

SUN PROTECTION: AN EDUCATIONAL PROGRAM IN SCHOOL-AGE CHILDREN



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ROME - ITALY

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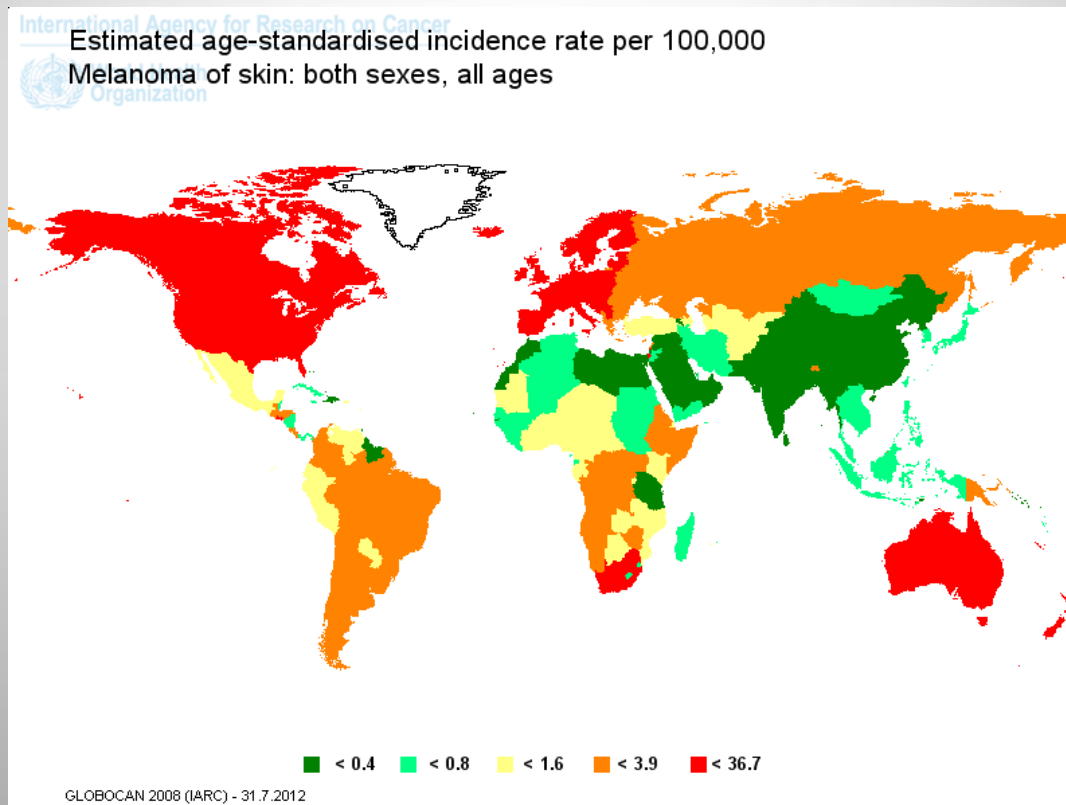
Member

MTCC
Mediterranean

World burden of skin cancers: Year 2000

Disease	*DALYs (000)	Deaths	Incident cases
Melanoma	690.248	65 161 (79%)	211 921 (15,5%)
Squamous cell carcinoma	161.892	13 534	2 883 037
Basal cell carcinoma	57.983	3245	10 532 711
Total	910.123	81 940	13 627 669

*disability-adjusted life year



Risk Factors for cutaneous melanoma

Constitutional features

- **Phototype** (I, II, III)
- Hair colour (**Red, Blond, Light Brown**)
- Skin colour (**Light** colour)
- Eye colour (**Blue, Green, Hazel**)
- **Naevi** (Atypical naevi, number of naevi)
- **Freckles** (High density)

Environmental factors

- Sun exposure (**Acute intermittent**, Chronic)
- Sun exposure (In **childhood**, In Adulthood)
- Use of indoor tanning equipment



