# Attitudes and behaviors regarding sun exposure of Israël Population Data from the All Skins-All Colors-All Dermatoses: the ALL PROJECT

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## INTRODUCTION & OBJECTIVE

Israël is characterized as a subtropical and semi-arid climate with an average of 3304 hours of sunlight per year and an average of 9:02 hours per day. Numerous public health actions have been undertaken to change sun protection behaviors and attitudes to reduce sun exposure and prevent skin cancer in Israël since 1992, initiated by the Israël Cancer Association (ICA). According to the ICA, up-to-date data shows that Israël has dropped from ranking third in skin cancer cases, now ranking 13th (1). Limited information is available regarding sun protection behavior in patients in Israël. This study aimed to investigate the level of awareness of the risks related to sun exposure, attitude towards sun protection, and sun protection behaviour in Israël Population.

# MATERIAL & METHODS

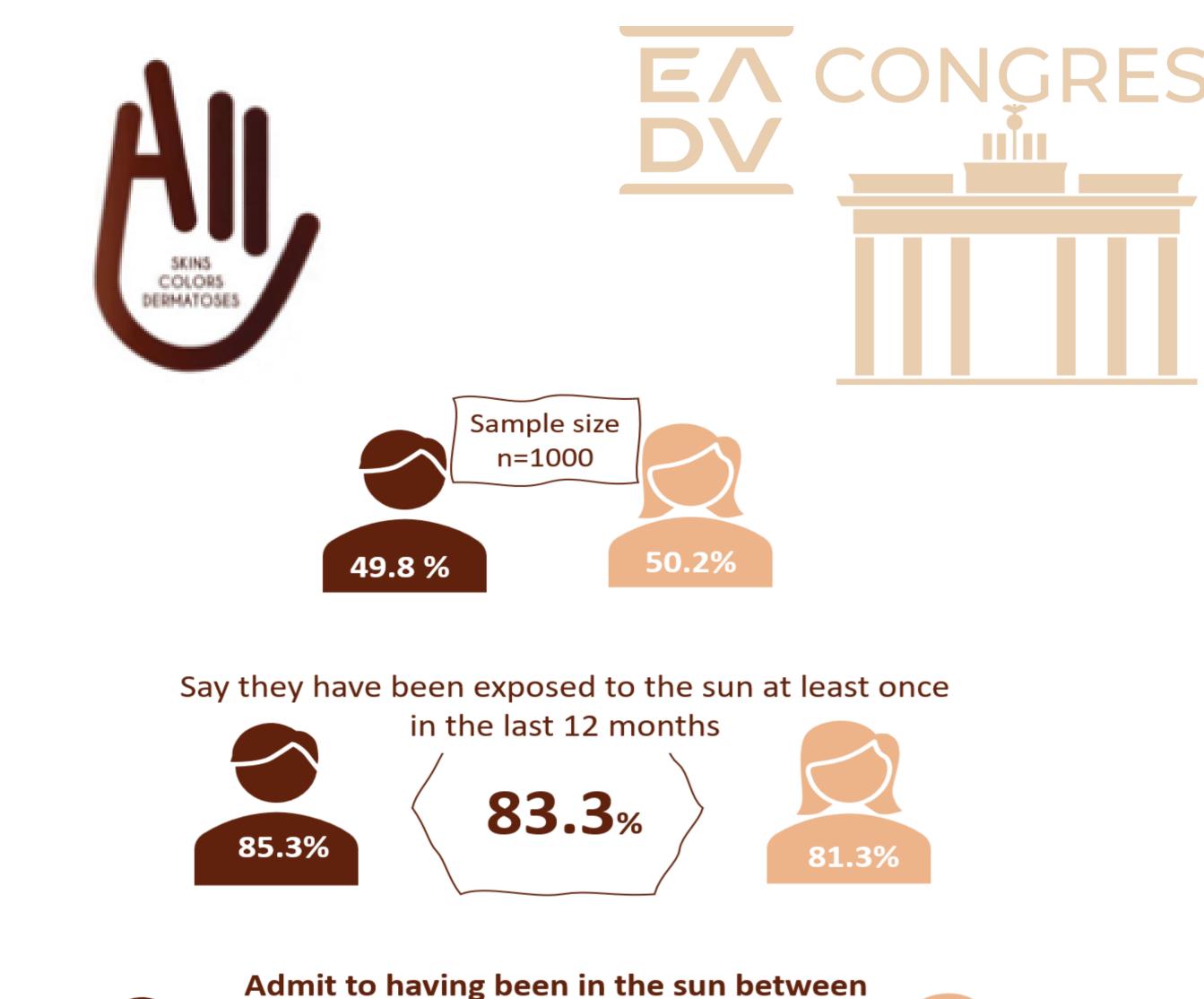
Patients were selected by completion of an online survey of the general population over 16 years of age in Israël. The patients were asked to specify the times of exposure to the sun, the notion of knowledge of the recommendations of the public health experts who advise against exposure between 11 am and 4 pm, the reasons for which they were exposed to the sun at these times and the use or not of sun protection products. It was asked to specify the motivations given by the users and the justifications delivered by the nonusers of sun protection products.

