Supplementary materials

Educational Intervention

The educational intervention was structured into steps. In the first phase the principals/school officials/teachers of each institute in the participating regions were contacted in order to plan their participation in the study. Then, preparatory meetings were held with the heads of the schools adhering to the campaign, also involving a team of pedagogists. An educational kit was developed and made available to each school containing: a letter of presentation of the campaign, posters/flyers/handbills, a DVD with an educational video, and a series of illustrated educational materials for the pupils and their parents. A guide was given to the school teachers including information about the campaign, the skin, the importance of sun protection, and the risks associated with excessive sun exposure. The guide also included ideas and indications for transmitting the basic concepts to the children and for organizing teaching activities on the topics of the campaign. A website was implemented with educational materials and a regular update about the campaign.

At least three hours during the school year were spent on the campaign themes. A one-hour educational meeting was also held in each institute run by a dermatologist or trained IMI member on the correct mode of sun exposure, with the help of illustrative slides and the projection of an animated cartoon. At the end of the lesson, the pupils were given time to ask questions. IMI also launched an award among the schools for the production of a drawing, a limerick or a short novel, inspired by the contents of the campaign (https://www.melanomaimi.it/il-sole-per-amico-campagna-nazionale-di-prevenzione-del-melanoma.html).

Questionnaire

A questionnaire, for completion by parents, was distributed to schoolchildren prior to the start of the educational intervention, and a second one after the summer period, about 6 months after the end of the intervention, with the aim of assessing the impact of the campaign.

The questionnaire was structured to evaluate the degree of knowledge and correct mode of sun exposure and protection among the pupils and their parents.

It included demographic information on schoolchildren, i.e., age, gender, height and weight, information on parent education and occupation, phenotypic features of the children (i.e., eye, hair and skin colour, nevus count on the arms), information on sun exposure in the children (sunburn episodes over lifetime and during the year preceding and following the intervention, vacations spent on seaside, mountains, and skiing holidays, information on the modalities of sun protection used (use of clothing, sunscreens and protection factor), and parents' use of sunlamps and knowledge about their use.

Statistical Analysis

For descriptive purposes the categorical variables were represented by absolute frequencies and percentages, whereas the continuous variables by means and standard deviations (SD). The continuous variables were categorized by using clinically relevant cut-offs. As concerns the level of sun protection adopted, a total score was calculated as the sum of the individual questions on: use of a hat, use of a T-shirt, use of sunglasses, use of sunscreens and protection factor used. The

score for each question went from 0 (rarely/never/low) to 2 (always/high), for a total that ranged from 0 to 10.

In the univariate analysis, the Pearson X^2 test was used to determine statistically significant differences in the prevalence of sunburns among the different categories of the variables investigated at baseline and to evaluate significant differences among the prevalences in the studies *SoleSi-SoleNo* and *Il Sole per Amico*. The prevalences in the two studies were calculated together with their respective 95% confidence intervals (CI). Where necessary, the correlation among variables was investigated by means of the Pearson correlation coefficient (r).

All factors with p-value<0.15 identified in the univariate analysis were included in conditional logistic regression models taking into account the clustering of the pupils per school and with a stepwise regression algorithm for the selection of the variables with significant independent effects. The effects were expressed in terms of odds ratio (OR) with respective 95% CI.

As concerns the analysis of the differences between baseline and the end of the educational campaign, generalized estimating equations (GEE) were employed, taking into account the clustering of the pupils per school and with effects expressed in terms of OR and respective 95% CI. The GEE were employed both at the univariate and multivariable level, including as adjustment factors in the model: age, level of parents' education, episodes of intense sun exposure during the last year and skin colour. All the tests were evaluated as statistically significant at P-values <0.05. Analyses were carried out using SPSS software v.20.0 (IBM Corp: Armonk, NY).