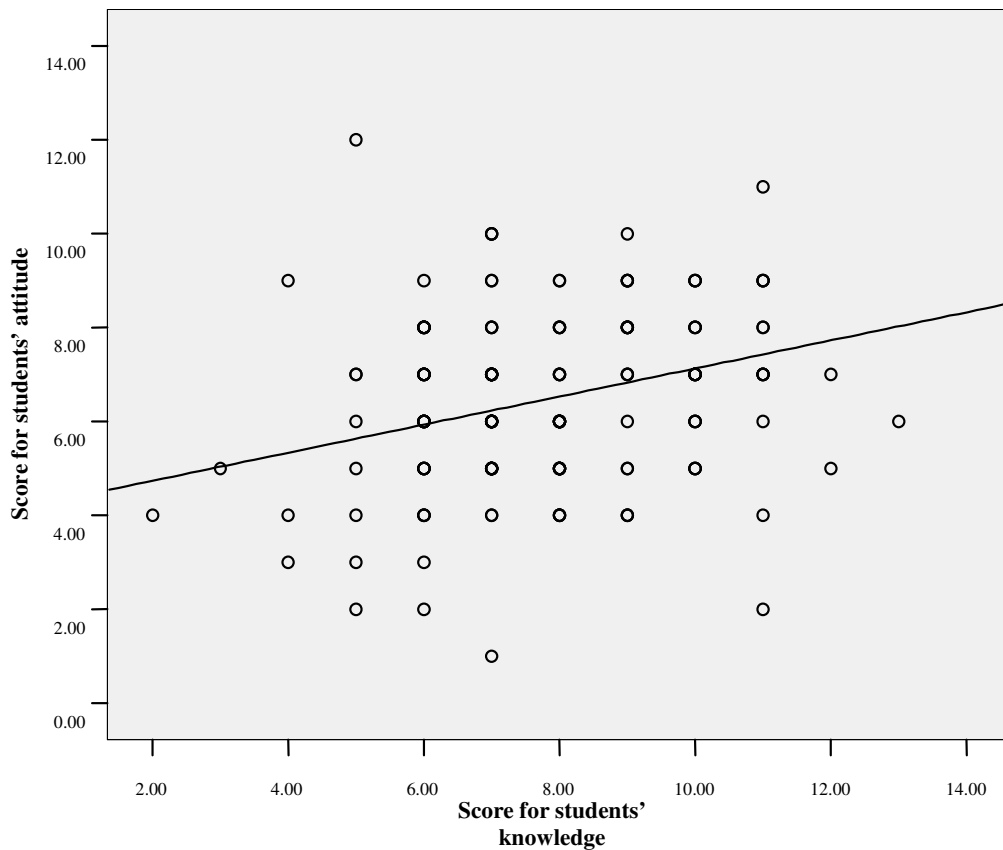


Figure 4: Correlation of students' knowledge about and attitude to sun exposure.

It is also of concern that the majority of participating adolescents believed that having a tan was a sign of health. The mean values for the reported body site of moles revealed that these were located on the upper extremities (mean 1.9, SD = 2.4), followed by the front of the torso (mean 1.8, SD = 2.0), and the back of the torso (mean 1.6, SD = 2.4) – all locations reported to be of high incidence for melanoma^{20,28,29}. In total, 43% of the students also reported from 5 to 30 moles on their body; the number of moles on an individual is one of the risk factors for the development of a malignant melanoma^{28,29}. However, apart from the Euromelanoma¹⁶ campaign studies, there are no studies about the number and sites of moles on children and adolescents.

Of even greater concern is that 77.8% of the present study participants reported that they do not visit a doctor to have their moles checked, nor do 62.7% self-examine their moles for changes in size, shape or color as is advised by the ABCD rule (a simple self-examination procedure)^{5,30,31} (Table 5). Because moles may develop into melanoma or indicate an increased risk for melanoma, it is important that people know the difference between melanoma and an ordinary mole.



