

## KNOWLEDGE AND ATTITUDES OF PALESTINIAN UNIVERSITY STUDENTS TOWARD THE USE OF SUNSCREENS

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### ABSTRACT

This study aims to determine the prevalence of sunscreen use, attitude and perception of university students toward their use. A questionnaire was distributed in 2011. 250 students participated at this study. Total sunscreen users were 118 (47.2%). Females were much more frequent users of sunscreens than males, 101 out of the 132 (76.5%) females reported regular use of sunscreen while only 17 (14.4%) males did so ( $P < 0.001$ ). The major factors that affected the students' choice of sunscreens were the advice from healthcare professionals in 57 (48.3%), and the type of skin in 36 (30.5%). Regarding the scientific knowledge about the sun protection factor (SPF) and considering its value in choosing the product, it was significantly higher in females. This study demonstrated that the use of sunscreens is common among females and very rare among males. The risk of sun exposure is largely unrecognized and we have very incomplete information about protective measures especially in males. An efficient policy of education on the effective and proper use of sunscreens should be implemented.

**Keywords:** sunscreens, attitudes, pharmacists, Palestine.

### INTRODUCTION

Sunscreens are cosmetic formulations with a main function of blocking the ultraviolet (UV) radiation from penetrating the skin when it is exposed to. In fact, they absorb or reflect the UV radiation on the skin exposed to sunlight and thus help protect against sunburn or any other dangerous effect of these radiation especially in those persons who are exposed to the sun light for long period of time or those who live in sunny countries <sup>1</sup>. Solar UV radiation is the main environmental risk factor for skin cancer <sup>2,3</sup>. The primary prevention of skin cancer involves promoting sun protection behaviors. These behaviors include minimizing sun exposure, seeking shade, wearing clothing to protect the skin from direct sunlight, and routinely using sunscreen with a sun protection factor of 15 or greater and both UVA and UVB protection <sup>4</sup>.

Sunscreens are available in the cosmetic market in different cosmetic forms and sun protection factors in order to meet the personal satisfaction of a high variety of consumers around the world which usually belong to different cultures. In fact, consumers of occidental countries use these preparations to protect themselves from effect of sunlight during their presence on the beach while others may use them according to physician prescription when the patients take medications that induce photo-sensitization <sup>5,6</sup>. In other cultures, the principal motivation underlying the use of sunscreens may be the prevention of tanning effect of sun light <sup>7</sup>. Unfortunately, while the majority of the users understand the benefits associated with sunscreen use, their knowledge concerning the difference between a UVA claim for a product and the sun protection factor (SPF) value listed on the product is somewhat superficial <sup>5,8</sup>. Little is known about the use of sunscreens in Palestine. This study aims to determine the prevalence of sunscreen use, attitude and perception of university students toward their use.

### MATERIALS AND METHODS

The study was performed on students from An-Najah National University, Nablus, Palestine. A cross-sectional study was conducted between January and May 2011. A convenient sample of 250 students was collected. Students were interviewed using pre-piloted questionnaire, the purpose of the study was explained to the consumers and they were asked to consent to participate in the study. The data were then collected by trained fourth year pharmacy students. The questionnaire asked about demographic data, information regarding the use of sunscreens by participants, whether they used them or not and when, sun protection factor, reasons for using or not using sunscreens, and the major factor that affected their choices. All data were entered and descriptively

analyzed using the SPSS software (version 16; SPSS, Inc, Chicago, IL). Chi square and Fisher exact tests were used to test any significance between categorical variables. All P-values were two-sided and  $P < 0.05$  was considered statistically significant.

### RESULTS

250 student participated in this study, 132 (52.8%) were females and 118 (47.2%) were males. Total sunscreen users were 118 (47.2%). Females were much more frequent users of sunscreens than males, 101 out of the 132 (76.5%) females reported regular use of sunscreen while among the 118 males, only 17 (14.4%) did so ( $P < 0.001$ ). The use of sunscreens by male students was limited. Surprisingly, the motivation underlying this limited use was their belief that these cosmetics preparations are used only by females as reported by 39.6%.

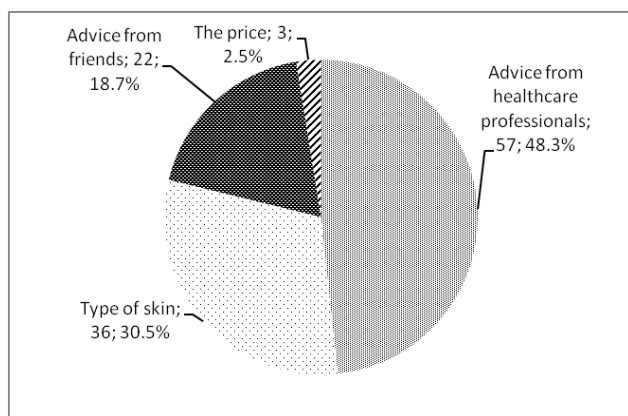
Reasons behind the use of sunscreens in the users were protection from skin cancer in 46 (39.0%) users, protection from tanning effects of sun exposure in 38 (32.2%) users, and protection of skin from harmful effects of sun as sunburns in 34 (28.8%) users as reported in table 1.

