

WELL-DRESSED OR ILL DRESSED: THE HEALTH RISKS AND BENEFITS OF MODEST ATTIRE

Aliza Loshinsky

The Jewish concept of modesty is an important part of our religion. The Talmud taught that the entire Torah was consolidated into three commandments, as it is written (*Mishnah* 6:8), “He Has told you, O man, what is good, and what does the Lord require of you: only to do justice, love deeds of kindness, and to walk modestly with your G-d.” Walking modestly with G-d includes many different behaviors. One way it is manifested is through dress. Women who are strict with this *halacha* are careful to dress in a modest manner, often only exposing their face, neck, and lower arms. Men also adopt a more conservative manner of dress, especially in Ultra-Orthodox communities where the typical garb includes traditional-styled clothing and brimmed hats. This modest way of dressing causes decreased exposure to sunlight. Additionally, indoor studying and scholarly activity is very much encouraged in the Orthodox world, which also decreases sun exposure.

Decreased sunlight exposure can lead to several complications. Sunlight is necessary for the production of vitamin D. Photons of ultraviolet B (UVB) rays are absorbed by dehydrocholesterol in the skin, which is then converted into vitamin D₃. Vitamin D₃ is metabolized in the liver to 25-hydroxyvitamin D₃ and then in the kidneys to 1,25-dihydroxyvitamin D₃, the active form of vitamin D. Since vitamin D assists in the intestinal absorption of calcium, insufficient amounts of vitamin D results in low levels of calcium absorption, leading to a decrease in bone mineral density [1].

Bone mass increases throughout childhood and mid-puberty, stopping around late puberty. Prevention of osteoporosis, a disease characterized by the thinning of bone tissue and loss of bone density, is dependent upon the establishment of an adequate peak bone mass during puberty. If adequate bone mass does not develop at that time, one will have a greatly increased risk for osteoporosis later in life. Vitamin D is essential for the establishment of this peak bone mass [2].

A study was performed to assess whether dress had an effect on the vitamin D levels in Orthodox students living in Israel. The study compared three yeshivas in the same area in Israel. The first, Yeshiva-A, was an Ultra Orthodox yeshiva in which the men were

about 20 years old, wore traditional garb, and engaged in very little outdoor activity. The students from the second yeshiva, Yeshiva-B, were around 33, also dressed in traditional garb, but had regularly scheduled outdoor activities. The third, Yeshiva-C, was an Orthodox program where the average age was around 19 and the students participated in a combined yeshiva/army program. The study found that severe vitamin D deficiency was prevalent among the Ultra Orthodox community of Yeshiva-A. The study found that 100% of students in Yeshiva-A, 91% in Yeshiva-B and 51% in Yeshiva-C were vitamin-D deficient; severe vitamin D deficiency was found in 65% of students in Yeshiva-A, 65% in Yeshiva-B and 12% in Yeshiva-C [3]. These results complemented a study in an Ultra Orthodox community in Brooklyn, in which the bone mineral density (BMD) of Jewish Ultra Orthodox male teenagers was significantly lower than the normative scores for the population. In fact, 27% of the boys from the study had BMD scores that were low enough to warrant a diagnosis of osteoporosis, a disease characterized by a significant loss of bone density [2].

A study in New Zealand found an increased risk of earlier onset of melanoma in areas of the body that are usually covered but were intermittently exposed to sunlight, as opposed to areas of the body that are always exposed to sunlight.

In light of these studies, it is evident that young adult males of the Ultra Orthodox community both in Israel and New York are at high risk of developing osteoporosis due to vitamin D deficiency or low bone mineral density. The studies attributed the deficiency to decreased sunlight exposure, a result of their traditional, modest garb, long hours of indoor studying, and lack of outdoor physical activity. The deficiency in vitamin-D led to decreased absorption of calcium, low bone mineral density, and ultimately osteoporosis [2, 3].

