



A CLINICAL STUDY ON EVALUATION OF SUNBURN CASES VISITED TO THE DERMATOLOGY DEPARTMENT

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Article Info: Received 03 July 2020; Accepted 20 August 2020

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Conflict of interest: No conflict of interest.

ABSTRACT:

Introduction: The key risk factor for most skin malignancies is exposure to ultraviolet radiation (UVR), and sunburn history, intermittent UVR exposure from the sun and sunbeds, and UVR exposure from these sources are significant contributors to the development of melanoma. The goal of the current study was to evaluate the prevalence of sunburn among the study population.

Materials & Methods: The dermatology department was the site of the current study. There were 146 sunburn cases in it that had been reported to the department. The location of the sunburn, a specific age group, and the neighborhood were taken into account in the entire population. The scalp, cheeks, hands, and neck were carefully examined for signs of sunburn.

Results: Age group 20-40 years had 45 males and 35 females while 40-60 years had 41 males and 25 females. The difference was significant (P- 0.01). The face (14% for men and 10% for women), followed by the neck (25% for men and 22% for women), the scalp (15% for men and 19% for women), and the hands (12% for men and 9% for women). The distinction was appreciable (P- 0.01).

Conclusion: Sunburns are a common type of skin disease. There is no clear sex preference. In the age range of 20 to 40 years, instances are relatively frequent.

Key words: UV rays, sunburns on the scalp, etc.

Introduction

A sunburn is a type of burn that occurs when living tissue, like the skin, is overexposed to UV radiation, most often from the sun. In extreme circumstances, an overabundance of UV radiation can be fatal. Sunburn is frequently caused by skin exposure to low levels of UV light.¹

The key risk factor for most skin malignancies is exposure to ultraviolet radiation (UVR), and sunburn history, intermittent UVR exposure from the sun and sunbeds, and UVR exposure from these sources are significant contributors to the development of melanoma. Up until the age of 18, an estimated 50% to 80% of UV energy is already being absorbed. Skin sensitivity from

being sensitive at a young age and spending more time outdoors appear to be linked to an increased risk of skin cancer in adults. Children are more likely to get skin cancer later in life because they have less developed pigmentation and a self-defense system.²

Early-life UVR exposures are particularly crucial for the growth of cutaneous melanoma in adults. According to a recent meta-analysis of 51 research, having sunburned yourself as a child increased your risk of developing cutaneous melanoma as an adult by almost twofold. Red or crimson skin that is hot to the touch, soreness, generalized exhaustion, and moderate vertigo are common symptoms in both humans and

other animals.³ Usually, erythema (initial redness) is followed by pain of various intensity that is proportionate to the length and intensity of exposure. The list of other symptoms can also include syncope, edema, fever, chills, rash, itching, and nausea. Additionally, a tiny amount of heat is emitted from the burn as a result of the concentration of blood during the healing process, warming the damaged area. Sunburns can be categorized as superficial burns or burns with partial thickness.⁴ The goal of the current study was to evaluate the prevalence of sunburn among the study population.

Materials & Methods

The dermatology department was the site of the current study. There were 146 sunburn cases in

it that had been reported to the department. All participants received signed consent after being told about the study. Before beginning the trial, an ethical review was conducted. Name, age, and other general details were noted. The location of the sunburn, a specific age group, and the neighborhood were taken into account in the entire population. The scalp, cheeks, hands, and neck were carefully examined for signs of sunburn. P value under 0.05 was regarded as significant.

Results

Table 1 shows that age group 20-40 years had 45 males and 35 females while 40-60 years had 41 males and 25 females. The difference was significant (P- 0.01).