Table 5: The self-examination ABCD rule for melanoma

A, B, C or D represents	Meaning/ definition
Asymmetry	One half of the mole or birthmark does not match the other
Border	The edges are irregular, ragged, notched or blurred
Color	The color is not the same all over and it may have differing shades of brown or black, sometimes with patches of red, white or blue
Diameter	The area is larger than 6 mm or the mole is becoming larger

The results of this study are comparable to those worldwide, many of which focus on adolescents^{22,23,31-50}. Of interest in the demographic data and personal characteristics of the population, males and females were more or less equally represented, and over 80% were of Greek nationality, so the participants were not in a high risk group in terms of skin phototype (IV, V, VI). Because of the country's geographic location and climate, typical Greek phototypes are III, IV, V^{15,16}, similar to those of the study population. In other studies, the prevalent skin phototypes of adolescent populations were I, II, III (ie fairer than the present study participants), as would be expected in Australia, New Zealand, USA and Sweden where the geographic location results into different phototypes^{16-19,51-53}.

In accordance with the results of similar studies, the present findings show that family and television are the main sources of information, although the percentages vary (Fig5)^{22,23,31,34-36,52,53}. However, the teenagers from Korinthos seem to be at a disadvantage as far as knowledge of melanoma is concerned. While only 37.9% of the participants reported knowing what a melanoma was, in the aforementioned countries the percentage of those with this knowledge was much higher (New Zealand⁵⁴ 75%, Australia³⁶ 66%, and USA⁴⁹ 80%; Fig6).

Much of Greece, and especially the area where the present study was conducted, is located close to the coast. So it was not surprising that the participants reported going to the beach frequently each summer and spend a lot of time

exposed to the sun. Among the participants 40% used sunscreen several times or always, and 80.8% of these used SPF >15 sunscreen. However, these adolescents do not use enough sunscreen when compared to those in other countries (eg Israel, Australia, USA)^{41,42,47} (Fig7).

Likewise, the use of hat and sunglasses was disappointingly low (39% and 25.5%, respectively), which is similar to other studies^{22,34,35,43}. The majority of the students (60.2%) reported staying in the sun for more than 1 hour in order to tan. Young people worldwide are likely to stay in the sun for extended periods, especially those aged 13-19 years⁵⁵. Because it has been shown that adolescents have the lowest probability for change in behavior^{55,56}, educational efforts should focus mainly on younger students⁴².

With regard to sunburn, while 29.9% of the participants reported having sunburn at least once during the last summer, and 26% had been sunburned more than once, 44.4% stated they had never been sunburned. In 3 similar US studies^{16,44,45}, sunburn percentages were very high (92%, 83% and 72%, respectively). In New Zealand^{53,55}, 35% reported having been sunburnt at least once, while only 23% had never been sunburnt. In Australia³⁴, 68% reported having been sunburnt last summer. These results are similar to the sunburn incidence reported in studies from Lithuania⁴³ (40.6%), Chile⁵⁷ (38%), Italy²⁵ and France⁴⁸ (46%) (Fig8).

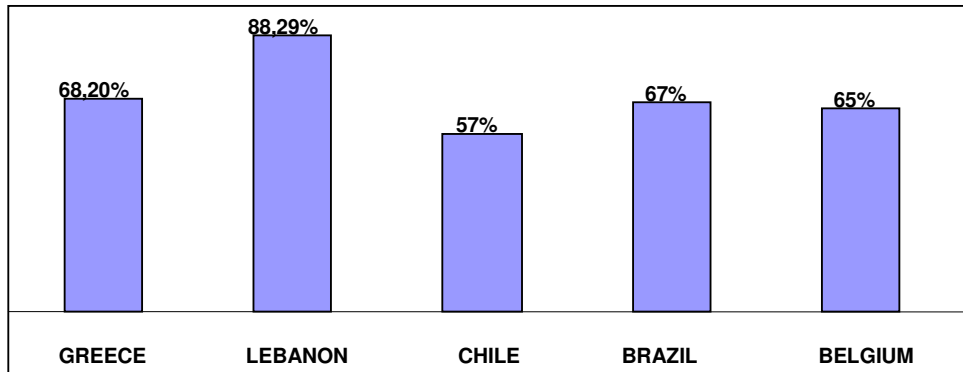


Figure 5: Television as the main source of information about melanoma, according to country.

