



ORIGINAL ARTICLE

# Knowledge, attitudes and practices of the general public toward sun exposure and protection: A national survey in Saudi Arabia



Khalid M. AlGhamdi <sup>a,b,\*</sup>, Aeed S. AlAklabi <sup>b</sup>, Abdulla Z. AlQahtani <sup>b</sup>

<sup>a</sup> Dermatology Department, College of Medicine, King Saud University, Riyadh, Saudi Arabia

<sup>b</sup> Vitiligo Research Chair, College of Medicine, King Saud University, Riyadh, Saudi Arabia

Received 18 March 2015; accepted 8 April 2015

Available online 27 April 2015

## KEYWORDS

Knowledge;  
Attitude;  
Practices;  
Sun-protection;  
Sun exposure;  
Sunscreens;  
Saudi Arabia

**Abstract** *Background:* Many international studies have been conducted to assess the knowledge, attitudes and practices (KAP) of the public toward sun exposure and sun-protection measures. However, there are scarce data on these factors from the Middle East. *Objectives:* This study aimed to explore the KAP of the public toward sun exposure and sun-protection measures among Saudis. *Methods:* A cross-sectional survey using a specially designed questionnaire was conducted on a stratified random sample of the general population in the five geographical regions of Saudi Arabia (central, eastern, northern, southern, and western). Data were collected between October 2010 and March 2011. Multiple logistic regressions were applied to relate the use of sunscreen and skin cancer awareness with various socio-demographic variables. *Results:* The questionnaire was distributed to 2900 Saudis. A total of 2622 questionnaires were completed, returned, and included in the data analysis, corresponding to a response rate of 90.4%. The mean (SD) age of respondents was  $27.8 \pm 9.7$  years. Fifty percent (1301/1601) of the respondents were males. Fifty-five percent (1406/2544) were aware of the association between sun exposure and skin cancer. Female, young and student respondents were more likely to be aware of the connection between sun exposure and skin cancer ( $p < 0.001$ ). Likewise, respondents from the middle social class and those with higher education levels were more likely to be informed ( $p < 0.02$ ). The prevalence of regular sunscreen use among study participants was only 23.7%, and female and employed respondents were more likely to use sunscreen ( $p < 0.001$ ). Protective clothes were the most commonly used sun protection measure as reported by more than 90% of our

\* Corresponding author at: Dermatology Department, College of Medicine, King Saud University, P.O. Box 240997, Riyadh 11322, Saudi Arabia.

E-mail address: [Khalid@dralghamdi.net](mailto:Khalid@dralghamdi.net) (K.M. AlGhamdi).

Peer review under responsibility of King Saud University.



Production and hosting by Elsevier

participants. *Conclusion:* This study has shown that sun awareness and protection are generally inadequate in the Saudi population and suggests the need for health education programs.

© 2015 Production and hosting by Elsevier B.V. on behalf of King Saud University. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

