

## Is Living on a Kibbutz a Risk Factor for Malignant Melanoma?

Raphael Shafir MD

Department of Plastic Surgery, Tel Aviv Sourasky Medical Center and Israel Cancer Society, Tel Aviv, Israel

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Sun damage to health and to cosmetic appearance has become an important issue for the Israeli public and the local media during the last 15 years. The subject has received even greater attention following the Israel Cancer Society's inauguration 7 years ago of its voluntary summer campaigns in collaboration with the medical societies, sick funds, army medical corps, and ministries of health and education. The summer campaigns deal with two main issues of cancer control — prevention and early detection. Prevention is largely dependent on the media's involvement and anti-sun propaganda. The campaign for early detection is led by the plastic surgery and dermatology societies, whose members serve at skin examination stations. In last year's campaign there were 140 of these stations. The volunteer physicians examine each individual who wishes to be examined at the clinic participating in the campaign.

While uncontrolled sun exposure is one of the main causes of aging of the skin, more serious is its direct influence on malignant changes in the skin. Most studies and the media focus on melanoma, the more malignant cancer, and tend to disregard the 15–20 times more prevalent basal and squamous cell carcinoma, which incurs far greater medical expenses, causes years of work to be lost, and has far-reaching emotional and social repercussions.

Of countries worldwide with a predominantly immigrant population, Israel is one of the few that exemplifies the change in melanoma rates. Most of the early studies that documented the rise in melanoma rates in fair-skinned populations emigrating from Europe to sunny countries have been published in Australia. In Queensland, for example, the rate is as high as 60/100,000 new cases per year. A similar trend was reported in Arizona in the U.S. for fair-skinned people who immigrated to that area as infants.

In Israel, the highest rates, reaching over 20/100,000, occur among native Israelis whose parents are European-Americans. In their recent studies on cancer among kibbutz inhabitants, Dr. Hava Tabenkin and her group [1] provided figures comparable to the numbers in Queen-

sland, namely 60/100,000. This is a staggering finding, which they unfortunately do not adequately substantiate.

The melanoma rate in the general Israeli population has been rising since the early days of the national Cancer Registry in 1960. However, during the last 3 years the level appears to have reached a plateau; this may be only temporary or is perhaps the first sign of the effects of prevention activities on the part of the Cancer Society. It should be noted that declining rates due to changes in sun exposure behavior can be seen only after 15–30 years, i.e., the time it takes for melanoma to develop in response to exposure.

In contrast, it takes only a few years to see changes in the character of the detected melanoma — namely, the grade of malignancy in a given population in response to activities that enable and encourage early detection. It is rewarding that the general Israeli public now has a high level of awareness about the importance of detecting changes in moles. Since the initiation of the nationwide summer campaigns a few years ago, over 40% of melanomas are currently being detected at their earliest stage as *in situ* lesions.

The study of melanoma rates and detection in Israel is focused on three specific populations:

- The wave of Russian immigration has brought with it fair-skinned sun-sensitive individuals who lack the knowledge of longtime Israelis concerning the dangers of sun exposure. They enjoy sunbathing and other seaside activities but frequently cannot afford sunscreen products. There has been some progress in early detection among this group thanks to special efforts on the part of the Cancer Society, but it still lags behind the general population.
- The ultra-orthodox religious population in Israel has its unique patterns of behavior. They dress in black from head to toe, are hardly ever exposed to the sun, stay indoors most of the day, and enjoy the sun only rarely and even then with only small areas of the body being exposed. Our group reported the low rate of melanoma in this group, associating it

with the differences in behavior compared to the secular population. These individuals are comparable to all heavily clothed populations such as nuns and priests, Bedouins etc., all of whom have low rates of melanoma.

- The third population is that of the kibbutz, whose high rates of melanoma are discussed in the paper by Tabenkin et al. in this issue. These authors sought a subgroup prone to melanoma within the kibbutz, so that this group can be targeted for special attention in terms of education for prevention and early detection.

The kibbutz population is unique in many aspects, but the important feature for our purposes is its particularly high (90%) European-American origin, which means that these individuals are mostly fair skinned. Moreover, it is an easy-to-follow population and one easy to approach. Of specific importance is the homogeneity in habits and behavior throughout their lifetime. Most of them were exposed to the sun more than any other group in the country, at least until they too were made aware of sun damage. Their exposure is a reflection of their lifestyle. From birth until induction into the military at the age of 18 they essentially live together and share the same activities. There is tremendous peer pressure to do things and go places together. Every kibbutz has a swimming pool where people often sit around for hours. Many members work outdoors in agriculture. In short, most of them are deeply tanned or even sunburned throughout the summer.

This unique lifestyle makes me wonder whether the difference found by Tabenkin et al. in the hours of sun exposure of the study group (kibbutz) compared to the control group (general public) is true; or whether it should be regarded with considerable doubt, as is recommended for other studies that rely on the memory of adults in reporting past hours of exposure. The same applies to relying on memory concerning details of sunburns in childhood, etc. Also, I suspect that there is some influence of political correctness in the response to questions on sun exposure, such that there might be reluctance to admit to what is now accepted as highly unintelligent behavior.

The kibbutz comprises an ideal community for conducting studies on the influence of behavior, lifestyle and other aspects of health issues of which melanoma is but one. Tabenkin and her team are to be commended for the variety of their excellent studies, and we look forward to their overcoming the confounding factors in the current study so that they can arrive at scientifically sound conclusions on this very pressing subject.

## References

1. Tabenkin H, Tamir A, Sperber AD, Shapira M, Shvartzman P. A case-control study of malignant melanoma in Israeli kibbutzim. *IMAJ* 1999;1:154-157.

**Correspondence:** Dr. R. Shafir, Dept. of Plastic Surgery, Tel Aviv Sourasky Medical Center, 6 Weizmann St., Tel Aviv 64239, Israel. Tel: (972-3) 697 3320; Fax: (972-3) 697 3712; email: shafir@post.tau.ac.il.

*True merit is like a river, the deeper it is, the less noise it makes.*

*Lord Halifax*

## Capsule



### Drowning in cold water

General hypothermia has been implicated in immersion-related deaths, but many deaths occur too quickly for it to be involved. A group from Sweden investigated changes in swimming capability in cold water to find out whether such changes could lead to swim failure and drowning. Ten volunteers undertook three self-paced breaststroke swims in a variable-speed swimming flume, in water at 25°C, 18°C, and 10°C, for a maximum of 90 minutes. During each swim, they measured oxygen consumption, rectal temperature, swim speed and angle, and stroke rate and length. Swim failure was defined as being unable to keep feet off the bottom of the flume. All ten swimmers completed 90 min swims at 25°C, eight completed swims at 18°C, and five at 10°C. In 10°C water, one swimmer reached

swim failure after 61 min and four were withdrawn before 90 min with rectal temperatures of 35°C when they were close to swim failure. Swimming efficiency and length of stroke decreased more, and rate of stroke and swim angle increased more in 10°C water than in warmer water. These variables seemed to characterize impending swim failure. The authors conclude that impaired performance and initial cardiorespiratory responses to immersion probably represent the major dangers to immersion victims. Consequently, treatment should be aimed at symptoms resulting from near-drowning rather than severe hypothermia.

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