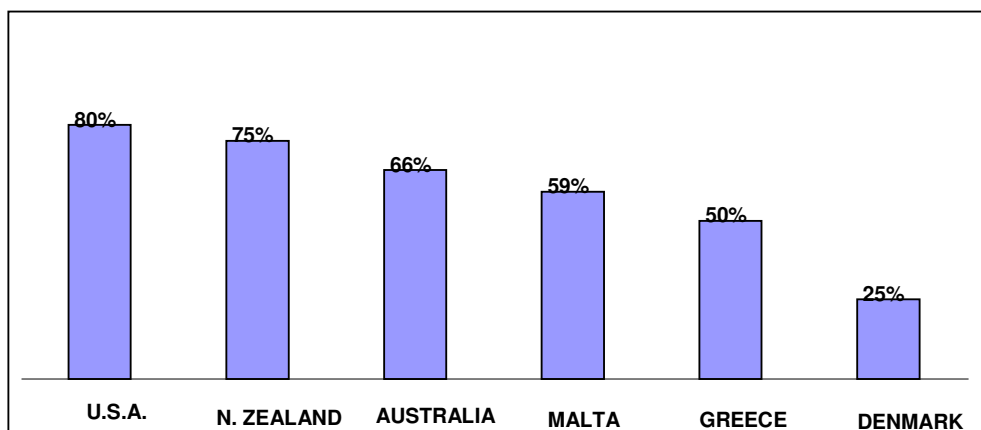


Figure 6: Knowledge of what melanoma is, according to country.

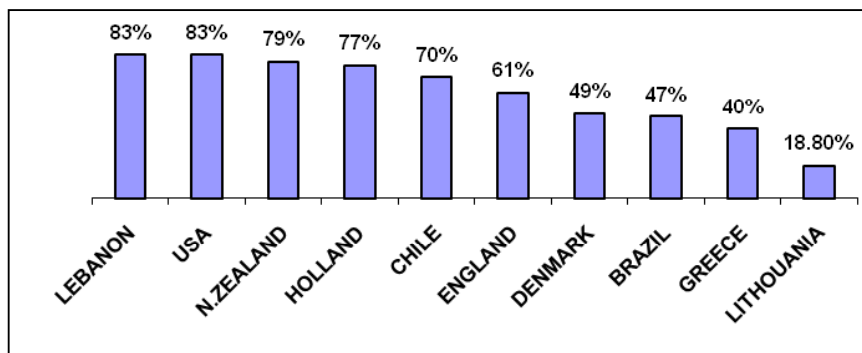


Figure 7: Frequency of sunscreen use, according to country.

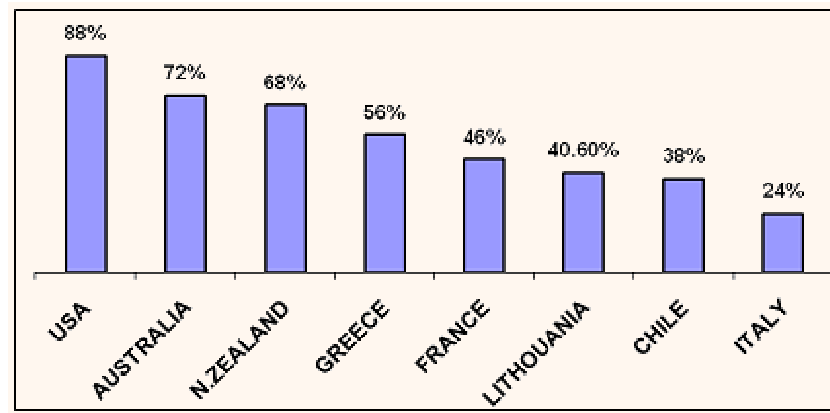


Figure 8: Sunburn incidence, according to country.