## 1. Introduction

Many skin diseases are caused by excessive and unprotected sun exposure. High cumulative levels of ultraviolet (UV) radiation can damage skin cells, affect the skin's normal growth and appearance and cause acute skin damage, including tanning and burning. Furthermore, more complicated chronic skin problems can occur with long term exposure, such as pigmentary changes (e.g., melasma, lentigines), skin aging and skin cancer (Armstrong and Kricger, 2001; Macckie, 2000; Mabruk et al., 2009; Scerri and Keefe, 1995). Skin cancer has increased progressively during the past four decades (Rigel et al., 2004). Individual hazard of skin cancer has a robust relation with skin type, with the superior risk among skin type which burn easily and do not tan well (Livingston et al., 2001, 2003). Although skin cancers are less common in dark-skinned people, the prognosis is worse because the cancers tend to be diagnosed late (Nyiri, 2005). UV radiation is also responsible for significant eye damage, especially cataract formation (Taylor et al., 1988; Rosmini et al., 1994). All of these consequences of chronic UV radiation exposure are likely avoidable if suitable types of sun-protection behaviors are in use. Avoiding sun exposure between 10:00 a.m. and 2:00 p.m., seeking shade, using sunscreen, minimizing sunburns, avoiding tanning beds and wearing wide-brimmed hats, protective clothing, and sunglasses are the main recommendations for efficient sun protection (Berret et al., 2002; Emmons and Colditz, 1999; Jorgensen et al., 2000; Lim and Cooper, 1999). Sunscreens reduce the transmission of UV radiation into the skin by reflecting, absorbing, or dispersing such emission. Thus, sunscreen is a form of safeguard against sunlight (Kirsner et al., 2005). Female gender, higher income, greater schooling, and light skin color are positively associated with the use of sunscreen (Boggild and From, 2003; Hall et al., 1997). Patient education efforts proved to increase public understanding of the detrimental effects of excessive sun exposure and the advantages of sunscreen use (Swindler et al., 2007; Walkosz et al., 2007; Hornung et al., 2007). International surveys have revealed that skin cancer prevention and control programs are lucrative in increasing knowledge about skin cancer and the risks of exposure to UV radiation but do not look as if it has a key effect on behavior adaptation (Argyriadou et al., 2005). In local clinical dermatology practice, we have observed that many patients do not protect themselves from sun and report misinformation and unhealthy attitudes toward this issue. Identifying deficits in sun protection knowledge and behavior can serve as a starting point for primary prevention interventions. Knowledge, attitudes and practices (KAP) of the public toward sun exposure and protection have been studied in several societies; however, there is only one study regarding this subject from one province (Qassim) in Saudi Arabia. A diverse climate condition and socio-cultural background is present in different provinces of Saudi Arabia (Al Robaee, 2010). In this study, we aimed to

perform a nation-wide survey to evaluate the level of KAP regarding sun exposure and protection among adults and to establish the prevalence of sunscreen use on the country level.

## 2. Methods

A cross-sectional survey was conducted on both males and females who attended primary health care centers (PHCC) in the five geographical regions of Saudi Arabia (central, eastern, western, southern, and northern). From each region, one major city was selected. A total of 5 cities were selected: Riyadh, Jeddah, Dammam, Tabuk and Abha. A clustered multi-staged random sampling technique was applied. In each city, PHCCs were distributed according to the geographical divisions into five districts with 10–15 PHCCs in each district. One PHCC was chosen randomly from each district. Therefore, we had a total of 5 PHCCs in each of the selected cities. Data were collected between October 2010 and March 2011. Data collection was performed by trained research assistants. The specially designed questionnaire used for data collection in this study was pilot tested three times on 33, 62 and 76 subjects to calculate approximately the time for questionnaire completion, verify the command of questions by the participants and improve the questionnaire accordingly. These questionnaires were excluded from the concluding analysis. The final self-administered questionnaire included 22 questions and required approximately 5 min to complete. Approved by the ethics committee of King Saud University, Riyadh, Saudi Arabia was obtained. The questions were generally of a closed-ended format, but the choices were remodeled according to the feedback from the pilot questionnaires to make the choices more relevant and appropriate. The questionnaire was composed of two sections. Seven questions were integrated in first section about personal information, such as age, gender, marital status, educational level, household average monthly income, occupation and residence (urban vs. rural). The second section of the questionnaire comprised of 15 questions about the participant's knowledge about the sun's harmful effects on the skin, the frequency and duration of sun exposure, history of sunburn or skin pigmentation, sun tanning habits, use of sun protection methods (such as long-sleeved clothes, head covers, sunglasses, and sunscreen), the familiarity and attitude of participants toward sunscreen use, and the most important source of information regarding sun exposure effects.

### 2.1. Statistical analysis

The Statistical Package for the Social Sciences Program (SPSS) version 18 (SPSS Inc., Chicago, IL) was used. Numerical variables were reported as the mean  $\pm$  standard deviation. The Chi-square test was used for appraisal of the association between different categorical variables. Statistical significance was defined as a  $p$ -value  $< 0.05$ . Multiple logistic regressions

Download English Version:

<https://daneshyari.com/en/article/5551612>

Download Persian Version:

<https://daneshyari.com/article/5551612>

[Daneshyari.com](https://daneshyari.com)