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Original Article

Knowledge, Attitude and Practices of College Students towards the Health Effects of Sun Exposure

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Abstract: *The aim of this study is to determine the level of knowledge, attitudes and practices among college students towards the health effects of the sun exposure. This study utilizes a descriptive research design where in true or false assessment test and survey checklist was the main instruments in gathering the required data. There are One hundred fifty (150) college students have served as respondents. The study checked if there was inter relationship between the knowledge, attitudes, and practices towards sun exposure using ANOVA and Pearson R. The study found that the majority of respondents are female and slightly knowledgeable about sun exposure's health effects. They have an agreeable attitude and sometimes practice positive actions. Gender differences in attitudes and practices are significant, but there is no difference in knowledge level. Lastly, there is a weak correlation between knowledge, attitudes, and practices among college students.*

Keywords: *Knowledge, Attitude, Health Effects, Sun Exposure.*

I. INTRODUCTION

Sun light is essential for life. The sun sends energy to Earth through visible light, infrared radiation, and UV radiation. Earth's atmosphere protects us from most UV radiation, but too much exposure is dangerous (United States Environmental Protection Agency, 2023). It can cause health risks like sunburns, photoaging, and photocarcinogenesis when excessively used. It's also linked to the development of various types of skin cancer, including melanoma and non-melanoma types (Dallazem, et al., 2019). Sun protection is crucial for preventing skin damage from sun exposure. According to the paper of Almugati, Alamri, and Almugati (2019) it recommendations include avoiding sun exposure between 10am and 2pm, seeking shade, using broad-spectrum sunscreen, and wearing protective clothing and sunglasses. So, sun exposure has both positive and negative effects on the human body, including skin burns and cancer risk. It's essential for vitamin D synthesis, so finding a balance between healthy and harmful sun exposure is crucial (Shaffer, 2023).

According to being aware of sun exposure is important because it enables one to determine their level of awareness regarding the potential risks associated with prolonged exposure to UV radiation (Glanz, Buller, & Saraiya, 2023). Understanding UV radiation risks and benefits, such as vitamin D synthesis, can help individuals make informed decisions about sun protection and maintain good health (Raymond-Lezman & Riskin, 2023).

Furthermore, research has shown that attitudes towards sun exposure can vary among different populations (Cambil-Martin et al., 2023). By understanding these attitudes, educators and policymakers can develop targeted interventions and educational campaigns to promote safe sun practices among students. Education and policy approaches increases sun-protective behaviors to be effective when implemented in schools and in recreational or tourism settings (Saraiya et al., 2004).
The aim of this study is to determine the level of knowledge, attitudes and practices among college students towards the health effects of the sun exposure.

II. METHODOLOGY

This study utilizes a descriptive research design where in true or false assessment test and survey checklist was the main instruments in gathering the required data. This study therefore would look into knowledge, practices, and attitudes towards sun exposure among college students. The study was conducted in a state university in Zambales Philippines. The study used convinience sampling. There are one hundred fifty (150) college students have served as respondents. The instruments were validated by research experts and treated through reliability testing. There are four parts of instruments (a) the demographic profile of the respondents (b) the knowledge of students towards sun exposure (c) the attitudes of students towards sun

exposures (d) the Practices of students towards sun exposure. The study checked if there was inter relationship between the knowledge, attitudes, and practices towards sun exposure using ANOVA and Pearson R.

III. RESULTS AND DISCUSSION

A. Profile of the Respondents

The study only involved gender as the profile variable.

Table 1: Profile of the Respondents

Profile		Frequency	Percentage
Gender	Male	52	35
	Female	88	58
	LGTQIA	10	7

The table revealed that majority of the respondents was female who has a frequency of 88 or 58%. Following are the male who are 52 or 35%, and LGBTQIA+ who are 10 or 7% only.

B. Knowledge of the College Students in the Health Effects of Sun Exposure

The table shows the level of knowledge of the college students towards the positive and negative health effects of sun exposure. The assessment used true or false test.

Table 2: Level of Knowledge of the College Students towards the Health Effects of Sun Exposure

Scores	Frequency	Percent	Descriptive Rating
1.00 – 10.00	15	10	Not Knowledgeable
11.00 – 13.00	80	53	Slightly Knowledgeable
14.0 – 16.00	55	37	Knowledgeable
Total	150	100	
Level of Knowledge	SD = 1.59	Mean = 12.65	Slightly Knowledgeable

Table 1 shows the frequency and the percentage distribution of the respondents scores in 20 item assessment test given by the researchers. Based from the table, majority of the respondents were slightly knowledgeable evident from the frequency of eighty (80) or 53%. However, fifty-five (55) or 37% of them were knowledgeable. Unfortunately, there are fifteen (15) or 10% who are knowledge able. In overall, the mean is 12.65 with a standard deviation of 1.59 described as slightly knowledgeable.

