COMMENTARY

Commentary to Shetty A, Janda M, Fry K *et al.* Clinical utility of skin cancer and melanoma risk scores for population screening: TRoPICS study

Skin cancers including melanoma, basal cell carcinoma (BCC) and squamous cell carcinoma (SCC) represent a major disease burden and health care expenditure, especially in white population.

The impact of population-based skin cancer screening programs is still a matter of debate since increasing rates of thin melanomas have been clearly detected despite robust data about actual benefit in terms of decreased mortality are limited.[1-3] The development of a tool which can reliably select high-risk individuals in a rapid and practical manner is urgently needed to maximize cost-effectiveness of screening strategies and provide a clinical benefit to a selected target population.

In the May issue of the Journal, Shetty *et al.*[4] prospectively investigated the clinical utility of risk assessment tools derived from the QSkin Study[5] to identify individuals with skin cancers, at an outpatient clinic on Hamilton Island, Queensland (Australia), during the annual yachting race. 507 of 789 (64%) patients, including both competitors with high sun exposure and subjects of the island community, completed a paper-based self-assessment questionnaire consisting of 16 items derived from the Melanoma Risk Stratification Tool and the Keratinocyte Cancer Risk Stratification Tool.[6-7] Each participant was then stratified into one of the 5 categories of skin cancer risk (ie. very much below average, below average, average, above average and very much above average), for both melanoma and for keratinocyte cancers, according to the answers provided. Subsequently, dermatologists performed a full-body skin examination of each patient and any suspicious lesion was biopsied and histopathologically examined. Participants were mostly older than 45 years, evenly distributed for sex and almost all of European heritage with fair skin. It is interesting to note that the authors found a significant association between the predicted risk of keratinocyte cancers, including BCC, SCC, keratoacanthoma and intraepidermal carcinoma, and the actual prevalence of these skin lesions in their cohort. In contrast, no association was reported for the melanoma risk groups, likely because the study was underpowered. The authors conclude that the risk prediction model for keratinocyte cancers can reliably identify individuals with a significant skin cancer burden prior to skin examination in a community setting.

We must acknowledge that in the study of Shetty *et al.*[4] a high-risk population was selected on the basis of fair skin individuals with a high level of sun exposure. Nevertheless, study limitations include the recall bias due to a self-reported questionnaire and the fact that participants are not representative of the general Queensland population. The reproducibility of the survey items was already explored in a study by Morze *et al.*[8] yielding fair to good results.

Numerous skin cancer risk prediction models have been developed for research purposes[9]; however, only a few of them have been validated in a real-life clinical setting. The results reported in the study of Shetty *et al.*[4] provide a starting point for real-life implementation of one of them, and support its clinical utility, at least for selecting patients for high risk of keratinocyte cancers. Larger population-based studies are needed to confirm the clinical utility of the proposed risk assessment tool; results of this study may provide significant implications for health policymakers. In a broad public health perspective, the delivery of self-assessment skin cancer risk prediction questionnaires could reshape the access to the dermatological clinics, maximizing cost-effectiveness of health resources and prioritizing high-risk individuals.

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Conflicts of interest

None.

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