

Knowledge, Attitudes and Behaviors of Students of Hormozgan University of Medical Sciences about Skin Cancer

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Abstract

Background: Skin cancer is the second cause of death in the developed and the third cause in the developing countries. This study aimed to determine the Knowledge, attitudes, and behaviors of students of Hormozgan University of Medical Sciences about skin cancer. **Materials and Methods:** This descriptive-analytic study was conducted on 375 of the students of Hormozgan University of Medical Sciences. The data was collected by a questionnaire consisted of four sections (demographic information Knowledge (22 questions), attitudes (13 questions), and behaviors (7 questions)). The highest and the lowest gained scores by the students was 37-0 and one point was granted to each true answer. The attitudes questions were ordered by the 3-points Likert scale that the lowest and the highest gained scores were 13-39, and the range of the behavior score was 0-21. The data were statistically analyzed via SPSS version 19 using descriptive tests, T-Test and analysis of variance. **Result:** Our finding showed that 54.7 % of the participants were women and 45.3 % were men. The mean age of the women and men were 22.8±1.77 and 21.94±1.89 respectively. From the Knowledge point of view, 54.8 % was low, 38.4% medium and 4.8 % high. From the attitude point of view, 0.3 % was low, 70.4 medium and 29.3 % high. Also, from the behavior point of view, 41.6% and 58.4 % were low and medium respectively. **Conclusion:** According to the results, it is recommended to set-up appropriate schedules in students' curriculum to recognize and control the common type of cancer in our country. It is hoped that these educations will improve the Knowledge, and in consequence improve the attitude as well as behavior.

Keywords: Knowledge, Attitude, Behavior, Students, Skin Cancer

Introduction

Skin cancer stands for the uncontrolled increase of skin cells and it is identified with the emergence of the malignant cells in the layers of the skin (1). Skin cancer is categorized into two melanoma and non-melanoma subgroups. Squamous cell carcinoma (SCC) and basal cell carcinoma (BCC) are called non-melanoma skin cancer (NMSC). This type of cancer has a worse forewarning (2). Skin melanoma the most threatening type of skin cancer is originated from the skin melanosis, which has undergone a malignant metamorphosis and it consists of 40% of malignancies (3). This type of skin cancer is related to the skin color and the geo-

graphical place in which one lives (2). The rates of two type of melanoma and NMSC are increasing and reaching a precarious point (4). Skin cancer is the second and the third cause of death in developed and developing countries, respectively (5). Meanwhile almost one-third of the new ten million cases of cancer in this year could be stopped prophylactically and one third of the cases could be cured in accordance with quick and appropriate identification (6). Conducted investigations in most of the countries indicate the high rampancy of skin cancer. So this is an important reason for morbidity and the number of its stricken is increasing day by day (7, 8). The studies show that skins cancer consists of 7.32 % of all types of the cancers in the way that

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it is the most common type among men and the second prevalent type among women after breast cancer (9, 10). However, they have been neglected, because generally, they engender a low rate of death among all types of cancers (11). Skin cancer is the common type of cancer in the Middle East. In Iran, skin cancer is a nuisance in hygiene and it always has been the most prevalent type of cancer with a rate of 51.16% (4, 12, 13). The emergence rate of all the skin cancer cases in Iran equals 13.10 per 10000 people, the emergence of BCC 53.7, emergence of SCC 79.1 and the emergence of malignant melanoma 59.0 per 10000 (12). Since the traumas of skin cancer are to be seen, they get quickly noticed. Most skin cancer types can be identified and cured with the least cost and equipment in case the patients and the medical students are educated sufficiently and well (14). Confront and frequent contact with direct sunlight and the extreme ultra-violet radiation are the perilous cause of malignancy (12, 15). The people who work in daylight, in the open spaces and the sunlight are more vulnerable to the malignant traumas (16). The first prevention in cancer emphasize on the decrease of affliction risk and dangerous elements in healthy people (6). Since 90% of skin cancers engender open parts of the body, in the sunlight, the protective elements against the sunlight are considered the most important factor in first prevention for skin cancer (17, 18). This disease can be prevented by few changes in our daily habits like shunning the intense sunlight (from 10 a.m. to 4 p.m.) wearing thick clothes in the sunlight, putting sunblock with standard sun protection factor (SPF) on the skin, shunning artificial substances and avoiding ultra-violet radiations (5). The highest rates of skin cancers are seen in both sexes and it indicates the importance of the contact with sunlight in causing different type of skin cancers (2). Because of intense sunlight in our country (Iran), and any contacts of the farmers, stockmen, sailors and construction workers with sunlight and not using the protective equipment like outfits and hats while working in the open spaces, a high rate of skin cancer rampancy is expected (14). In most of the seasons of the year, there is an intense sunlight in Bandar Abbas city and the people are jeopardized of skin cancer by the sunlight, which is the most crucial cause of this disease. It is also common among some jobs like sailing, transportation, transit, etc. On the other hand, skin cancer is the most prevalent type of cancer in Hormozgan province regardless of the sex. Therefore, studies on the students of the Hormozgan University of Medical Science is so essential since they are regarded as the keys of health in society and they can make use of their attitudes and knowledge in order to behavior suitably and transfer this knowledge to the others and finally to improve the knowledge of society. Therefore, we decided to do a study with aim determination the knowledge, attitudes and behaviors of students of Hormozgan University of Medical Sciences about skin cancer.