The majority of the present participants reported that they wished to tan for beauty reasons (67.7%), or for style and 'coolness' (41.9%). In US studies^{49,50} 32% of participating American students considered tanning to be healthy. Teenage girls in Australia were of a similar opinion^{35,36}. Moreover, in studies of adolescents in Malta²⁷ and the USA⁵⁷, 45.5% and 52% of the participants, respectively, considered tanned skin to be healthier. While those results agree with a study conducted in Norway³⁹, in Turkey²⁴, while 86% of the adolescents considered tanned skin to be more attractive, 50% stated that this was not a healthy strategy.

A review of the literature shows that great efforts are being made in some countries (such as Australia, New Zealand and USA) to assess adolescents' knowledge, attitudes and perceptions of UVR, and to implement education programs. There are many such campaigns, for instance the Ministry of Health and The New Zealand Cancer Control Trust 2002⁵⁷, the Sun-smart America Curriculum 2004⁵¹, The Transtheoretical Model 2003 in Sweden³⁹, Slip, Slop, Slap (Slip on a shirt, Slop on sunscreen and Slap on a hat) 1980 and Sunny Days, Healthy Ways, 2005 in the USA^{12,45,49}, the Australian Sun-smart⁵⁸ (2000) and Euromelanoma (2003) in Europe^{16,19}. The main goal of these campaigns, as is consistent with WHO²⁷ and CDC⁵⁹ guidelines, is to raise awareness of the risks of extended sun exposure, and to educate the public about protective measures.

Crucial to improving health education about the risks of sun exposure in Greece, will be the devising of a new approach to educational campaigns with reference to the international literature, and also upgrading the approach used in schools.

Limitations

A larger sample size and country-wide adolescent participation would provide more data about the knowledge and attitudes of teenagers to UVR. The interview of other groups (eg younger students, parents and teachers) would allow the comparison of their beliefs with those of teenagers.

The moles were not counted by a health professional and the number recorded were according to the student's memory. While there were a number of strategies employed to compensate (the presence of the researcher while the students completed their questionnaires, and the body diagram provided for accurate marking of mole location), nevertheless this is a serious limitation to the study.

Conclusion

The sun exposure knowledge of the Greek adolescents studied was insufficient and they reported risky behaviors in the summer months. As a sole approach to health promotion, teaching protective measures and appropriate ways for youth to protect themselves against the harmful effects of



sunbathing may be insufficient to reduce the epidemic of skin cancer. Despite health promotion and community education programs focusing on sun-smart strategies, some young people in Greece still associate suntans with beauty. Such beliefs must be challenged by health promotion and education programs.

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Appendix I: Participant questionnaire

QUESTIONNAIRE

UNIVERSITY OF ATHENS, GREECE



DEPT. OF SURGERY FACULTY OF NURSING

A STUDY ON ADOLESCENT KNOWLEDGE AND ATTITUDES CONCERNING EXPOSURE TO SUN RADIATION AND ITS INFLUENCE ON

HEALTH
Responsible Researcher: MARIA SARIDI

ATHENS

OCTOBER 2006

SECTION 1

1. Age:

2. Sex:

male

female

3. Nationality: Greek

Other

.....

4. Place of Residence (town-village):

.....