Many young individuals lack awareness of sun protection and exposure information, and even those who possess adequate knowledge tend to use photoprotective measures rarely (Dallazem, et al., 2019).

C. Attitudes of College Students in the Health Effects of Sun Exposure

The table reveals the attitudes of the college student respondents towards the health effects of sun exposure on them.

Table 3: Attitudes of College Students in the Health Effects of Sun Exposure

Statement	Mean	SD	Verbal Description	Rank
1. College students think that sun protection measures, such as wearing hats and sunglasses, are unnecessary for their daily activities.	2.90	1.12	Agree	7
2. College students believe that sunburns are a temporary inconvenience and do not consider them a serious health concern.	2.55	1.13	Agree	10
3. College students feel well-informed about the health risks associated with excessive sun exposure and actively seek information on sun protection.	3.24	0.82	Agree	6
4. Getting sun exposure is healthy during peak hours.	2.79	0.96	Agree	8
5. Wearing protective clothing is important when getting sun exposure.	3.38	0.85	Strongly Agree	3.5
6. College students believe that their educational institution should play a role in promoting awareness about the health effects of sun exposure.	3.62	0.55	Strongly Agree	1
7. College students consider peer influence as a significant factor in their decisions regarding sun protection behaviors.	3.45	0.67	Strongly Agree	2
8. College students believe that the sun comes out between seven and eight in	3.34	0.71	Strongly Agree	5

the morning. has vitamin D, therefore it's still beneficial.				
9. College students in think that having tanned skin keeps one extremely safe from the risks of sun exposure.	2.69	1.15	Agree	9
10. College students believe that using sunscreen helps protect their skin from damage.	3.38	0.85	Strongly Agree	3.5
	3.13	0.88	Agree	

Based from the table, the college students strongly agreed about "educational institution should play a role in promoting awareness about the health effects of sun exposure." evident from the highest mean of 3.62. Further, they also strongly agreed about peer influence as a significant factor in their decisions regarding sun protection behaviors (3.45), about using of sun screen and clothing helping them protect from so much sun exposure (3.38). Meanwhile, they only agreed about being well-informed about the health risks associated with excessive sun exposure and actively seek information on sun protection (3.24), the necessary using sun protection for their daily activities (2.90), about sun exposure is also health (2.79), having tanned skin keep one's safe (2.69). However, they also agreed about 'sunburns are a temporary inconvenience and do not consider them a serious health concern' evident from the lowest mean of 2.55.

D. Practices of College Students Related to Sun Exposure

The table reveals the practices of the college student respondents towards the health effects of sun exposure on them.

Table 4: Positive Practices of College Students towards Health Effects of Sun Exposure

Statement	Mean	SD	Verbal Description	Rank
1. I wear sunglasses that provide UV protection when exposed to bright sunlight.	3.10	0.88	Sometimes	4
2. When choosing skincare products, I consider (SPF) content.	3.55	0.56	Always	1
3. I seek shade or use protective clothing (e.g., hats, long sleeves) when spending extended periods in the sun.	3.48	0.50	Always	2
4. I avoid sun exposure between 10 am and 4 pm when the sun's rays are strongest.	2.83	0.87	Sometimes	7.5
6. I wear sun protection when going out.	2.93	0.74	Sometimes	6
7. When I go out, I wear a hat with a full brim to protect my face, ears, and nape of the neck.	2.97	0.76	Sometimes	5
8. Protecting the skin from extended sun exposure.	3.45	0.81	Always	3
9. It's commonly believed that skin damage caused by the sun cannot be reversed.	2.83	0.87	Sometimes	7.5
10. I am reapplying my sunscreen every two hours.	2.62	0.76	Sometimes	9
Total	3.05	0.75	Sometimes	

Based from the table, the respondents always consider their sun protection when choosing skin care products, they consider (SPF) content evident from the highest mean of 3.55. Further, they also always practice seeking shade or use protective clothing when spending extended periods in the sun (3.48), and always protecting skin from extended exposure (3.45). Meanwhile, they only sometime practice wearing sunglasses that provide UV protection when exposed to bright sunlight (3.10), wearing a hat with a full brim to protect my face (2.97), wearing sun protection (2.93), and avoiding sun exposure between 10 am and 4 pm when the sun's rays are strongest (2.83). Lastly, they sometimes reapplies their sunscreen every two hours evident from the lowest mean of 3.63.

In overall, the respondents just sometimes practice these evident from mean of 3.05.