Materials and methods

This descriptive-analytic study was performed on students of the Hormozgan University of Medical Science Bandar Abbas, during 2016. The participants were 375 available persons, which has been selected and analyzed by Morgan table. These students were from different faculties of Hormozgan University of Medical Science (medical, dental, nursing and midwifery, Para medicine and health). The inclusion criteria were the agreement of participant and for quitting the research was his/her disagreement. Getting the recommendation from the Hormozgan University of Medical Science, providing the coordination with the university officials and getting the entrance permission, the researcher gave a questionnaire to each subject, after giving enough explanations, in order to gather the information; and this questionnaire was specified in the former narrative and permanence studies (5). This questionnaire contained four sections: demographic information (4 questions), knowledge (22 questions), attitude (13 questions), behavior (7 questions) and one question was assigned to the source of getting the information about skin cancer. Ten questions of knowledge section (included: 1, 2, 8, 11, 12, 14, 15, 17, 19, 22) embraced more than one answer and the 12 rest of them had only one answer. In the behavioral section, question number 4 has multiple choices. The range of the knowledge score was 0-37 and one point was granted for each true answer; and based on the total score, it was categorized in three levels: low= 0-7, medium= 7-15 and high= above 15. The attitude scores were based on 3-points Likert scale (3= I agree, 2= I have no idea, 1= I disagree) with the total score 13-39 and according to the gained scores, they were categorized in three categories, low level= 13-21, medium level= 21-30 and high level= 30-39. The behavior score was ranged from 0 to 15 and they were categorized in low= 0-5, medium= 5-10 and high level= 10-15. Data were analyzed by SPSS version 19, descriptive statistics. T-Test, Chi square and analysis of variance analysis, in the format of descriptive statistics. The statistical significance level was set at $P\text{-value} < 0.05$.

Result

In total, 375 students of the Hormozgan University of Medical Science in health, nursing and midwifery, Para medicine, medical and dental faculties in different levels of education were enrolled in the study. The mean age of the participants was 22.02 ± 1.82 years, in the way that the mean age of women and men was 22.8 ± 1.77 and 21.94 ± 1.89 years respectively. According to our findings, the participants of the research were 18-30. Table-1 shows the other demographic information of participations. In knowledge section, 56.8% were low, 38.4% medium, and 8.4% high. In attitude section, 0.3% were low, 70.4% medium, and 29.3% high; also, in be-

Table 1: Frequency distribution of demographic information of participants

Variables		Number	Percent
Age, year	18-22	240	64
	23-30	135	36
sex	Women	205	54.7
	Men	170	45.3
Educational level	Bachelors	236	62.9
	Mastery	13	3.5
	General Physician	126	33.6
University faculties	Health	41	10.9
	Nursing and Midwifery	102	27.2
	Para medicine	101	26.9
	Medical	79	21.1
	Dental	52	13.9