5. What High school grade do you attend to? 1st

2nd

3rd

6. Hair color (natural):

fair

brown

red

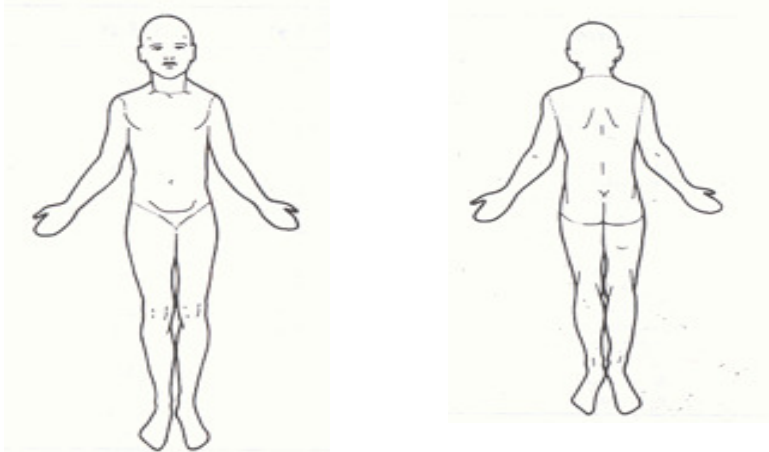
black



7. How many 'moles' do you have on your body? (mark one answer with an X)

<input type="checkbox"/>	1-5	<input type="checkbox"/>	5-10	<input type="checkbox"/>	10-20	<input type="checkbox"/>	20-30	<input type="checkbox"/>	>30	<input type="checkbox"/>	none
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8. Mark on the sketches below where the moles are located on your body.



9. Have you ever consulted a physician in order to have your moles checked? (mark one answer with an X)

<input type="checkbox"/>	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	I don't know
--------------------------	-----	--------------------------	----	--------------------------	--------------

10. Do you check your moles for any changes in their shape or color? (mark one answer with an X)

<input type="checkbox"/>	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	I don't know
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SECTION 2

11. Do you have any information on dangers resulting from unprotected exposure to sunlight ?

Yes No

12. If you do, please what was the source of the information? (mark one or more answers with an X)

<input type="checkbox"/>	family
<input type="checkbox"/>	school
<input type="checkbox"/>	magazines
<input type="checkbox"/>	newspapers
<input type="checkbox"/>	internet
<input type="checkbox"/>	TV
<input type="checkbox"/>	radio
<input type="checkbox"/>	friends
<input type="checkbox"/>	A physician

13. Do you know what a skin melanoma is? (mark one answer with an X)

<input type="checkbox"/>	A benign skin lesion, such as warts and moles	<input type="checkbox"/>	A skin abrasion	<input type="checkbox"/>	A type of skin cancer	<input type="checkbox"/>	I don't know
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14. Which age group has a greater risk of a melanoma? (mark one answer with an X)

<input type="checkbox"/>	children	<input type="checkbox"/>	teenagers	<input type="checkbox"/>	adults	<input type="checkbox"/>	The elderly	<input type="checkbox"/>	I don't know
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15. What UVA, UVB, and UVC are? (mark one answer with an X)

<input type="checkbox"/>	Cancer medicines	<input type="checkbox"/>	Types of ultraviolet radiation from the sun	<input type="checkbox"/>	Sun radiation protection factors	<input type="checkbox"/>	Suntan markers	<input type="checkbox"/>	I don't know
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16. Are you familiar with the importance of sun-protection factors?

Yes No

17. A sunscreen provides more protection when the protection factor is:

(mark one answer with an X)

<input type="checkbox"/>	high	<input type="checkbox"/>	average	<input type="checkbox"/>	low	<input type="checkbox"/>	It has nothing to do	<input type="checkbox"/>	I don't know
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18. What factors raise the risk of skin damage due to sunlight? (mark one or more answers with an X)

<input type="checkbox"/>	Unprotected sunbathing
<input type="checkbox"/>	Fair complexion
<input type="checkbox"/>	Prior sunburn in childhood
<input type="checkbox"/>	Many skin-moles
<input type="checkbox"/>	Use of antibiotics
<input type="checkbox"/>	Sex (m/f)
<input type="checkbox"/>	High consumption of sugar
<input type="checkbox"/>	High consumption of coffee
<input type="checkbox"/>	Obesity

19. During what hours of the day, should sun exposure be avoided?

(mark one answer with an X)

<input type="checkbox"/>	8.00-10.00 a.m.
<input type="checkbox"/>	10.00 a.m.-16.00 p.m. (noon)
<input type="checkbox"/>	16.00-18.00 p.m. (afternoon)
<input type="checkbox"/>	18.00-21.00 p.m.
<input type="checkbox"/>	I don't know

20. Can using an umbrella and staying in the shade protect from sun-radiation? (mark one answer with an X)

<input type="checkbox"/>	yes	<input type="checkbox"/>	no	<input type="checkbox"/>	I don't know
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21. Sun-reflection from the sand and the sea can be dangerous for inflicting skin problems. (mark one answer with an X)

<input type="checkbox"/>	yes	<input type="checkbox"/>	no	<input type="checkbox"/>	I don't know
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22. Is sun as dangerous in the winter as it is in the summer?