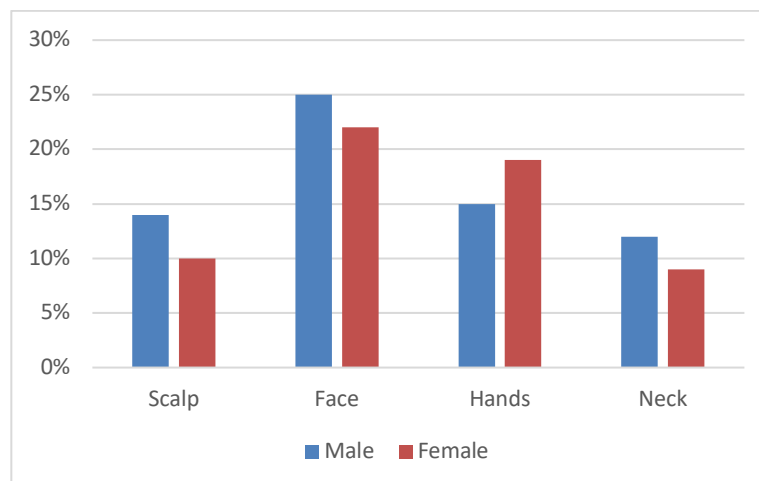
Table 1: Age wise distribution of patients

Age group	Males	Females	P value
20-40 years	45	35	0.01
40-60 years	41	25	
Total	86	60	

The most frequent site, as seen in Graph I & Table 2, was the face (14% for men and 10% for women), followed by the neck (25% for men and 22% for women), the scalp (15% for men and 19% for women), and the hands (12% for men and 9% for women). The distinction was appreciable (P- 0.01).

Table 2: Site of occurrence of sun burn

Site	Male	Female
Scalp	14%	10%
Face	25%	22%
Hands	15%	19%
Neck	12%	9%



Graph 1: Site of occurrence of sun burn

Discussion

UV radiation from the sun or from man-made sources like tanning lights causes sunburn. Thymine dimer formation is the principal cause of this harm. The body detects the damage, which then sets off a number of protective systems, including DNA repair to undo the harm, apoptosis and peeling to remove permanently damaged skin cells, and enhanced melanin production to shield against further harm. Melanin functions as a photoprotectant by rapidly absorbing UV wavelength radiation.⁵

40 men and 30 women made up the 20 to 40 year age group, while 36 men and 20 women made up the 40 to 60 year age group. It's comparable to Cokkinides *et al.*⁶ According to Autier *et al.*⁷'s study, excessive exposure to the sun's rays is the main factor in sunburn. Their findings were published in the journal *Still a Burning Issue*. Similar reasons include failing to utilize sunscreen.

According to a research by Brain *et al.*⁸, 35% of the participants suffered sunburns. Sunburn was inversely correlated with clothing and shade, and positively correlated with sunscreen use. Author discovered no appreciable difference in sunscreen use between people who intentionally tan and get sunburned and others who don't. Compared to individuals who were not sunburned, a higher percentage of inadvertent tanners had used sunscreen. 66% of sunburned individuals reported using sunscreen to extend their time in the sun, however we were unable to find a correlation between sunscreen use and exposure time.

Another study by Marie *et al.*⁹ indicated that while a sizable portion of the population reported having moles on their face and body, the majority of people had dark hair and pale complexion. Teenagers and younger students were more likely to get sunburns (41.9% vs. 55.6%). When compared to semi-urban settings, younger children who lived in cities had considerably higher rates of sunburn (33.8% vs. 24.8%, $p=0.020$). It was discovered that elementary school students knew more about the dangers of solar radiation than their high school

counterparts. Finally, individuals with more knowledge experienced sunburns less frequently.

The risk of sunburn rises with approach to the tropic latitudes, which are between 23.5° north and south latitude, as a result of differences in the intensity of UV light travelling through the atmosphere. Taking everything into account, each place in the tropics or the polar regions receives roughly the same quantity of UV radiation over the course of a whole year. UV radiation significantly varies by latitude and season in the temperate zones between 23.5° and 66.5°.¹⁰ We discovered that the face (males: 20%; females: 15%) was the most often affected place, followed by the neck (males: 12%; females: 14%), scalp (males: 11%; females: 12%), and hands (males: 6%; females: 5%). While 30% of males and 25% of females came from rural areas, only 18% of males and 27% of females did. This concurs with Miller *et al.*¹¹

Conclusion

Sunburns are a common type of skin disease. There is no clear sex preference. In the age range of 20 to 40 years, instances are relatively prevalent. Awareness regarding precaution is very important for sunburns.

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