Sunlight can also have harmful effects on the human body, in which case modest attire can have a positive effect on health. Solar ultraviolet (UV) radiation can cause DNA damage to skin cells. If DNA damage is not repaired, deleterious mutations arise that may affect cell growth and regulation, possibly leading to malignant tumors. Melanocytes are cells that produce the pigment melanin, which is responsible for skin and hair color. In malignant melanoma, the melanocytes, adversely affected by UV radiation, have sustained unrepaired DNA damage. This may cause these cells to grow abnormally, and result in a change in the appearance of a mole on the skin or the development of an area of discoloration [4].

A study in Israel showed that Orthodox Jews have a decreased risk of melanoma due to the protective role of their traditional and modest clothing. The study compared the occurrence of malignant melanoma in Orthodox and non-Orthodox Jewish communities in Israel between 1970 and 1982. Comparisons were made between the occurrence of melanoma in two cities on the outskirts of Tel Aviv: Bnei Brak which has a predominantly Orthodox population, and Givatayim which has a predominantly secular population. Two neighborhoods in Jerusalem, one predominantly Orthodox and the other predominantly secular, were also compared. The study found that the incidence of malignant melanoma for Jews of European or American descent was greatly reduced in the Orthodox population in comparison to the secular communities. The low incidence of melanoma in Jews of Asian or African descent precluded them from being compared by religiosity in the study [5].

It is important to note, however, that melanoma still poses a risk despite modest dress. A study in New Zealand found an increased risk of earlier onset of melanoma in areas of the body that are usually covered but were intermittently exposed to sunlight, as opposed to areas of the body that are always exposed to sunlight [6]. For this reason, it is extremely important for Orthodox Jews who follow the *halachic* laws of modest dress to apply sunscreen and take preventative measures against sunlight when

exposing areas that are usually covered.

There is a difference in the way sunlight is absorbed by the skin in both sects of Sephardim, who descend from Asian Middle Eastern and North African Jews, and among Ashkenazim, who descend from European Jews. Sephardim are generally characterized phenotypically by a darker skin pigment than Ashkenazim. People with darker skin pigmentation produce more melanin in their melanocytes. The increased melanin found in darker skinned people absorbs and scatters more energy than that of people with fairer skin. This provides people with darker skin greater protection from the sun's rays [7], which has both positive and negative health benefits. On the one hand, it reduces the incidence of melanoma among Jews of Sephardic descent [5]. On the other hand, however, it also decreases their level of absorption of vitamin D, putting them particularly at risk for osteoporosis. In contrast, Ashkenazim are at a greater risk than Sephardim for developing melanoma, as shown by the study above, but have a lower risk for vitamin D deficiency [8].

Although dressing modestly may put one at greater risk for osteoporosis, it is fortunately a risk that can be easily dealt with once it is identified. Orthodox Jews who dress modestly, especially Ultra Orthodox men, should allow for additional sun exposure; the suggested amount is 5-10 minutes a day, 2 to 3 times per week [1]. It is also suggested that Ultra Orthodox Jewish males should take vitamin D supplements [3]. Additionally, adding vitamin D to dairy products, as is already done in many western countries, may help alleviate vitamin D deficiency in Israel [8].

Care must be taken to protect oneself against UV radiation and harmful sunlight exposure. Thankfully, Orthodox Jews are a step ahead on this account by wearing modest clothes, which reduce harmful sunlight exposure. Additional care can be taken to apply sunscreen even to areas of the body that are seldom exposed to sunlight.

Finally, it is important to realize the obligation and privilege we have as Jews in dressing modestly and to uphold this worthy commandment with joy and appreciation. ■

ACKNOWLEDGEMENTS

I would like to express my sincere appreciation to Dr. Babich for his encouragement to write an article, his help in selecting a topic, and his remarkable dedication to his students' success. Additionally, I would like to express my heartfelt appreciation to my wonderful parents for sending me to Stern College to receive an incredible Torah and secular education, and for their constant support and encouragement in all my endeavors.

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