Sultana (2020) reported in her paper that skin cancer incidence has increased due to UV radiation exposure. Public health campaigns have encouraged sun protection practices, including avoiding sun exposure, using protective clothing, and applying sunscreen, to combat this issue over the past decade.According to John Hopkins Medicine (n.d.) the best way to protect from harmful sun's radiation is to apply a broad-spectrum water-resistant sunscreen with an SPF of 30 to exposed skin, reapply every 2 hours, and wear protective clothing with UV protection factor (UPF) or tightly woven fabric.

E. Difference in the Level of Knowledge, Attitudes, and Practices among College Students Towards Health Effects of Sun Exposure According to Gender Profile

a) Level of Knowledge towards Sun Exposure

The table reveals if there is variation with the level of knowledge among the genders towards health effects of sun exposure.

Table 5: Significant Difference in the Level of Knowledge of College Students Towards Health Effects of Sun Exposure According to Gender Profile

Profile		Sum of Squares	df	Mean Square	F	Sig.	Decision
Gender	Between Groups	9.431	2	4.715	1.871	.158	Accepted Not Significant
	Within Groups	370.543	147	2.521			
	Total	379.973	149				

In the table, it revealed that there is no significant difference in the respondents' level of knowledge according to gender profile. It means that, regardless of the gender, they almost the same level of knowledge towards the matter.

b) Attitudes towards Sun Exposure

The table reveals if there are variations with the attitudes among the genders towards health effects of sun exposure.

Table 6: Significant Difference in the Attitudes among College Students towards Health Effects of Sun Exposure According to Gender Profile

Profile		Sum of Squares	df	Mean Square	F	Sig.	Decision
Gender	Between Groups	2.023	2	1.012	6.339	.002	Rejected Significant
	Within Groups	23.459	147	.160			
	Total	25.483	149				

In the table, it revealed that there is a significant difference in the attitude according to gender profile evident from the p-value of .002. It means that, between the genders, they have different attitudes towards the health effects of sun exposure.

According to Tan, Yoshida, Ma, Mauvais-Jarvis (2021) that there are gender differences in health protective behaviors which could implicate public health management and mitigations. And it was justified by Harvard Medical School (2019) where they stated that male behavior causes men to fall ill and die faster than women from adolescence onwards, while women prioritize health and are more likely to have health insurance and regular healthcare access.

c) Practices towards Sun Exposure

The table reveals if there are variations with the attitudes among the genders towards health effects of sun exposure.

Table 7: Significant Difference in the Practices among College Students Towards Health Effects of Sun Exposure According to Gender Profile

		Sum of Squares	df	Mean Square	F	Sig.	Decision
Gender	Between Groups	1.399	2	0.699	10.327	.000	Rejected Significant
	Within Groups	9.956	147	0.068			
	Total	11.355	149				

In the table, it revealed that there is a significant difference in the practices according to gender profile evident from the p-value of .000. It means that, between the genders, they have different practices towards the health effects of sun exposure.

According to World Health Organzation (2021), that Gender norms, roles and relations, and gender inequality and inequity, affect people's health all around the world.

Cultural norms influence attitudes towards sun exposure, with fair skin often seen as a symbol of beauty and privilege, influencing both males and females to adopt sun protection practices.

F. Significant Relationship between Knowledge, Attitudes, and Practices among College Students towards the Health Effects of Sun Exposure

Table 8: Significant Relationship between Knowledge, Attitudes, and Practices among College Students towards the Health Effects of Sun Exposure

		Knowledge	Attitudes	Practices
Knowledge	Pearson Correlation	1	-.137	-.131
	Sig. (2-tailed)		.095	.109
	N	150	150	150
Attitudes	Pearson Correlation	-.137	1	.059
	Sig. (2-tailed)	.095		.471
	N	150	150	150
Practices	Pearson Correlation	-.131	.059	1
	Sig. (2-tailed)	.109	.471	
	N	150	150	150

There is a weak negative correlation (-0.137) between knowledge and attitudes. There is a weak negative correlation (-0.131) between knowledge and practices. There is a very weak positive correlation (0.059) between attitudes and practices. The correlations are generally weak, suggesting that the relationships between knowledge, attitudes, and practices are not strongly linear. While there are weak correlations, it's important to note that correlation does not imply causation.

IV. CONCLUSION

- The majority of respondents are female.
- Most of the respondents were slightly knowledgeable about the health effects of sun exposure.
- The respondent have agreeable attitude about the matter. Also, they just sometimes do positive practices about it.
- There is a significant difference in the attitudes and practices based from the genders of college students towards the health effects of sun exposure. However, there is no difference between genders in their level of knowledge.
- There is a weak correlation between knowledge, attitudes, and practices among college students.

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