(mark one answer with an X)

<input type="checkbox"/>	yes	<input type="checkbox"/>	no	<input type="checkbox"/>	I don't know
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23. What kind of damages can sun-radiation inflict?

(mark one or more answers with an X)

<input type="checkbox"/>	allergies
<input type="checkbox"/>	Aging of the skin
<input type="checkbox"/>	Skin cancer
<input type="checkbox"/>	More body hair
<input type="checkbox"/>	blindness
<input type="checkbox"/>	anemia



SECTION 3

24. How many times did you go swimming during last summer? (mark one answer with an X)

<input type="checkbox"/>	0-20	<input type="checkbox"/>	20-50	<input type="checkbox"/>	50-80	<input type="checkbox"/>	>80
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25. At what time of the day did you usually go to the beach? (mark one answer with an X)

<input type="checkbox"/>	8.00-10.00	<input type="checkbox"/>	10.00-12.00	<input type="checkbox"/>	12.00-14.00	<input type="checkbox"/>	14.00-16.00	<input type="checkbox"/>	16.00-18.00	<input type="checkbox"/>	18.00-20.00
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26. Whom did you go to the beach with? (mark one answer with an X)

<input type="checkbox"/>	Friends	<input type="checkbox"/>	Parents	<input type="checkbox"/>	Alone	<input type="checkbox"/>	Siblings
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27. Did you have a hat on? (mark one answer with an X)

<input type="checkbox"/>	Never	<input type="checkbox"/>	Few times	<input type="checkbox"/>	Some times	<input type="checkbox"/>	Several times	<input type="checkbox"/>	always
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28. When at the beach, for how long did you stay in the shade? (mark one answer with an X)

<input type="checkbox"/>	Not a bit	<input type="checkbox"/>	For a few minutes	<input type="checkbox"/>	For some hour	<input type="checkbox"/>	Most of the time	<input type="checkbox"/>	always
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29. Did you use sunscreen last summer? (mark one answer with an X)

<input type="checkbox"/>	No	<input type="checkbox"/>	Few times	<input type="checkbox"/>	Some times	<input type="checkbox"/>	Several times	<input type="checkbox"/>	always
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30. If you did, what protection-factor did it have? (mark one answer with an X)

<input type="checkbox"/>	<15	<input type="checkbox"/>	15-20	<input type="checkbox"/>	20-30	<input type="checkbox"/>	30-40	<input type="checkbox"/>	> 40
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31. Did you use sunscreen especially for face protection? (mark one answer with an X)

<input type="checkbox"/>	never	<input type="checkbox"/>	Few times	<input type="checkbox"/>	Some times	<input type="checkbox"/>	Several times	<input type="checkbox"/>	always
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32. If you did, of what protection factor? (mark one answer with an X)

<input type="checkbox"/>	<15	<input type="checkbox"/>	15-20	<input type="checkbox"/>	20-30	<input type="checkbox"/>	30-40	<input type="checkbox"/>	> 40
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33. If you used sunscreen, when did you apply it? (mark one answer with an X)

<input type="checkbox"/>	Before leaving home
<input type="checkbox"/>	When arriving to the beach
<input type="checkbox"/>	After every swim
<input type="checkbox"/>	Every hour
<input type="checkbox"/>	Before leaving the beach

34. Did you do sunbathing for tanning? (mark one answer with an X)

<input type="checkbox"/>	yes	<input type="checkbox"/>	no
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35. How many hours did you stay under the sun during swimming? (mark one answer with an X)