**Table 1: shows reasons for using sunscreens among university students (n = 118)**

Reason	Frequency (%)
Protection from skin cancer	46 (39)
Protection from tanning effect	38 (32.2)
Protection from harmful effect of sun as sunburns	34 (28.8)

The factors that affected the students' choice of sunscreens were the advice from healthcare professionals in 57 (48.3%), the type of skin in 36 (30.5%), advice from friends in 22 (18.7%), and the price in 3 (2.5%) only (Figure 1). When they were asked about the person they consult when they want to buy a sunscreen, the answer of 53 (44.9%) users was the pharmacists, the dermatologists were the choice of 25 (21.2%) users, beautify specialists were consulted in 22 (18.6%) users, and the rest 18 (15.3%) depended on their friends' advice.

Concerning the period of using sunscreens during the year, 28.8% respondents said that they use sunscreen all during the year, about one half (49.2%) said that they use them in summer only, while a smaller percentage of the interviewed university students (22.0%) agreed that the appropriate time to use sunscreens is before exposure to sun only (Table 2).



**Figure 1:** shows the factors that affected students' choice of sunscreens

**Table 2:** shows the time of using sunscreens

Time	Frequency (%)
During all the year	34 (28.8)
During the summer season	58 (49.2)
Only before exposure to sun	26 (22.0)

Regarding the scientific knowledge of university students about the sun protection factor (SPF) and considering its value in choosing the product, it was significantly higher in females ( $p < 0.001$ ). Most female university students 69/101 (68.3%) told that they know the meaning of SPF while only (29.4%) of male students declared that they know the meaning of this abbreviation. When they were asked if they consider the SPF value when they choose their sunscreen, most female students (66/101, 65.3%) answered with yes while the majority of the interviewed male students (76.5%) answered with no.

Concerning the reported undesired side effects of using sunscreens, Out of the 118 sunscreen users, 34 (28.8%) reported experiencing possible side effects due to the use of these cosmetic formulations.

## DISCUSSION

Total sunscreen users were 118 (47.2%). Females have been found to be more likely to use sunscreen than males (76.5% versus 14.4%), this is similar to many other studies <sup>4,9,10</sup>. The use in females is high and close to some Western countries. In a survey from Northern Ireland, use of sunscreens was reported by 70% of respondents <sup>11</sup>. In a study from Spain, 78.2% participants reported normal use of sunscreens <sup>3</sup>. In a study from Turkey among students and personnel of one of their universities, use of sunscreen was the protective measure for 19.4% men and for 39.2% women <sup>1</sup>. The use of sunscreens in males was very low, this might be due to social beliefs that the use of sunscreens is for females only which was reported as the reason for not using them in (40 out of 101, 39.6%) males. Accordingly, producers and importers of sunscreens should work through their cosmetic representative in cooperation with colleges of pharmacy in order to correct this misconception. The Palestinian territories are highly solar regions and many males work for long hours under these conditions; so they should use these preparations in order to prevent possible harmful effects of sun radiations.

The reasons behind sunscreens use are different in different parts of the World. A tan is a sign of health and beauty in many cultures and western countries <sup>1</sup>, in other cultures, as in Arab countries, the principal motivation underlying the use of sunscreens may be the prevention of the tanning effect of sun light <sup>7</sup>. Since the white skin is considered as a sign of beauty. This can be confirmed in our study as protection from tanning effects of sun exposure was the reason behind using sunscreens in 32.2% users. Other reasons behind the use of sunscreens were protection from skin cancer in 39.0% users, and protection of skin from harmful effects of sun as sunburns in 28.8% users. This shows a good level of awareness towards possible harmful effects of sun exposure among sunscreen users.

Regarding the influence of the economic conditions on the selection of sunscreen products the absolute majority of respondents declared that this factor is not a determinant issue. In other studies, respondents reporting a higher income level reported sunscreen use more often <sup>11</sup>. In our study, cost did not appear to be a major factor, the high price of sunscreens was the reason for not using them in 6.8% only, this result was confirmed when the price was the major factor that affected choosing the sunscreen in 2.5% users only. This should encourage the producers and importers of sunscreens to provide high quality products regardless of the price. Here, the MOH should ask about the efficacy and safety of sunscreens since, these products should be considered as cosmeceuticals and most of users use them in order to achieve health benefits. This issue was highlighted when the consumers were asked about the sun protection factor (SPF) as this factor determines the efficacy of the sunscreen to prevent or delay any sunburn. In fact, knowledge about SPF and considering its value in choosing the product was significantly higher in females in this study. This reflects more concern and care of having a healthy skin. In another study, the females were also more likely to use sunscreens with higher SPF values <sup>10</sup>.

Usage of sunscreens among university students leaves much room for improvement. Further sunscreen education is clearly desirable. Healthcare professionals as community pharmacists can play a major role in this. It seems that the respondents trust healthcare professionals and have positive attitude towards them because 48.3% of users reported that the major reason which affected their choice of sunscreens was the advice from healthcare professionals, this was confirmed when 44.9% users reported that the pharmacist was person whom they consulted when they wanted to buy a sunscreen. Health promotion interventions for reducing sun exposure and skin cancer are common in developed countries <sup>10,11</sup>. Sun protection campaigns with messages on sun avoidance (particularly of the mid-day sun), use of shade, covering up in the sun and effective use of a high SPF sunscreen are needed among our university students. Community pharmacists can play a major role in this field.

## CONCLUSION

This study demonstrated that the use of sunscreens is common among females and very rare among males. The risk of sun exposure is largely unrecognized and we have very incomplete information about protective measures especially in males. An efficient policy of education on the effective and proper use of sunscreens should be implemented.

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