VOLUME - 12, ISSUE - 01, JANUARY - 2023 • PRINT ISSN No. 2277 - 8160 • DOI : 10.36106/gjra

Original Research Paper

Dermatology

KNOWLEDGE ATTITUDE AND PRACTICE ABOUT SUN-PROTECTION AND SUNSCREEN USAGE AMONG NURSING STUDENTS

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ABSTRACT

Background: Photoprotection refers to safeguarding against UV rays as well as secondary variables like oxidative stress with the use of antioxidants, etc. Additionally, the harm done by UV radiations is one of the factors contributing to the public's rising rate of skin illnesses. Sunscreens are employed as photoprotective measures to guard against these dangerous UV rays. The effectiveness of it is significantly influenced by the sun protection factor. It is crucial that individuals are aware of the importance of wearing sunscreen, and numerous research have been done to examine this issue. **Objectives:** To assess knowledge, attitude and practice towards sun protection and sunscreen usage among nursing students. **Materials and Methods:** A cross-sectional, descriptive study using a specially designed questionnaire was conducted among nursing students in a tertiary care center. **Results:** The questionnaire was completed and returned by 200 females in the age range of 15-25 years. Only 88 out of 200 females were using sunscreens. Majority of the patients, 136(68%) belonged to rural background. Assessment of the sun exposure revealed that 130(65%)respondents reported daily sun exposure whereas 70 (35%) had occasional sun exposure. Assessment of the knowledge revealed that all of them 200 (100%) are aware of the adverse effects of excessive sun exposure but only 56(28%) were aware of the carcinogenic effect of sunlight.62 (31%) respondents reported that they use sunscreen on a daily basis.53 (26.5%) patient mentioned sunscreens are expensive and is the reason for not using them. Media was the most common source of information. 26 (13%) of them think sunscreens are harmful to the skin. 64 (32%) of them agree that wearing sunscreen can cause vitamin D deficiency. **Conclusion:** This study shows that proper method of use of sunscreens is low among young females and suggests need of proper training about sunscreen and their usage and also need for general public health education program.

KEYWORDS : Sun protection, Sunscreen, KAP, Nursing students.

INTRODUCTION:

Both intrinsic and extrinsic skin changes brought on by exposure to the sun are significant. Regular use of sunscreen can help prevent a number of photoaging symptoms, including sagging, wrinkles, and photocarcinogenesis, which are brought on by DNA and cell damage.[1] UV radiation from the sun has a significant impact on mankind existence. Ancient Roman and Greek revered Apollo as the sun god and the god of light, and they believed that he could both cause and cure illness. Even today, there is widespread scientific agreement that exposure to UV radiation from sunshine has significant implications for public health, both in terms of positive impacts and negative ones.[2]

3.5% UVB and 96.5% UVA of the ultraviolet (UV) radiation is received on a single summer day. While UVA only reaches the dermis, UVB only affects the epidermis. Near the equator, UVB intensity levels are highest. The population in India is exposed to more UVA and UVB radiation. Glass filters UVB but allows UVA to get through.[3]

Due to decreased protection provided by the ozone layer, more outdoor activity, and greater use of UV-emitting technologies, exposure to high levels of UV radiation has significantly increased during the past few decades.[4] Ozone depletion is seen in the upper stratosphere, despite the fact that there is no trend demonstrating overall ozone depletion over India. The consequences of ozone layer thinning could be much more disastrous for India, which already receives significant levels of UV-B radiation.[5,6] It is well recognized that too much UV exposure can cause or aggravate several skin conditions. High cumulative UV radiation levels have the potential to harm skin cells, resulting in tanning, burning, phototoxic or allergic reactions, pigmentary changes, photoaging, immunosuppression, and even skin cancer.[7,8] The demand for photoprotection has grown as a result of all these negative impacts of UV radiation.

The best types of sun protection behaviours have the greatest potential to block UV radiation, postpone the photoaging process, and lower the risk of skin cancer. These behaviours include avoiding sun exposure during the hottest time of the day, seeking shade, wearing protective clothing, wide-brimmed hats, and sunglasses, as well as using sunscreen.[9-12] Due to the preventive properties of melanin, it is believed that Indians experience lower rates of all types of skin cancer than the Western population.