Personal history

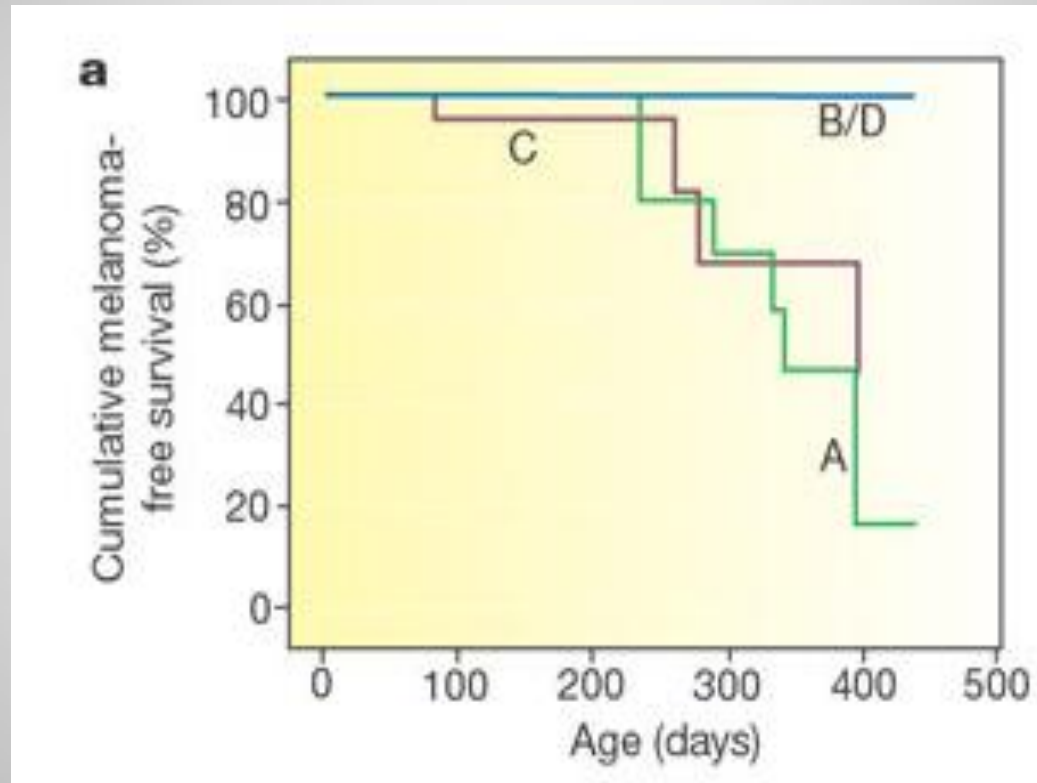
- Sun damaged skin
- Family history

Meta-analysis of risk factors for cutaneous melanoma: **Sun exposure**

Risk factors	RR and 95% CI
Total exposure	1.34 (1.02, 1.77)
Intermittent exposure	1.61 (1.31, 1.99)
Chronic exposure	0.95 (0.87, 1.04)
Sunburns history	2.03 (1.73, 2.37)

From: Gandini S, Sera F, Cattaruzza MS et al. *Eur J Cancer* 2005; 41: 45-60. (Modified)

MELANOMA INDUCTION IN HGF/SF TRANSGENIC MICE BY UV-B IS **DEPENDENT** ON AGE OF IRRADIATION



A: UV at 3.5 days and 6 wks

B: UV at 6 wks

C: UV at 3.5 days (erythemogenic)

D: no UV

Melanoma Natural History

PRIMARY



HIGH CURE RATES !!

METASTATIC



ADVANCED DISEASE

Resistant to combination therapies

Early Diagnosis May Stop Disease Progression

“Educational Programs” designed to increase early detection may result in improved outcomes

Sun Protection Primary Prevention in Schools is likely to increase the effectiveness[●] of Screening Program

Atypical Migration

1930



From: Tumori, 80: 101-105, 1994

Mainly workers, farmers and their families involved in land reclamation that drained the marsh area extending from Rome to the southern boundaries of the region with the *highest solar irradiation all year around*

● Katalic et al .**Cancer**, 2012

Sun Protection Primary Prevention Program

Objective: to evaluate the association of different phenotypes with sun sensitivity factors, sun protection behavior and ethnicity in school-age children.

Design: cross sectional study in the framework of a survey of children using a self-administered questionnaire.

Setting and participants: 35 412 children attending primary schools in the provinces of Latina and Rome region (Italy)

Questionnaire



ISTITUTO REGINA ELENA
Servizio di Epidemiologia e Sistemi
Informativi - S.Int. E.S.I.
Via Elio Chianesi, 53
00144 Roma - ITALIA

Name of your
Institute

QUESTIONNAIRE FOR THE ASSESSMENT OF SKIN SENSITIVITY TO SUNLIGHT

To fill in this form you can ask your parent's help

1. Are you a boy or a girl?
2. You live: in town in the country
3. In which town was your daddy born?
4. In which town was your mummy born?
5. In which town were your grandparents born?
one grandfather in the other grandpa in
one grandmother in the other grandma in

Family

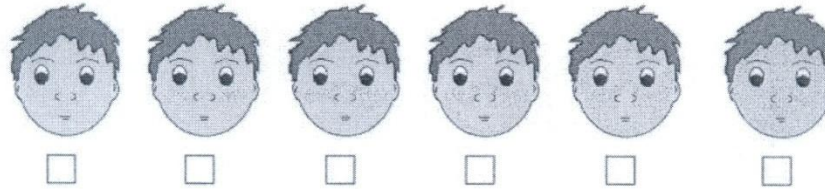
.....all family
relative, friends
WEB!!