havior section 41.6% and 58.4% were low and medium respectively. The total mean score of knowledge was 17.44 ± 5.44 , in the way that the mean score of women and men students' knowledge were 16.79 ± 5.33 and 18.23 ± 5.49 , respectively. Also, 53.9% of participant's knowledge regarding the relationship between skin cancer and ultraviolet radiation and 63.2% of them were aware of the carcinogenic feature of x-rays and 56.3% of them knew that the influence of the sunlight is more intense among the people who have lighter skins in color. Also, 63.5% of students awarded that from 10 a.m. to 4 p.m. ultra-violet radiation is more intense. 54.4% of them knew that a long touch of pesticides could be effective in getting skin cancer. In addition, 54.1% of participants were aware of the effects of heredity in getting skin cancer, 80.5% of them knew that using sunscreen is one of the effective ways in prevention of skin cancer, 64.8% of the students knew that sun blocks are effective between two or three hours and 32.8% knew that the SPF of the sunscreen should be, at least, 30. However, 4.3% of the participants knew that among type of moles, congenital moles are the most probable to engender skin cancer, which was the least knowledge. There was significant relationship between the sex the knowledge score (P -value <0.01) in which the level of knowledge among men was higher than women. However, knowledge has not a considerable relationship with other demographic variants. There was a considerable relationship between knowledge and attitude (P -value <0.001). The mean score of the attitude was 28.83 ± 2.96 ; in the way that the mean score of women and men was 29.43 ± 2.78 and 28.10 ± 2.91 , respectively. Table-2 shows the answers of participants to attitude questions. There was a considerable relationship between attitude and sex, in the way that the level of

attitude among women was higher than men (P -value <0.001). Attitude had a significant relationship with the university faculties, in the way that the attitude in health faculty was better than other faculties (P -value <0.02). Attitude did not have significant relationship with the other demographic information. The mean score of behavior was 7.55 ± 2.86 ; in the way that the mean score of women and men behavior was 8.52 ± 2.34 and 6.39 ± 2.99 , respectively. Table-3 shows the true answer to the behavior questions. There was a considerable relationship between behavior and sex (P -value <0.001), in the way that the behavior of women was better than men. However, the behavior did not have a considerable relationship with other demographic information. There was a considerable relationship between behavior and attitude (P -value <0.02). Internet was the salient source for the participants to get information (38.4%). The other sources for obtaining information were the university (36.8%), radio and television (35.2%), family and friends (27.2%), books and magazines (24%), and hygiene staff (8.8%) respectively.

Discussion

The aim of this study was determining the knowledge, attitudes, and behaviors of students of Hormozgan University of Medical Sciences about skin cancer. In this study, the relationship between levels of knowledge, attitude and behavior with age, sex, educational level and faculty's members were surveyed. The findings of the present study showed that the knowledge of the participants was low (56.8%), which was lower than study of the Hobbs *et al.*, Tabatabaeian *et al.*, Nadrian *et al.*, Menki *et al.* and Zeinolabedini *et al.* (5, 7, 8, 18, 23). In the research of Kavooosi *et al.* it was shown that ultra-violet

Table 2: Frequency distribution of students' attitudes about skin cancer

Items	Frequency	Percent
Skin cancer usually engender death.	141	37.6
Skin cancer is more common than other types of cancers.	110	29.3
I am not probable to get skin cancer, because I am not endangered.	123	32.8
Skin cancer can be prevented.	254	67.7
Protection against sunlight is not enough to prevent skin cancer.	190	50.7
The only people who gets skin cancer are ones who in their family there have been some ones to get.	216	57.6
Skin cancer usually occurs in old ages.	78	20.8
Ensconcing the body toward sunlight to get tanned can be effective in getting skin cancer.	232	61.9
I feel I need to do time-taking things to prevent skin cancer.	172	45.9
I don't use hat to get the others' attention.	99	26.4
I think using protective equipment (such as hat, gloves, glasses) does not have a considerable effect in preventing skin cancer.	231	61.6
I think putting sunscreen do not have a considerable effect in preventing skin cancer.	226	60/3
Putting kids in sunlight could be harmful to them.	69	18.4

Table 3: Students 'behavior about skin cancer

Items	Answer	Number	Percent
Have you ever tried to get information about skin cancer from different sources personally?	yes	155	41.3
Do you try to do your works in the times you are less in sunlight?	yes	266	70.9
If suspicious marks emerge on your skin, will you see a doctor immediately?	yes	180	48
Which of this protective stuff do you use?	sunblock	262	69.9
	glasses	163	43.5
	gloves	34	9.1
	cap	74	19.7
	Outfits covering more parts of the body	139	37.1
Answer the following questions in case you use sunscreen			
	The days I go out.	252	67.1
	Justin sunny days	42	11.2
When and how often do you use sunscreen?	Just in summer days	17	4.5
How often do you use sunscreen?	Every 2-3 hours	61	30.1
	Every 6 hours	150	16.3
	Every 12 hours	100	40
Do you put on sunscreen after washing your hands and face?	yes	113	26.7