<input type="checkbox"/>	20 minutes	<input type="checkbox"/>	30-60 minutes	<input type="checkbox"/>	1-2 hours	<input type="checkbox"/>	> 2 hours
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36. Last summer, how many times did you get sun-burns? (mark one answer with an X)

<input type="checkbox"/>	once	<input type="checkbox"/>	twice	<input type="checkbox"/>	Three times	<input type="checkbox"/>	More than four times	<input type="checkbox"/>	never
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37. If you ever experienced a sun-burn, how would you describe it? (mark one answer with an X)

<input type="checkbox"/>	Slightly red skin, painless
<input type="checkbox"/>	Painful blisters
<input type="checkbox"/>	Painless blisters
<input type="checkbox"/>	Painful blisters full with liquid
<input type="checkbox"/>	I do not remember

38. If you ever experienced a sun-burn, on what part of your body did it occur? (mark one or more answers with an X)

<input type="checkbox"/>	back
<input type="checkbox"/>	face
<input type="checkbox"/>	arms
<input type="checkbox"/>	legs
<input type="checkbox"/>	torso/chest

39. Do you usually wear sunglasses? (mark one answer with an X)

<input type="checkbox"/>	never	<input type="checkbox"/>	Few times	<input type="checkbox"/>	Some times	<input type="checkbox"/>	Several times	<input type="checkbox"/>	always
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40. If you do, where did you buy them from? (mark one answer with an X)

<input type="checkbox"/>	Street-market	<input type="checkbox"/>	News-stand	<input type="checkbox"/>	optician	<input type="checkbox"/>	other
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41. You can protect yourselves from skin-cancer, by:

(mark one or more answers with an X)

<input type="checkbox"/>	Avoiding sun-burns
<input type="checkbox"/>	Being covered with clothes
<input type="checkbox"/>	Applying a sunscreen
<input type="checkbox"/>	Wearing a hat
<input type="checkbox"/>	Wearing sunglasses
<input type="checkbox"/>	Avoiding long exposure to the sun
<input type="checkbox"/>	I don't know

SECTION 4

42. In your opinion, tanning...: (mark one or more answers with an X)

<input type="checkbox"/>	Makes you look better
<input type="checkbox"/>	Makes you look cooler
<input type="checkbox"/>	Makes you look thinner
<input type="checkbox"/>	Makes you look taller
<input type="checkbox"/>	Makes you look uglier

43. If you use sunscreen, you do so because...: (mark one or more answers with an X)

<input type="checkbox"/>	It protects your health
<input type="checkbox"/>	It makes you look better
<input type="checkbox"/>	It makes you look taller
<input type="checkbox"/>	Your family asked you to
<input type="checkbox"/>	Doctors say so

44. If you wear sunglasses, that's because...

(mark one or more answers with an X)

<input type="checkbox"/>	They make you look better	<input type="checkbox"/>	They make you look cooler	<input type="checkbox"/>	All of my friends do	<input type="checkbox"/>	They protect my eyes	<input type="checkbox"/>	Sun-light bothers me
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45. Do your friends use sunscreen? (mark one answer with an X)

<input type="checkbox"/>	never	<input type="checkbox"/>	Some times	<input type="checkbox"/>	Several times	<input type="checkbox"/>	always	<input type="checkbox"/>	I do not know
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46. Do your family members use sunscreen? (mark one answer with an X)

<input type="checkbox"/>	never	<input type="checkbox"/>	Some times	<input type="checkbox"/>	Several times	<input type="checkbox"/>	always	<input type="checkbox"/>	I do not know
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47. If you use sunscreen, you do it urged by... (mark one answer with an X)

<input type="checkbox"/>	My best friend
<input type="checkbox"/>	My schoolmates
<input type="checkbox"/>	My family
<input type="checkbox"/>	My professors
<input type="checkbox"/>	My doctor
<input type="checkbox"/>	TV
<input type="checkbox"/>	magazines
<input type="checkbox"/>	other

PARTICIPANT'S SIGNATURE

.....

Thank you for your cooperation!