PLEASE MARK YOUR ANSWERS (X) IN THE CORRECT BOX

6. What colour are your eyes?
CHESTNUT (BROWN) BLACK BLUE or GREEN
7. What colour is your hair?
RED FAIR/LIGHT BROWN DARK BROWN/BLACK
8. What colour is your complexion?
FAIR MEDIUM SWARTHY
9. Count the number of "moles or nevi" you have on your left arm (from the elbow to the wrist)
None 1 to 5 more than 5
10. Have you freckles?
YES NO

Personal

11. To which of these pictures are you like?



12. Where do you spend your holidays?

AT THE SEASIDE/LAKE IN THE MOUNTAINS IN TOWN

13. Do you easily get sunburnt?

YES NO

14. Have you already had sunburns ?

YES NO

15. When you stay too long in the sun, do watery blisters appear on your face and body?

YES NO

16. Are you suntanned at the end of your holiday?

YES NO

17. Do you put on a protective body and face cream before you go out in the sun?

YES NO

18. When you are out in the sun you wear:

a t-shirt?	YES <input type="checkbox"/>	NO <input type="checkbox"/>
a hat or a cap?	YES <input type="checkbox"/>	NO <input type="checkbox"/>
sunglasses?	YES <input type="checkbox"/>	NO <input type="checkbox"/>

I AM

Name: _____ Surname: _____ Years old _____

Class: _____ School: _____

Where were you born? _____ When? _____

Skin cancer risk factors in childhood: findings of a survey in an Italian area characterized by an atypical migration

Results

«**FOTO positive**» phenotype was directly associated with:

- the tendency to sunburn (OR 4.64; 95% CI 4.39-4.89)
- the presence of freckles on the face (OR 1.65; 95% CI 1.55-1.77)
- the presence of naevi on the left forearm (OR 1.18; 95% CI 1.12-1.25)
- the number of grandparents born in northern areas* (OR 1.54; 95% CI 1.15-2.07, for four northern grandparents versus none)
- the residence in Latina Province (OR 1.13; 95% CI 1.07-1.20)
- the use of sunscreens (OR 1.70; 95% CI 1.55-1.88)

«**FOTO positive**» phenotype was inversely associated with

- the male sex (OR 0.91; 95% CI 0.86-0.96)
- the increase of school-class level (OR 0.66; 95% CI 0.61-0.72, for the highest versus the lowest school-class level)
- the ability to tan (OR 0.38; 95% CI 0.34-0.42)

CONCLUSIONS

- The questionnaire could classify the study population in two risk levels: FOTOR (+) (fair complexion OTHERS.....) and FOTOR (-) (all the other subjects).
- Risk factors (high number of moles, freckles, etc.) segregated in FOTOR+ group.
- Through this simple and low-cost educational program individuals of the study population could be given *sun protection ad hoc advices* *Prior to summer vacations.*

Studies so far performed

ITALY



Seven Regions

BAMBINI: 161.504

SPAIN



*Ajuntament de Granollers Servei de Salut Pùblica
Fundacion Instituto Valenciano de Oncologia*

NIÑOS : 7.120

BELGIUM



*Centre Hospitalier Universitaire du Sart
Tilmar Service de Dermatopathologie de Liège*

ENFANTS: 5.430

TUNISIA



*Université du Sud
Faculté de Médecine de Sfax Le Doyen*

ENFANTS: 3.625

BULGARY



*National Centre of Hygiene
Medical Ecology and Nutrition*

CHILDREN: 2.210

RUSSIA



*Russian Academy of Medical Sciences
The Tomsk Cancer Research Institute*

CHILDREN: 300

HUNGARY



Dept. Public Health Univ. Pécs Hungary

CHILDREN: 2.365



SELF AND PARENT-ASSESSED SKIN CANCER RISK FACTORS IN SCHOOL-AGE CHILDREN

M.C. Cercato, E. Nagore, V. Ramazzotti, C. Guillén, I. Terrenato, J. Villena, M. Lomuscio, P.G. Natali, and H.J. Schünemann

Preventive Medicine, 47:133,2008

Aknowledgements

The ***School Sun Prevention Program*** was originally designed by the *late* Dr. Ettore Conti of the “Regina Elena “ National Cancer Inst. Rome.

Presently , Drs. Valerio Ramazzotti and Cecilia Cercato of the ***Epidemiology Service*** of the “Regina Elena” Inst. are involved in conducting this primary prevention program.

In case of interest in organizing this Educational initiative in schools, please contact

cercato@ifo.it

THANK YOU