radiation is the most crucial cause of NMSC in Kermanshah province (20). Abedipour *et al.* revealed that the highest skin cancer emergence is among men farmers and housewives, and the lowest rate between both sexes is among shepherds and drivers (21). The results of another study showed that based on this theory, some methods could be used to change the attitude and abnormal behaviors in relation to the perilous causes of skin cancer (22). Investigated students considered ultra-violet radiation as a cause of skin cancer were 53.9%, which was lower than the rate (90%) in the study of Castilho *et al.* (24). Medical Science students, incorrectly, considered that when it gets cloudy, ultra-violet radiation does not change, which correspond to the study of Isvy *et al.*, on French Medical Science students (25). Majority of participants (64.8%)were informed that the most effects of sunscreens are about 2 to 3 hours, and it should be used again, which was in contradiction to the study of Hobbs *et al.* (23). More than-of-half of the participants (63.5%) knew that there is the highest dose of ultra-violet radiation between 10 a.m. and 3 p.m. in the space, which was higher than the study of Isvy *et al.* (25). There was a considerable relationship between the sex and knowledge, in the way that men knowledge was higher than women students, which does not in line with to the study of Alberg *et al.* and Cinar *et al.* in which women's knowledge was higher than men's (26, 27). Our results showed that knowledge does not have a considerable relationship with behavior. These results in line with the Spradlin *et al.* and Alberg *et al.* (26, 28); but, they do not correspond to the study of Nadrian *et al.* in the way that in his study, the increase of knowledge of skin cancer eventuate in adopting prevention behaviors (6). The level of attitude was medium in our study (70.4%), which in line with the study of Zeinolabedini *et al.* but contrast with the study of Tabatabaeian *et al.* which had a low level of attitude (4, 7). More than of half of the participants(61.9%) had positive attitude toward "ensconcing the body in the sunlight in order to get tanned can be effective in getting skin cancer," which did not correspond to the study of Cokkinides *et al.* in which people had significant attitudes toward the advantages of getting tanned (29). There is a considerable relation between the sex and attitude, in the way that women's attitude was higher than men's, which in line with the study of Alberg *et al.* (26). The behavior of participants was medium in this study (58.4%), which was higher than the study of Tabatabaeian *et al.* (27.5%) (7). Maybe the reason for the highest score of the behavior in our study in comparison to Tabatabaeian *et al.* is that their participants were the students of high school level, in Isfahan while our participants were the students of the Hormozgan University of Medical Science. On the other hand, the climate of Hormozgan is a type that makes people wear protective equipment in sunlight. Also, 19.7 % of the participants used a hat for protecting in sunlight, which almost in line with the

study of Baily *et al.* (30). Also, 63.5 % of participants of the Hormozgan University of Medical Science put on sunscreen before going out, which almost in line with the study of Maleki *et al.* in Firdausi University (18). There was a significant relationship between the sex and behavior, in the way that women had a better response in protective behaviors in comparison to the men, which in line with the studies of Cokkinides *et al.* and Alberg *et al.* (26, 29). In the present study, the most common way of protection against sunlight was sunscreen (69.9%) and glasses (43.5%) respectively, which in line with the studies of Isvy *et al.* Baghiani Moghadam *et al.* and Davati *et al.* (15, 17, 25). However, the least common way of protection against sunlight was using gloves (9.1%), which in line with the other study of Baghiani Moghadam *et al.* (13.3%) (9). The attitude had a considerable relationship with behavior, which in contrast with the study of Nadrian *et al.* (6).

Conclusion

The results of the study showed that the score of knowledge of men was higher than women, women scores of behavior and attitude were higher than men. Notwithstanding the high score of knowledge, maybe the reason of low score of behavior among men is that women use protective equipment in sunlight more than men does and men they have less tendency to use sunscreen, glasses, covering outfits, etc. One of the limitations of this study was that our study type was cross-sectional. Based on the results, it is recommended to set up appropriate schedules in students' curriculum to recognize the common types of cancer and to control and prevention in Iran. It is hoped that these educations will improve the knowledge, and in consequence improve the attitude and the behavior.

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Conflict of interest

The authors declare that they have no conflict of interest.

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