Regular application of sunscreen lowers the risk of skin cancer by preventing the development of actinic keratosis. With consistent sunscreen use, photo-induced and photo-aggravated dermatoses can be prevented. The Food and Drug Administration has given the go-ahead for sunscreen use in the treatment and prevention of sunburn, photoinduced pigmentation, ageing, and cancer. Sunscreen use is only contraindicated in newborns younger than six months old and those who are sensitive to the chemicals. A sunscreen with an SPF of 15 stops about 93.3% of UV rays (UVR) from penetrating the epidermis.[13] By reflecting, absorbing, and scattering UV radiation, sunscreens make skin more tolerable to them.[14]

To raise public knowledge of the risks associated with sun exposure and to promote the use of sun protection measures, several sun protection programmes have been launched in many western countries. There has been a noticeable rise in population awareness. However, there is still a lack of compliance with sun protection.[15,16]

Only one study has been conducted so far on sunscreen knowledge and use in India.[17] In Indian culture, the sun has always been valued highly to the point where it is revered as a deity. Working outside in the sun is said to be healthy for the body and a sign of a diligent worker. Today, there is also a growing understanding of how important sunlight is to the production of vitamin D. As a result, it is difficult to convince an Indian patient to use physical barriers or sunscreen. Second, there are other considerations like price and product greasiness that limit the best use of sunscreen. The patients

are unaware that sunscreen is available in less oily forms such gels, sprays, and lip balms.

There weren't many studies on this topic in India. Little is known about how many Indians are aware of using sun protection techniques. Therefore, we conducted the current study to assess the knowledge of a subset of the Indian population regarding sun exposure, to investigate the understanding of the effects of sun exposure on the skin, and to investigate the attitudes and practices of young nursing students regarding sun protection.

METHODOLOGY

This is a cross-sectional study conducted in 200 nursing students. The Institutional Ethics Committee approval was taken before starting the study. After obtaining consent, a pre-designed, self-administered questionnaire was given to all the study participants. We explained the objectives of the study and also gave the required instructions for filling the questionnaire. The questionnaire had 25 questions in three parts, Part A of the questionnaire had 5 questions on demographic details and part B had 2 questions on sun exposure and part C had 18 questions to assess the knowledge, attitude, and practices regarding sunscreen.

After completion of filling the questionnaire, all the participants were thanked for their participation and we even shared the correct knowledge regarding sun exposure and sunscreen usage.

All the data was entered in excel spread sheet and analysed using SPSS version 21. Continuous variables were expressed as mean ± standard deviation, and categorical variables as frequencies (%). Quantitative data were compared using the chi-square test. Pearson or Spearman simple correlation analyses were performed to determine associations between continuous parameters. A p-value of less than 0.05 was considered as statistically significant.

RESULTS

A total of 200 female nursing students were study participants in our study. The mean age of our study participants was 21.92 ± 1.65 years. Majority of our participants were aged between 20 to 25 years (n= 156, 78%). Majority of the participants (n=136, 68%) belonged to rural background. Assessment of the sun exposure revealed that 130(65%) respondents reported daily sun exposure whereas 70 (35%) had occasional sun exposure.

Table 1: Knowledge About Sun Exposure And Sunscreen Use

Knowledge Questions		Frequency (%)
What Negative effects do you know on exposure to sun?	Sun burn	121 (60.5%)
	Wrinkles	91 (45.5%)
	Aging	79 (39.5%)
	Spots	38 (19 %)
	Freckles	2 (1%)
	Dry skin	13 (6.5%)
	Melasma	0
	Skin cancer	56 (28%)
	No side effects	11 (5.5%)
Sun screen is used for	Prevents skin tanning	136 (68%)
	Prevents Sun burn	121 (60.5%)
	Control premature ageing	69 (34.5%)
	To prevent skin cancer	38 (19%)
Do you know what SPF Stand for?	Sun Protection Factor	29 (14.5%)
Which of the following has high risk of cancer?	UVA	102 (51%)
	UVB	96 (48%)
	Unsure	2 (1%)
Do you know of sun protection measures apart from sunscreen	Yes	200 (100%)
	No	0

Table 1 shows the Knowledge assessment done in our study. Assessment of the knowledge revealed that all of them 200 (100%) were aware of the adverse effects of excessive sun exposure but only 56(28%) were aware of the carcinogenic effect of sunlight.

Table 2 shows the Attitude of our study participants. 53 (26.5%) patient mentioned sunscreens are expensive and is the reason for not using them. Media was the most common source of information. 64 (32%) of them agree that wearing sunscreen can cause vitamin D deficiency. 26 (13%) of them think sunscreens are harmful to the skin.

Table 3 shows the Practice of our study participants. Only 88 out of 200 females were using sunscreens. 62 (31%) respondents reported that they use sunscreen on a daily basis.

