### LETTER

# Online web-based sun-protective behaviors

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### **Dear editor**

I read with great interest the recently published article by Diao and Lee<sup>1</sup> concerning the sun-protective behaviors in populations at high risk for skin cancer, with a special emphasis on melanoma. Even though the manuscript was not intended as a systematic review, it provides primary care practitioners with useful information and detailed recommendations.

However it should be stressed that dermatology, as well as the other medical branches and specialties, has faced many progresses in recent years, thanks to the technological advancements (the so-called "teledermatology")<sup>2</sup> and the achievements in the field of molecular and systems biology.<sup>3</sup>

The relationship between the patient and physician has changed, shifting from paternalism to a new model of shared medicine: the so-called P6 model (where the six Ps stand for personalized, preventive, predictive, participatory, psycho-cognitive, and public).<sup>4,5</sup> New emerging concepts such as those of empowerment, self-efficacy and patient centeredness are now shaping the everyday clinical practice, in which the patient tries to be more culturally competent about his/her own disease, collecting information on the Internet and sharing his/her own experience. Electronic interactive applications and websites devoted to teaching the importance of the behavior of skin self-examination and self-screening are becoming widespread and quite common.<sup>6</sup> More and more dermatological patients are exploiting the Internet and are, overall, satisfied with their online experience. The Internet can offer highly individualized health communication messages enabled by computer tailored technologies.7

However, in some cases, information available on the Internet is not always of high quality, complete, accurate, and reliable. The existence of a digital gap or divide could be a further obstacle in open access to these websites and in the adoption of proper preventive and protective behaviors.8

General practitioners and dermatologists should be aware of this phenomenon, investigating the attitudes of their patients to surf the web and to provide them with authoritative and reputed information.

In conclusion, a new array of sun-protective behaviors is emerging, termed as "public skin health", and understanding the drivers and the psychological variables of accessing online resources and adopting web-based sun-protective activities, in order to implement them and properly guiding the patients, is of extreme clinical interest.<sup>9-11</sup>

http://dx.doi.org/10.2147/PRBM.S61450

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# Disclosure

The author reports no conflicts of interest in this communication.

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# **Authors' reply**

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## **Dear editor**

We enjoyed reading the comments from Dr Bragazzi regarding our article. Dr Bragazzi points to the technological advancements and its growing role in medicine, and cites examples of new electronic interactive applications and websites used in patient education. We read these examples provided with great interest, and found them informative. Although acquiring medical knowledge from mass media is not new, we agree wholeheartedly that technology is playing a progressively larger role in medicine, and hope that it will continue to do so. At the same time, the studies cited by Dr Bragazzi reiterated the need for continued research into education and behavioral changes in high-risk populations for skin cancer. For example, Dr Bragazzi cites a study where video intervention in melanoma patients showed 37% of patients did not view the video despite email reminders to access this tool, and only 12 patients (out of 120 patients in this study) reported increased self-skin examinations in the 3 months after intervention.<sup>1</sup> This study even recruited patients with self-reported good Internet and email proficiency, which is not always the case

in the general high-risk population for skin cancer. Another study Dr Bragazzi cited, assessing the use of technology for educating melanoma patients, acknowledged that technology may provide an additional role, but all the recruited patients have received comprehensive in-person education in the Cutaneous Oncology Program; and patients may be more satisfied with one-on-one teaching with health care provider if there is adequate time for the encounter.<sup>2</sup>

Although technological applications have provided avenues and opportunities in dermatology (eg, teledermatology, various iPhone apps, interactive web-based tools, etc), uptake in the high-risk population related to preventative behavior should be evaluated further in order to optimize their influence on behavior. We agree that patients are taking on more active roles in directing their health care with physicians, and thus even more research is needed to understand the complex factors contributing to the existing low compliance rates. Health care professionals, along with the use of applications in technology with the appropriate patients, along with mass media and educators, should form part of a multidisciplinary approach in addressing the gap in behavioral change in high-risk groups.

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