#### RESULTS

A population including 498 (49.8%) males and 502(50.2%) females. 16.7% of respondents reported no sun exposure & 533 (53.3%) respondents reported that they were exposed to the sun between 11 am and 4 pm. The most frequent reason for this risk behavior was that it corresponded to the most convenient hours for their activities (49.9%) and those when they were available (44.90%) (Figure 1). Age less than 40 years is associated with a risk of exposure between 11 am and 4 pm (61.4% vs. 45.6%, p:0.00015) but not gender (Male 56.4% vs. Female 50.2%, p:0.41). 72.9% of the respondents declared being aware of public health experts' recommendations against exposure between 11 am and 4 pm. Respondents who exposed themselves between 11am and 4 pm were as well informed of these recommendations as other patients (71.1% vs. 74.9%, p 0.76). Among respondents who say they have been exposed, 566/633 (67.90%) used sunscreen products during the sunniest period (20.4% every two hours). The motivation of those who use sun protection products is mainly the wish to limit the acceleration of skin aging (59.0%) and to reduce the risk of skin cancer (63.10%) ( table 1). On the other hand, among those who say they expose themselves, 267 individuals (32.1%) replied that they do not apply sun protection products and 396 (47.5%) that they do not apply sun cream as recommended. They explain their behaviour by the fact that they do not think about it (44.9%), they find it tedious (41.5%). While 19% find the products too expensive, 14.8% think it's not useful!

## DISCUSSION

This is the premier study to assess sun exposure risk behaviors and sunscreen use in an Israëli population. Despite widespread dissemination of public health messages about sun protection, almost 53.3% of Israëli adults must protect themselves from sun exposure between 11 am and 4 pm. Interestingly, these high-risk skin cancer patients were as well informed about sun protection recommendations as other patients. This suggests the need for an additional education program among these high-risk skin cancer patients to change their behavior. Only 20.4% used sun protection products every 2 hours during the sunniest time. We have highlighted that the motivation of those who apply sunscreen products is not only the desire to protect themselves from the risk of skin cancer but also from skin aging. Our study reported that patients only apply sunscreen products sometimes because they do not think about it, whereas most studies had given the explanation that its application was perceived as time-consuming and inconvenient and that it prevented the desired tan from being achieved (4,5). Pursuing an effective education policy on the effective use of sun protection is essential. More targeted methods should be developed to prevent skin cancer.





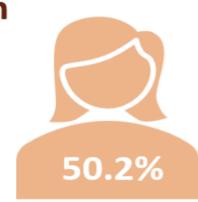


Figure 1: Why are public health messages not respected?



Table 1 Motivations of users and justifications of non-users of sun protection products

	Motivation	N	%
Rationale for respondents who use sunscreen products $N = 566$	To avoid sunburn	328	58,0%
	To spend more time in the sun	141	24,9%
	Because of a history of sun burns	131	23,1%
	As protection against accelerated skin aging	334	59,0%
	As protection against the risk of skin tumors	357	63,1%
	For other reason	27	4,8%
Rationale for respondents who do not use sunscreen products as recommended N = 663	The products are too expensive	126	19,0%
	I don't think about it	298	44,9%
	I don't think it is useful	98	14,8%
	It is too tedious	275	41,5%
	I didn't know about this recommendation	80	12,1%