Table 2: Attitude About Sun Exposure And Sunscreen Use

Attitude		Frequency (%)
If one is working indoor one does not need to wear sunscreen	Agree	117 (48%)
	Disagree	43 (21.4%)
	Unsure	40 (20%)
Reasons for not using sunscreen	Expensive	53 (26.5%)
	Don't have time	64 (32%)
	Forget to put it	14 (7%)
	Don't like sensation	7 (3.5%)
	Harmful	26 (13%)
Influence to use sunscreen	Media	110 (55%)
	Family	21 (10.5%)
	Friends	30 (15%)
	Health care prof/ Dermatologist	67 (33.5%)
Will you recommend sunscreen to others?	Yes	80 (40%)
	No	120 (60%)
Wearing sunscreen can cause Vitamin D deficiency	Agree	64 (32%)
	Disagree	79 (39.5%)
	Unsure	57 (28.5%)
In your opinion are sunscreen harmful to the skin in any way?	Yes	52 (26%)
	No	148 (74%)

Table 3: Practice About Sun Exposure And Sunscreen Use

Practice		Frequency (%)
Do you use sunscreen?	Yes	62 (31%)
	No	138 (69%)
How frequently do you use sun screen	Never	138 (69%)
	Occasionally	12 (6%)
	Twice daily	2 (1%)
	Once daily	48 (24%)
	Every 4 hours	0
Where all do you apply sunscreen	Exposed skin	0
	Face, neck, hand	4 (2%)
	Face and neck	58 (29%)
Which SPF Sunscreen do you use	SPF 15	23 (11.5%)
	SPF 30	12 (6%)
	SPF 50	6 (3%)
	SPF 50+	0
	Don't know	21 (10.5%)
When do you apply sunscreen before sunlight exposure	Immediately before	47 (23.5%)
	30 minutes before	14 (7%)
	60 minutes before	1 (0.5%)
Will you recommend sunscreen to others	Yes	90 (45%)
	No	110 (65%)

What other sun protection measures do you use?	Hats/ Scarfs	120 (60%)
	Long sleeved clothes	11 (5.5%)
	Wearing sun glasses	9 (4.5%)
	Umbrella	76 (38%)
	Staying in shade	50 (25%)

DISCUSSION

Since India is a tropical country and the fact that India used to be primarily a farming nation until a few years ago, people there are constantly exposed to sunshine. Hyper pigmentary disorders are not a problem among Indians because of their dark skin tone, especially in rural areas and in lower socioeconomic classes. Most of the participants in our study were from rural areas. Photoaging, tanning, and sun exposure are all seen as inevitable parts of life.

This study evaluated people from the chosen population's knowledge of sun protection usage from a public health perspective. Understanding of various forms of sun protection measures and beliefs, awareness of one's legal right to use sun protection measures, and knowledge of sun protection facts were also included in this.

There is little information available about Indians' attitudes toward sun exposure and sun safety practices. In this study, we evaluated people's knowledge of the advantages and risks of sun exposure. It was discovered that vitamin D deficiency was the sole known effect of using sun screen. Hyperpigmentation and sunburn were found to be the two unfavorable effects of sun exposure that were most commonly acknowledged and correctly identified. Surprisingly, the negative impact of sunshine on skin ageing is the one that is least well known.

According to a Greek survey, eyeglasses are the most preferred sun protection method among Mediterranean residents (83.4%).[18] We also discovered something similar among males (5%), using an umbrella was the least chosen means of sun protection, while wearing a hat was the least popular choice among women (4%). We think that societal and cultural hurdles, in addition to a lack of awareness, are to blame for this careless attitude toward sun protection.

Sun-protective cream was the most often used method of protection in numerous international studies, which found that awareness about sun exposure, its relationship to skin malignancies, and measures of sun protection was relatively high. This is typically more prevalent in areas where skin cancer is more widespread. However, our research revealed that there is relatively little knowledge on the harmful consequences of prolonged sun exposure. Comparing this degree of knowledge to similar research done in western communities, it is thought to be low. For instance, around 90% of study participants in Australia, 85% in Canada, 92% in the United States, and 92.5% in Malta[19] established the connection between skin cancer and sun exposure, however only 28% in India made the connection in our study.

Patient education initiatives have increased public knowledge of the risks of excessive sun exposure and the benefits of sunscreen use, according to research.[20] In order for parents of young children to start and instill preventive habits early in their children's lives, it is also crucial to educate them about the dangers of excessive sun exposure. The proper use of sunscreen must also be stressed; otherwise, it may provide the user a false sense of security during prolonged sun exposure, causing more harm than protection. In fact, sunscreen failure has been linked to a paradoxical rise in skin cancer incidence.[21,22]

CONCLUSION

This study shows that proper method of use of sunscreens is low among young females and suggests need of proper training about sunscreen and their usage and also need for general public health education program.

Acknowledgement- None

Conflict Of Interest-None

Source Of Funding- None

Ethical Approval- Approved

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